

# Squaw 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

Prepared by:

Michael S. Baird, Assistant District Management Supervisor  
and  
John Tibbs, District Management Supervisor

Inland Fisheries Division  
Waco District, Waco, Texas

Carter Smith  
Executive Director

Craig Bonds  
Director, Inland Fisheries

July 31, 2019



# Contents

Contents .....	i
Survey and Management Summary .....	1
Introduction.....	2
Reservoir Description .....	2
Angler Access.....	2
Management History .....	2
Methods.....	3
Results and Discussion.....	3
Fisheries Management Plan for Squaw Creek Reservoir, Texas .....	5
Objective-Based Sampling Plan and Schedule (2019–2023).....	6
Literature Cited.....	7
Tables and Figures .....	8
Water Level .....	8
Reservoir Characteristics .....	8
Boat Ramp Characteristics.....	9
Harvest Regulations .....	9
Stocking History.....	10
Objective-Based Sampling Plan for 2018-2019 .....	11
Gizzard Shad.....	12
Tilapia .....	13
Channel Catfish .....	13
Largemouth Bass .....	15
Proposed Sampling Schedule .....	17
APPENDIX A – Catch rates for all species from gill netting .....	18
APPENDIX B – Historical catch rates of targeted species .....	18
APPENDIX C – Map of sampling locations.....	19

## Survey and Management Summary

Fish populations in Squaw Creek Reservoir were surveyed in 2019 using gill netting. Historical data are presented with the 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:** Squaw Creek Reservoir is a 3,272-acre impoundment located on Squaw Creek in Hood and Somervell Counties. The reservoir was created in 1979 by the Texas Utilities Generating Company (now Luminant Power) to serve as a cooling reservoir for the Comanche Peak Nuclear Power Station. Secondary water uses included recreational fishing. Water level has been within 3.5' of conservation pool since July 2015. The reservoir has a mean and maximum depth of 46 and 135 feet and is considered mesotrophic. Habitat features consisted of natural shoreline, submerged timber and scattered stands of cattail.

**Management History:** Important sport fish include Largemouth Bass and Channel Catfish. Palmetto Bass were the last species stocked into the main reservoir in 1996. Palmetto Bass are still stocked privately into the stilling basin for biological control of shad populations but are rarely observed in surveys. The reservoir was closed from 2001 to 2010 following security concerns following 9/11, and no fisheries work was conducted during that time. Electrofishing was discontinued in 2011 due to increasing water conductivity and historically poor electrofishing results for target species. Data were collected on Largemouth Bass (in addition to catfishes and temperate bass) during 2015, and beginning in 2019, gill netting became the only monitoring tool used to collect data on sport and forage fishes. Recent management efforts include maintaining aquatic invasive species (AIS) signage and educating constituents about the threat of AIS, especially Zebra Mussels, whenever possible.

### Fish Community

- **Prey species:** The forage base was dominated by Tilapia and Gizzard Shad. Bluegill and Green Sunfish were also present.
- **Channel Catfish:** Channel Catfish were collected in good numbers and body condition was good to excellent.
- **Largemouth Bass:** Largemouth Bass were observed in record numbers. Legal-sized individuals were abundant but most preferred and memorable size classes were absent. Aged fish had excellent growth and recent genetic analysis showed excellent Florida influence.

**Management Strategies:** Continue managing Largemouth Bass and Channel Catfish with statewide regulations. Inform the public about the negative impacts of AIS and maintain appropriate signage at the single access point in Squaw Creek Park. Conduct angler access and vegetation surveys in 2022, and a winter quarter creel in 2022 and 2023.

## Introduction

This document is a summary of fisheries data collected from Squaw Creek Reservoir in 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. Limited historical data are presented with the 2019 data for comparison.

## Reservoir Description

Squaw Creek Reservoir is a 3,272-acre impoundment located on Squaw Creek in Hood and Somervell Counties. The reservoir was created in 1979 by the Texas Utilities Generating Company (now Luminant Power) to serve as a cooling reservoir for the Comanche Peak Nuclear Power Station. Secondary water uses included recreational fishing. Squaw Creek Reservoir has a conservation pool elevation of 775 feet above mean sea level, a mean and maximum depth of 46 and 135 feet and is mesotrophic with a mean chl-a of 53.52 (Texas Commission on Environmental Quality 2011). Habitat at time of sampling consisted of natural shoreline, submerged timber and scattered stands of cattail. Water level has been within 3.5' of conservation pool since July 2015 (Figure 1). Other descriptive characteristics for Squaw Creek Reservoir are in Table 1.

## Angler Access

Squaw Creek Reservoir has a five-lane boat ramp located in Squaw Creek Park. Public access is provided Thursday through Sunday for day use only. Reservations are required for boat permits, available Friday, Saturday and Sunday. Admission is \$5 per person for bank fishing and \$30 for a boat permit. Shoreline access is extensive within the park. Additional boat ramp characteristics are in Table 2.

## Management History

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

1. Collect length and weight data on all Largemouth Bass, and length data on all forage species, during future gill netting surveys.

**Action:** Length data were collected on all Largemouth Bass and forage species sampled from gill netting in 2019. Weight data were also collected on Largemouth Bass in 2019. These data are a part of this report. Although data will not be comparable to previous Squaw Creek data or other reservoirs due to differences in gear type and timing of collections, comparisons over time among gill netting samples at Squaw Creek will be possible.

