Mexia Reservoir

2023 Fisheries Management Survey Report

PERFORMANCE REPORT

As Required by

FEDERAL AID IN SPORT FISH RESTORATION ACT

TEXAS

FEDERAL AID PROJECT F-221-M-5

INLAND FISHERIES DIVISION MONITORING AND MANAGEMENT PROGRAM

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July 31, 2024

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Survey and Management Summary

Fish populations in Mexia Reservoir were surveyed in 2024 using trap netting and gill netting. Historical data are presented with the 2024 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: Mexia Reservoir is a 1,009-acre impoundment located on the Navasota River within the Brazos River Basin, Limestone County. Mexia Reservoir's water level has been within 6 feet of conservation pool (448.3 feet above mean sea level) since January 2020 and was within two feet of conservation pool during the 2024 surveys. Habitat features consisted of natural shoreline, rocky shoreline, bulkhead, boat docks and piers.

Management History: Important sport fish include catfishes and White Crappie. Sport fish have always been managed with statewide regulations. Blue Catfish were most recently stocked in 2008 and 2022. Recruitment was first observed in 2012, yet the population remained low density until 2020, when record numbers of the species were collected. A complete shoreline habitat survey was conducted in 2011 and no major changes have occurred on the reservoir since that time. In 2012, information about the reservoir's loss of volume was shared with Texas Parks and Wildlife Department's (TPWD's) habitat branch and others who might take on the issue on a watershed scale. No work has been done on this issue since that time. Electrofishing was discontinued in 2016 due to poor Largemouth Bass catch rates and anecdotal information suggesting the species was rarely sought by anglers on Mexia Reservoir. Data are currently collected on Channel Catfish, Blue Catfish and crappies during trap netting and gill netting surveys. The statewide regulation for Blue and Channel Catfish changed on September 1, 2021; the current regulations are listed in table 3. Recent management efforts consist of vegetation surveys and aquatic invasive species (AIS) education.

Fish Community

- **Prey species:** Prey species were not surveyed independently however based on the condition of collected catfishes, Gizzard Shad and Threadfin Shad populations are presumed to be stable and healthy.
- **Catfishes:** Collected catfishes included Blue Catfish and Channel Catfish. Catch rates for both species were above historical averages, and body condition was good to excellent for most length classes. Flathead Catfish were not collected.
- **White Crappie:** Collected crappies included White Crappie and Black Crappie. White Crappie were abundant with excellent body condition. Black Crappie were collected in very low numbers.

Management Strategies: Continue managing sport fishes at Mexia Reservoir with statewide regulations. Conduct angler access, vegetation, and electrofishing surveys in 2027, and trap netting and gill netting surveys in 2028. Work to inform the public about the negative impacts of aquatic invasive species (AIS).

Introduction

This document is a summary of fisheries data collected from Mexia Reservoir in 2024. 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 2024 data for comparison.

Reservoir Description

Mexia Reservoir is a 1,009-acre impoundment of the Navasota River within the Brazos River Basin, Limestone County, and is located approximately seven miles west of the town of Mexia. It is owned and operated by the Bistone Municipal Water Supply District (BMWSD) and primary water uses include municipal water supply and recreation. Mean and maximum depths are 10 and 20 feet respectively. The reservoir has a drainage area of 200 square miles, a storage capacity of 10,000 acre-feet, and a shoreline length of 23.4 miles at the conservation pool of 448.3 feet above mean sea level (MSL). Mexia Reservoir was eutrophic with a TSI *chl-a* of 65.48 (Texas Commission on Environmental Quality, 2022). Habitat at time of sampling was dominated by natural and rock shoreline, bulkhead, boat docks and piers. Littoral vegetation was dominated by American water willow, giant cutgrass, and Alligator weed. Water level has been within six feet of conservation pool since the last report and was 1.6' low during the summer 2023 vegetation survey and at conservation pool during the 2024 winter trap netting and spring 2024 gill netting surveys (Figure 1). Other descriptive characteristics for Mexia Reservoir are in Table 1.

Angler Access

Mexia Reservoir has a single public boat ramp (Bistone Municipal Water Supply District, BMWSD) and several private boat ramps (Table 2). The BMWSD ramp is a short, two-lane ramp near mid-reservoir, and is seldom used for launching anything other than small watercraft. Most of Mexia Reservoir's shoreline is private and convenient shoreline access is limited to the public boat ramp area.

Management History

Previous management strategies and actions: Management strategies and actions from the previous survey report (Baird and Tibbs 2020) included:

1. Upgrade the status of Blue Catfish from a low-density fishery to an important sport fish.

   Action: Blue Catfish were upgraded to important sport fish status in the 2019 Objective Based Sampling Plan and are treated as such in this report.

2. Cooperate with the Bistone Municipal Water Supply District (BMWSD) to maintain 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 Mexia Reservoir 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: Sport fishes in Mexia Reservoir have always been managed with statewide regulations. The statewide regulation for Blue and Channel Catfish changed on September 1, 2021, and now the regulation is no minimum length limit; daily bag of 25 (in any combination – only 10 can be 20 inches or greater in length). The current harvest regulations are listed in Table 3.

Stocking history: Blue Catfish were most recently stocked at a rate of 45 fingerlings/acre in 2022. Over half a million Florida Largemouth Bass were stocked into the reservoir between 1974 and 1998. The complete stocking history is in Table 4.

Water Transfer: Mexia Reservoir is primarily used for municipal water supply and recreation. The BMWSD has the only raw water intake structure on the reservoir which transfers water offsite during peak water demand events. There are currently no additional water transfers being considered.

Reservoir capacity: Mexia Reservoir was impounded in 1961. Original plans calculated the reservoir's capacity at conservation pool (448.3 feet above mean sea level) to be 10,000 acre-feet with a surface area of 1,200 acres. Two volumetric surveys have been conducted by the Texas Water Development Board (TWDB) on Mexia Reservoir since impoundment; one in 1996 and one in 2