2. Work with tournament organizers to obtain a Category II age and growth sample for Largemouth Bass.

**Action:** Largemouth Bass collected from winter 2019 gill netting were used for age and growth purposes instead of tournament-caught fish. Also, instead of aging 13 individuals (i.e., category II age and growth sample), we aged all Largemouth Bass collected (n = 51 fish). These data are a part of this report.

3. Cooperate with Luminant to post appropriate AIS signage, educate the public about AIS, make a speaking point about AIS when presenting to constituent and user groups and keep track of all inter-basin water transfer routes to facilitate potential AIS responses.

**Action:** Invasive species signage was posted at Squaw Creek during summer 2013 and has been maintained since that time. District biologists have continued to educate constituents about AIS in presentations, conversations and Facebook posts since the last

report writing. Inter-basin water transfers are a permanent fixture in this report and will be updated as needed.

**Harvest regulation history:** Sportfishes in Squaw Creek Reservoir have always been managed with statewide regulations. The current regulations are found in Table 3.

**Stocking history:** Florida Largemouth Bass were last stocked in 1991 at 50 fish/acre. Palmetto Bass were stocked in 1994 and 1996 at 15 fish/acre. The complete stocking history is in Table 4.

**Vegetation/habitat management history:** Aquatic vegetation has always been minimal at Squaw Creek Reservoir and no vegetation management has been required to date.

**Water Transfer:** Squaw Creek Reservoir is primarily used as a cooling reservoir for the Comanche Peak Nuclear Power Station. Currently, the only water transfer occurring is the pumping of make-up water into the reservoir from nearby Granbury Reservoir to make up for evaporative losses.

**Golden alga:** Luminant pumps untreated water directly from Granbury Reservoir to make up for evaporative losses from the nuclear power station's operations. Granbury suffered nearly annual fish kills from toxic golden alga between 2001 and 2014, and golden alga cells have been observed in samples collected and analyzed from Squaw Creek Reservoir in 2010, 2011 and 2013. At least three samples were collected during an active fish kill event in 2013, and two of the three samples had high cell counts with moderate toxicity. Although moderate golden alga toxicity is known to be lethal to fishes in some instances, golden alga has never been confirmed as the cause of a fish kill on Squaw Creek.

## Methods

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

**Gill netting** – Channel Catfish, Largemouth Bass and all forage species were collected by gill netting (5 net nights at 5 stations). Catch per unit effort (CPUE) for gill netting was recorded as the number of fish caught per net night (fish/nn). Ages for Largemouth Bass (n = 51) were determined using otoliths (range 8.0 to 18.0 inches).

**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 Channel Catfish according to Anderson and Neumann (1996). The PSD for Channel Catfish was defined as the percentage of 11-inch and longer individuals which were also 16-inches and longer. The PSD for Largemouth Bass was defined as the proportion of 8-inch and longer individuals which were also 12-inches and longer. Standard error (SE) was calculated for structural indices, and relative standard error (RSE = 100 X SE of the estimate/estimate) was calculated for all CPUE.

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

## Results and Discussion

**Habitat:** The last structural habitat survey estimated natural and rocky shoreline at 34.4 miles (96%) and 1.4 miles (4%) respectively (Tibbs and Baird 2011). Littoral zone habitat in summer 2018 was primarily natural shoreline, some flooded timber and scattered stands of cattail. Structural habitat was exclusively flooded timber; submerged vegetation was nonexistent. Vegetative habitat has remained virtually unchanged for decades (Mitchell 1995).

**Creel:** No creel surveys have been conducted on Squaw Creek Reservoir to date.

**Prey species:** Gizzard Shad and Tilapia were collected with gill netting at 8.6 fish/nn and 32.4 fish/nn in winter 2019 (Figures 2 and 3; Appendices A and B). Total CPUE for Gizzard Shad was comparable to the historical average while Tilapia CPUE was the highest on record (Appendix B). The IOV for Gizzard Shad was zero as no individuals less than 8 inches were sampled; few Gizzard Shad are available as prey to existing predators. Bluegill and Green Sunfish were collected in low numbers (Appendices A and B).

**Channel Catfish:** Channel Catfish were collected with gill netting at a rate of 10.0 fish/nn in winter 2019 (Figure 4; Appendices A and B). This CPUE was lower than the previous two surveys and the historical average. The OBS goal for this species, general monitoring to collect abundance (CPUE – Total; RSE  $\leq$  25) and size structure (PSD and length-frequency;  $N \geq 50$  stock sized fish) data, was not achieved because only 38 individuals of stock size or greater were collected with an RSE of 33 (Table 5; Figure 4). Although fewer Channel Catfish were collected in 2019, the current PSD (42) was more typical of a balanced population than previous values (86 in 2015 and 29 in 2011; Figure 4). Most of the individuals collected were legal-sized and a few approached the preferred (24 inch) size class. Body condition ( $W_r$ ) was good to excellent and improved with increasing size (Figure 4).

**Largemouth Bass:** Largemouth Bass were collected with gill netting at a rate of 10.6 fish/nn in winter 2019 (Figure 5; Appendices A and B). This CPUE was twice as high as the average of the previous two surveys. The OBS goal for this species, general monitoring to collect abundance (CPUE – Total; RSE  $\leq$  25) and size structure (PSD and length-frequency;  $N \geq 50$  stock-sized fish) data, was achieved with 53 individuals of stock size or greater and an RSE of 8 (Table 5; Figure 5). The PSD value (57) was good, indicating a balanced population. The proportion of individuals 14-inches and larger was also good (32), suggesting good numbers of legal-sized individuals although many preferred and memorable size classes were absent from the sample (Figure 5). Body condition was excellent. Largemouth Bass genetics were analyzed in 2015 and showed high (83%) Florida Largemouth Bass introgression (Tibbs and Baird 2015).

Two-year-old Largemouth Bass averaged 13.9 inches in length (12.2 to 15.2 inches;  $N = 27$ ; Figure 6). Because these fish were collected after the first of the year, they were assigned an age of two, but in reality, these fish have only grown a little over a year. With this in mind, growth rates of Squaw Creek Largemouth Bass exceed those from other reservoirs in the district and are considered excellent.

# Fisheries Management Plan for Squaw Creek Reservoir, Texas

Prepared – July 2019

**ISSUE 1:** Electrofishing is not effective on Squaw Creek Reservoir due to high water conductivity, and gill netting is not typically accepted as an appropriate means to collect Largemouth Bass and forage species. Although Channel Catfish are generally well-represented in gill netting surveys on Squaw Creek, the 2019 gill netting efforts were hampered by Tilapia bycatch (32.4 fish/nn) and OBS goals were not met. An efficient and consistent management tool is needed to collect useful data on these species.

## MANAGEMENT STRATEGIES

1. Evaluate Largemouth Bass, Channel Catfish and Tilapia with a winter quarter, access creel survey every four years beginning in December 2022.
2. Use angler creel interactions to collect all future genetic and/or age and growth samples and structures.

**ISSUE 2:** Many AIS 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 AIS 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 Luminant to maintain appropriate signage at the five-lane boat ramp located in Squaw Creek Park.
2. Provide technical support and informational materials to park visitors describing the agencies' "Clean, Drain, Dry" initiative.
3. 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)

### Important sport and forage fishes

Abundant and/or important sport fishes in Squaw Creek Reservoir include Largemouth Bass and Channel Catfish. Important forage fishes include Gizzard Shad, Bluegill, Tilapia, Longear Sunfish and Green Sunfish.

### Sport fishes with low-density populations

Flathead Catfish, Palmetto Bass and White Bass occur in low abundance in Squaw Creek Reservoir and are generally caught incidentally to targeted species. We will continue collecting and reporting data for these species and upgrade their status as appropriate.

### Survey objectives, fisheries metrics, and sampling objectives

**Winter Creel Survey:** Largemouth Bass, Channel Catfish and Tilapia will be evaluated with a winter quarter, access creel survey conducted from December 2022 through February 2023. A total of nine creel surveys will be conducted. All surveys will be conducted at the Squaw Creek Park boat ramp as this is the only boat ramp available. The park operates from 6:30 a.m. - 4 p.m. Thursday through Sunday and creel survey times will encompass all hours of operation. The park is typically closed New Year's Day, Christmas Eve and Christmas Day.



## Literature Cited

- Anderson, R. O., and R. M. Neumann. 1996. Length, weight, and associated structural indices. Pages 447-482 in B. R. Murphy and D. W. Willis, editors. Fisheries techniques, 2nd edition. American Fisheries Society, Bethesda, Maryland.
- 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.
- Mitchell, J. 1995. Statewide freshwater fisheries monitoring and management program survey report for Squaw Creek Reservoir, 1994. Texas Parks and Wildlife Department, Federal Aid Report F-30-R, Austin.
- Texas Commission on Environmental Quality. 2011. Trophic classification of Texas reservoirs. 2010 Texas Water Quality Inventory and 303 (d) List, Austin. 18 pp.
- Tibbs, J. and M. Baird. 2011. Statewide freshwater fisheries monitoring and management program survey report for Squaw Creek Reservoir, 2010. Texas Parks and Wildlife Department, Federal Aid Report F-221-M-1, Austin.
- Tibbs, J. and M. Baird. 2015. Statewide freshwater fisheries monitoring and management program survey report for Squaw Creek Reservoir, 2014. Texas Parks and Wildlife Department, Federal Aid Report F-221-M-5, Austin.
- United States Geological Society (USGS). 2019. National water information system: Web interface. Available: <http://waterdata.usgs.gov/tx/nwis> (July 2019).

## Tables and Figures

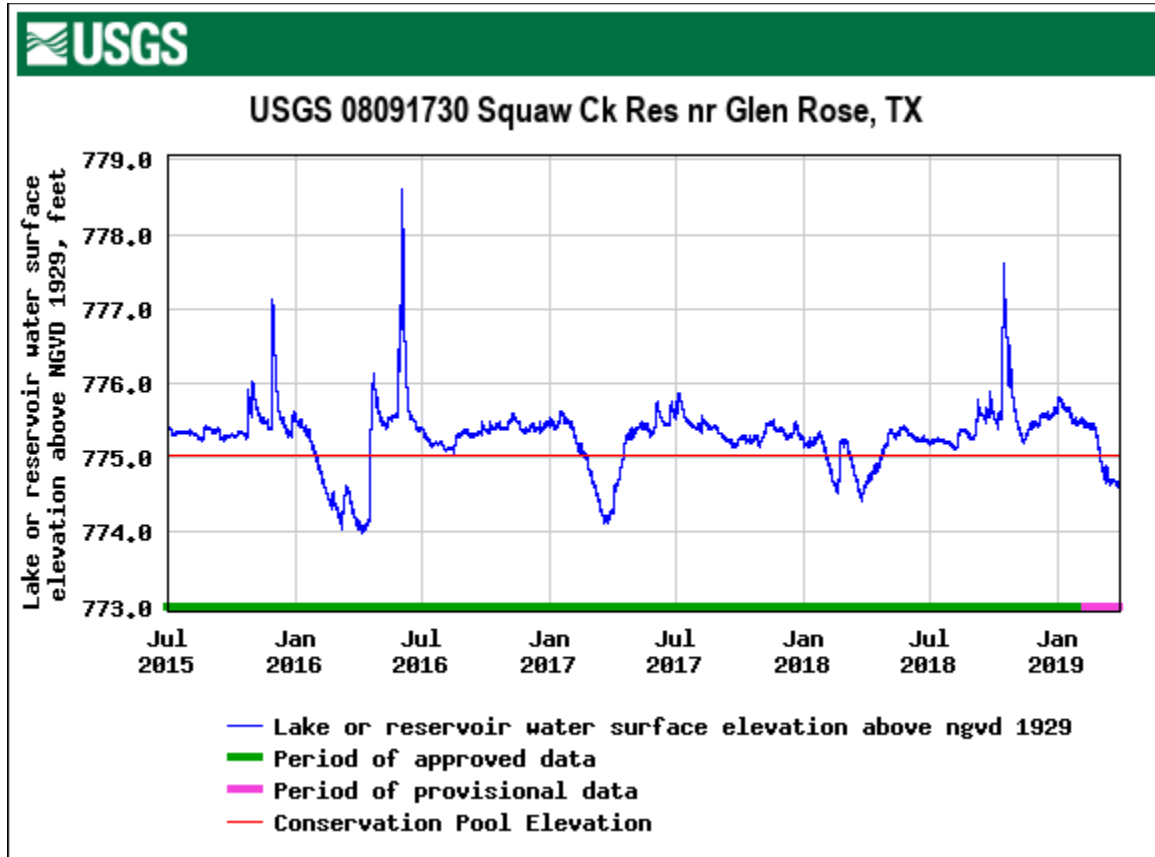


Figure 1. Daily mean water level elevations in feet above mean sea level recorded for Squaw Creek Reservoir, Texas, July 1, 2015 through March 2019. NGVD 1929 refers to the National Geodetic Vertical Datum of 1929. The red line indicates Conservation pool (775).

Table 1. Characteristics of Squaw Creek Reservoir, Texas.

Characteristic	Description
Year constructed	1979
Controlling authority	Luminant Power
Counties	Hood, Somervell
Reservoir type	Tributary of the Brazos River
Shoreline Development Index	7.0
Conductivity	4,950 $\mu\text{S/cm}$

Table 2. Boat ramp characteristics for Squaw Creek Reservoir, Texas, 2018. Latitude and longitude are in decimal degrees.

Boat ramp	Latitude; Longitude	Public	Parking capacity (N)	Condition
Squaw Creek Park	32.32035 °N -97.78598 °W	Y	100 vehicles/trailers	5 lanes; Good

Table 3. Harvest regulations for Squaw Creek Reservoir, Texas 2018.

Species	Bag Limit	Length limit (inches)
Catfish, Channel	25 (any combination)	12-inch minimum
Catfish, Flathead	5	18-inch minimum
Bass, White	25	10-inch minimum
Bass: Largemouth, Smallmouth, Spotted, their hybrids and subspecies	5 (any combination)	14-inch minimum <sup>a</sup>
Bass: Striped and Hybrid Striped (also known as Palmetto or Sunshine)	5	18-inch minimum
Crappie: White, Black, their hybrids and subspecies	25 (any combination)	10-inch minimum

<sup>a</sup> Daily bag limit for Largemouth Bass, Smallmouth Bass and Spotted Bass = 5 fish in any combination. There is no minimum length limit for Spotted Bass.

Table 4. Stocking history for Squaw Creek Reservoir, Texas. Life stages for each species are defined as having a mean length that falls within the given length range. Life stages are fry (FRY), fingerlings (FGL), advanced fingerlings (AFGL) and unknown (UNK). 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
Channel Catfish	1986	17,501	AFGL	4.0
	Total	17,501		
Florida Largemouth Bass	1990	164,654	FRY	0.7
	1991	163,600	FGL	1.2
	Total	328,254		
Palmetto Bass (Striped X White Bass)	1979	99,900	UNK	0.0
	1981	100,000	UNK	0.0
	1983	99,000	UNK	0.0
	1994	50,844	FGL	1.6
	1996	51,538	FGL	1.5
	Total	401,282		
Smallmouth Bass	1979	100,000	UNK	0.0
	1980	49,955	UNK	0.0
	1982	59,875	UNK	0.0
	Total	209,830		
Threadfin Shad	1982	12,000	AFGL	2.9
	1984	3,900	AFGL	3.0
	Total	15,900		
Walleye	1979	4,860,000	FRY	0.2
	Total	4,860,000		

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

Gear/target species	Survey objective	Metrics	Sampling objective
<i>Gill netting</i>			
Largemouth Bass	General monitoring	CPUE, Size structure, Wr	RSE-Stock < 25, N ≥ 50 stock
	Age and growth	Age at 14 inches	N = 13, 13.0 – 14.9 inches
Channel Catfish	General monitoring	CPUE, Size structure, Wr	RSE-Stock < 25, N ≥ 50 stock
Gizzard Shad <sup>a</sup>	General monitoring	CPUE, Size structure	none
Threadfin Shad <sup>a</sup>	General monitoring	CPUE, Size structure	none
Bluegill <sup>a</sup>	General monitoring	CPUE, Size structure	none
Tilapia <sup>a</sup>	General monitoring	CPUE, Size structure	none
Longear Sunfish <sup>a</sup>	General monitoring	CPUE, Size structure	none

<sup>a</sup> No additional effort will be expended to achieve an RSE ≤ 25 for CPUE of forage species if not reached from designated sport fish sampling effort. Instead, Largemouth Bass body condition can provide information on forage abundance, vulnerability, or both relative to predator density.

## Gizzard Shad

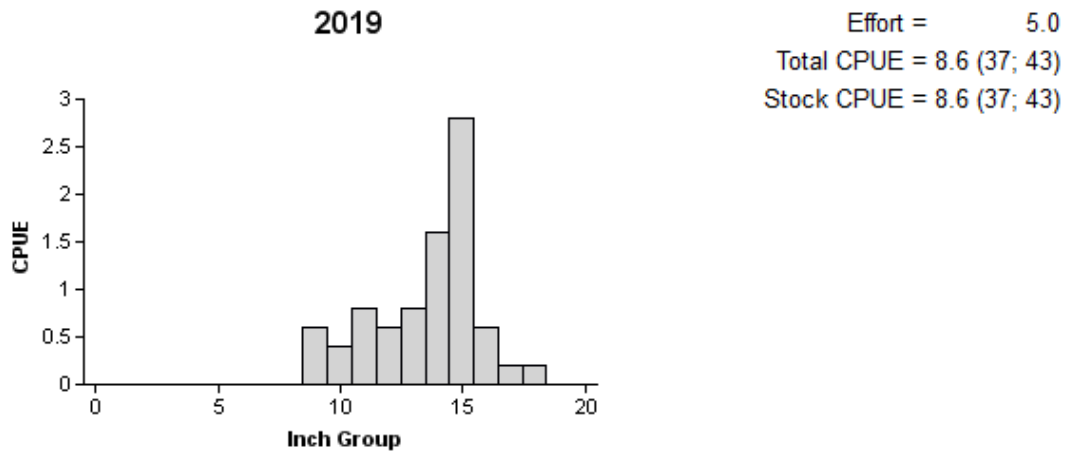


Figure 2. Number of Gizzard Shad caught per net night (CPUE, bars) and population indices (RSE and N for CPUE are in parenthesis) for winter gill netting, Squaw Creek Reservoir, Texas, 2019. Index of vulnerability was zero as no Gizzard Shad less than 203 mm were observed.

## Tilapia

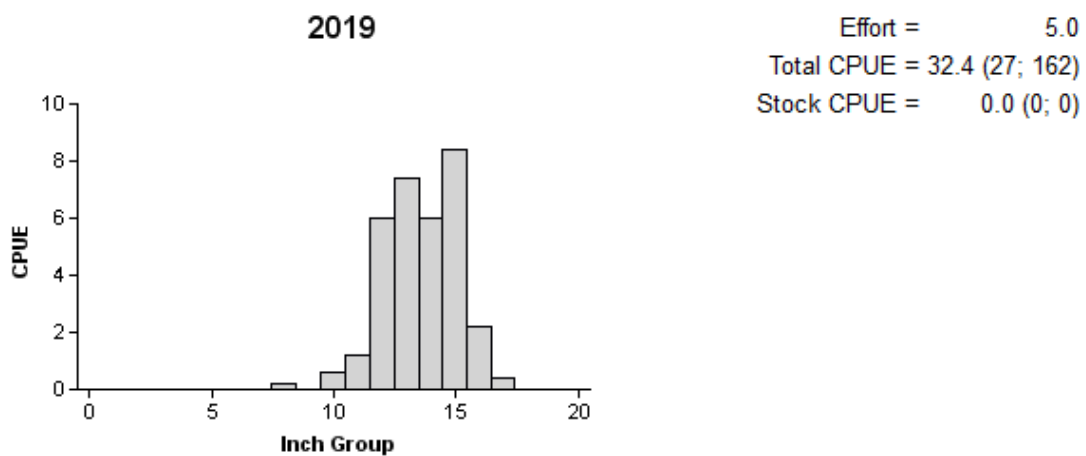


Figure 3. Number of Tilapia caught per net night (CPUE, bars) and population indices (RSE and N for CPUE are in parentheses) for winter gill netting, Squaw Creek Reservoir, Texas, 2019.

## Channel Catfish

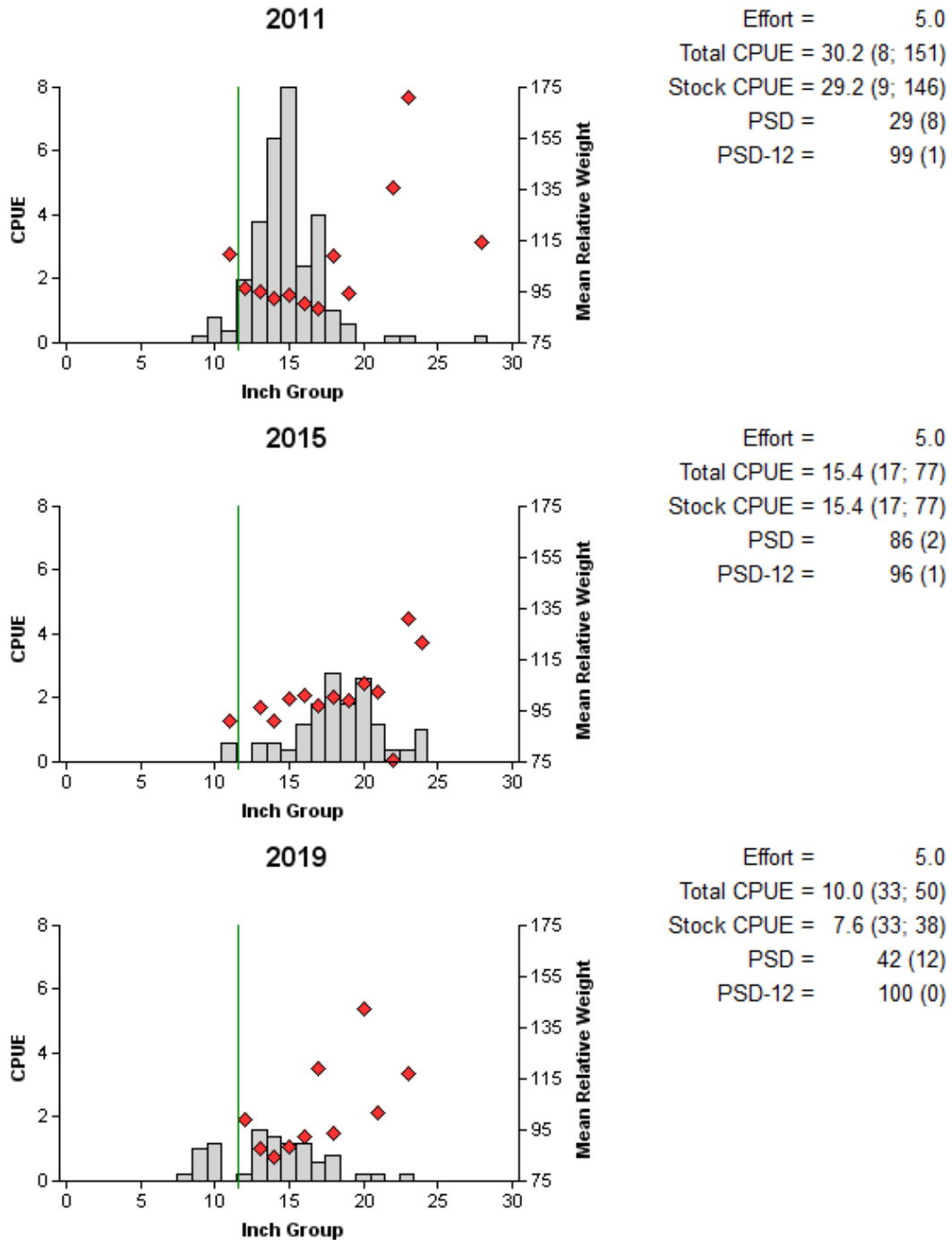


Figure 4. Number of Channel Catfish caught per net night (CPUE, bars), mean relative weight (diamonds), and population indices (RSE and N for CPUE and SE for size structure are in parentheses) for winter gill netting surveys, Squaw Creek Reservoir, Texas, 2011, 2015 and 2019. The vertical line indicates minimum length limit.



## Largemouth Bass

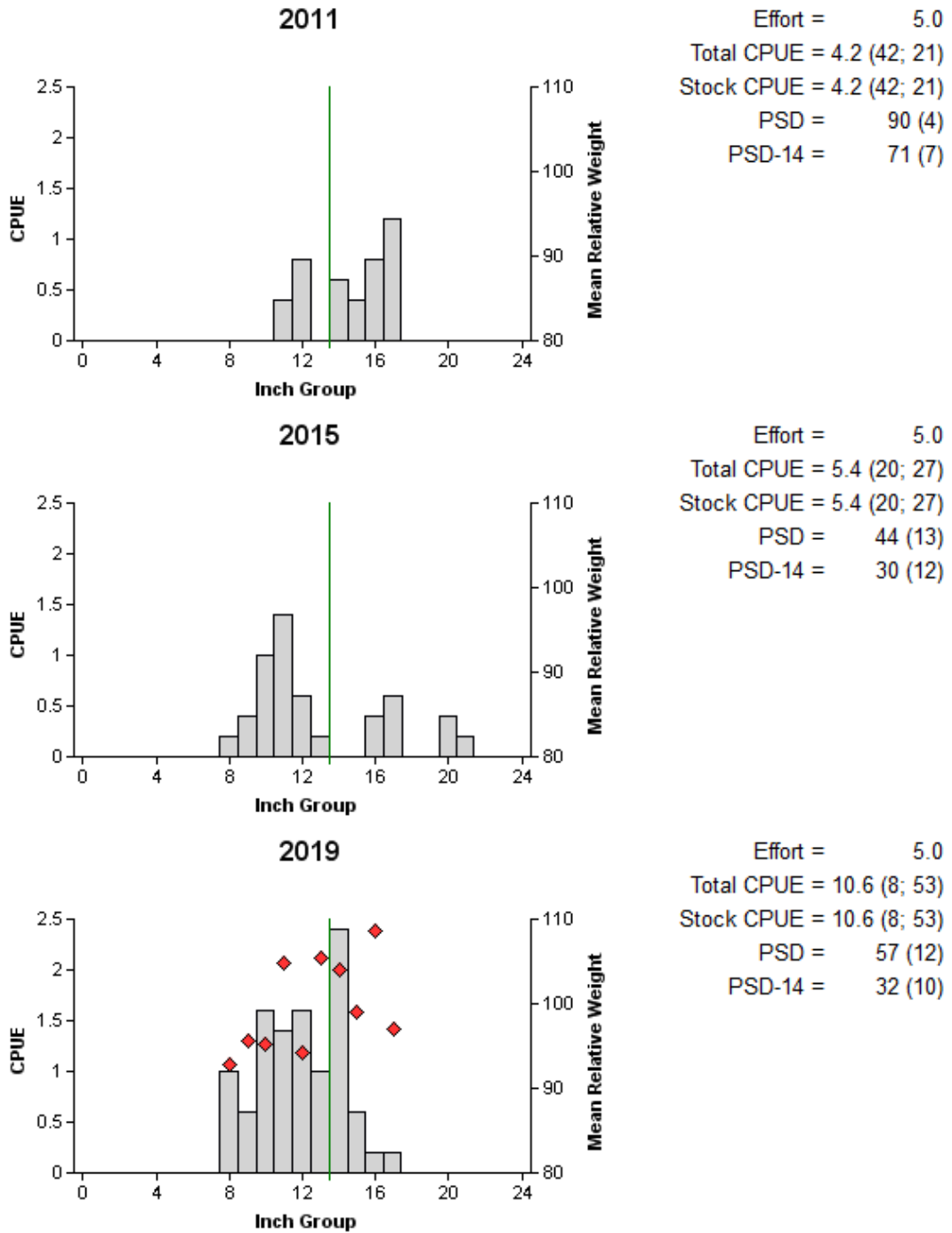


Figure 5. Number of Largemouth Bass caught per net night (CPUE, bars) and population indices (RSE and N for CPUE and SE for size structure are in parentheses) for winter gill netting surveys, Squaw Creek Reservoir, Texas, 2011, 2015, and 2019. Weight data was not collected prior to 2019. The vertical line indicates minimum length limit.

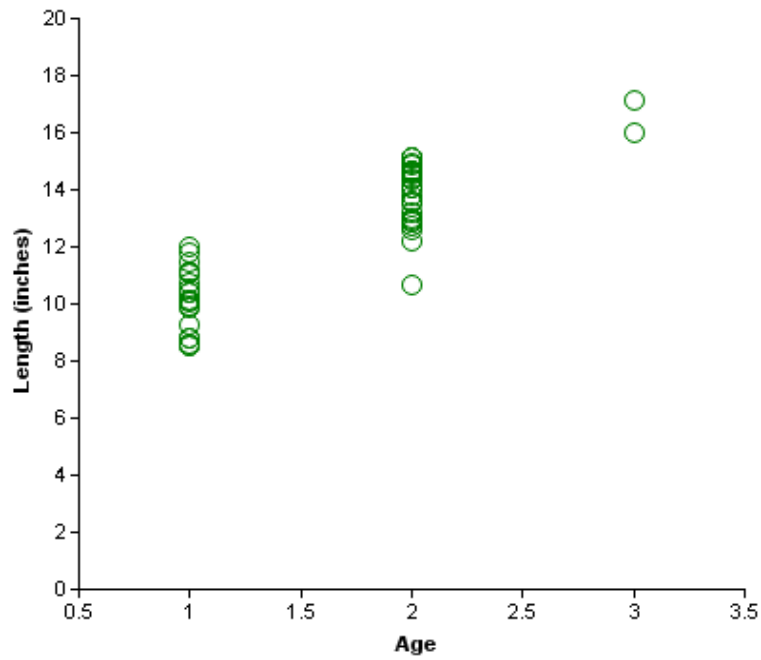


Figure 6. Length at age for Largemouth Bass (sexes combined) collected from gill netting, Squaw Creek Reservoir, Texas, 2019. The total sample size was 51 fish.

## Proposed Sampling Schedule

Table 7. Proposed sampling schedule for Squaw Creek Reservoir, Texas. Survey period is June through May. The angler creel survey will be conducted during the winter quarter. Standard surveys are denoted by S.

	Survey year			
	2019-2020	2020-2021	2021-2022	2022-2023
Angler Creel Survey				S
Report				S

## APPENDIX A – Catch rates for all species from gill netting

Number (N) and catch rate (CPUE) (RSE in parentheses) of all target species collected from gill netting, Squaw Creek Reservoir, Texas, 2019. Sampling effort was 5 net nights.

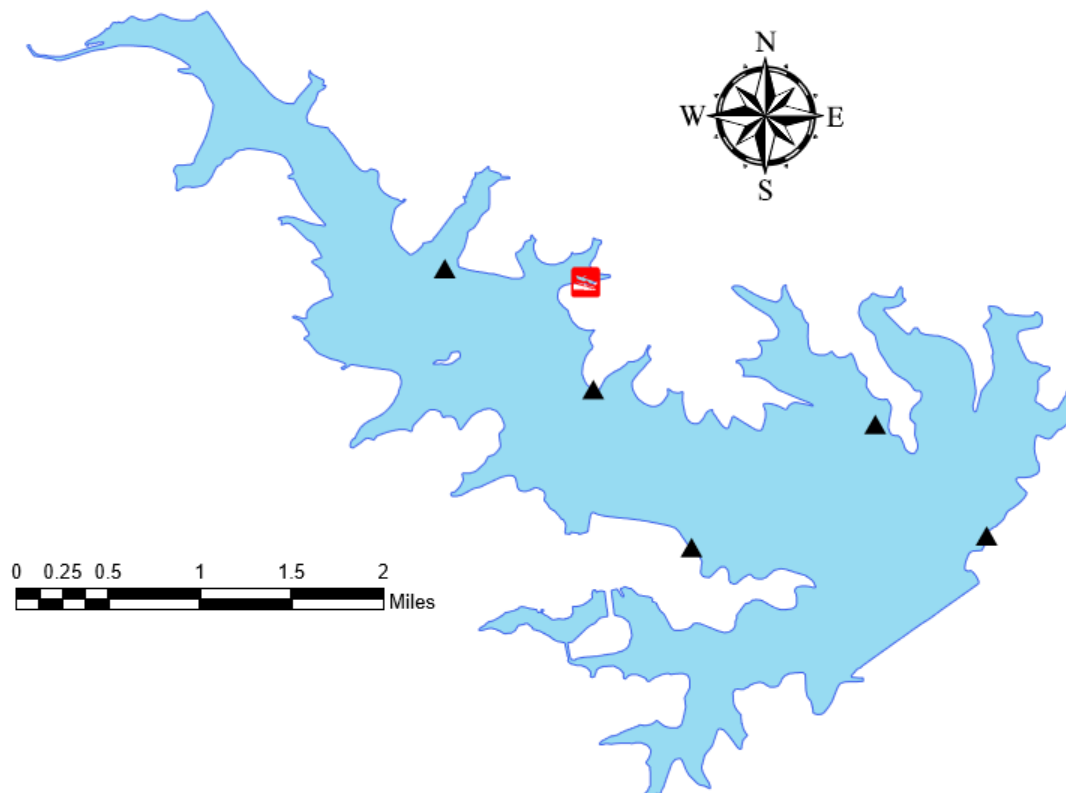
Species	Gill Netting	
	N	CPUE
Gizzard Shad	43	8.6 (37)
Channel Catfish	50	10.0 (33)
Green Sunfish	1	0.2 (100)
Bluegill	2	0.4 (100)
Largemouth Bass	53	10.6 (8)
Tilapia	162	32.4 (27)

## APPENDIX B – Historical catch rates for targeted species

Catch rates (CPUE) of targeted species collected from gill netting surveys, Squaw Creek Reservoir, Texas, 1990 to present. Surveys prior to 1996 used biologist-selected stations while those after 1996 used random stations. Species averages are in bold.

	1990	1994	1997	2011	2015	2019	Average
Palmetto Bass	0.0	0.0	4.8	0.0	0.4	0.0	<b>0.9</b>
White Bass	5.0	0.8	0.2	2.8	0.0	0.0	<b>1.5</b>
Gizzard Shad	24.6	31.6	13.4	0.0	0.0	8.6	<b>13.0</b>
Threadfin Shad	5.2	0.0	0.0	0.0	0.0	0.0	<b>0.9</b>
Bluegill	0.6	1.8	4.2	0.0	0.0	0.4	<b>1.2</b>
Redear	0.0	0.2	0.0	0.0	0.0	0.0	<b>0.03</b>
Warmouth	0.0	0.2	0.4	0.0	0.0	0.0	<b>0.1</b>
Green	0.0	0.0	0.6	0.0	0.0	0.2	<b>0.1</b>
Channel Catfish	4.2	15.0	18.4	30.2	15.4	10.0	<b>15.5</b>
Flathead Catfish	0.0	0.4	0.0	0.4	0.0	0.0	<b>0.1</b>
Smallmouth Bass	0.7	1.4	0.0	0.0	0.0	0.0	<b>0.4</b>
Largemouth Bass	2.0	2.0	6.0	1.4	5.4	10.6	<b>4.6</b>
Spotted Bass	3.0	0.4	0.0	0.0	0.0	0.0	<b>0.6</b>
Tilapia	0.0	0.0	0.0	0.2	0.0	32.4	<b>5.4</b>

## APPENDIX C – Map of sampling locations



Location of gill netting sites, Squaw Creek Reservoir, Texas, 2019. Water level was near full pool at time of sampling.



**Life's better outside.®**

In accordance with Texas State Depository Law, this publication is available at the Texas State Publications Clearinghouse and/or Texas Depository Libraries.

© Texas Parks and Wildlife, PWD RP T3200-1696 (08/19)

TPWD receives funds from the USFWS. TPWD prohibits discrimination on the basis of race, color, religion, national origin, disability, age, and gender, pursuant to state and federal law. To request an accommodation or obtain information in an alternative format, please contact TPWD on a Text Telephone (TTY) at (512) 389-8915 or by Relay Texas at 7-1-1 or (800) 735-2989 or by email at [accessibility@tpwd.texas.gov](mailto:accessibility@tpwd.texas.gov). If you believe you have been discriminated against by TPWD, please contact TPWD, 4200 Smith School Road, Austin, TX 78744, or the U.S. Fish and Wildlife Service, Office for Diversity and Workforce Management, 5275 Leesburg Pike, Falls Church, VA 22041.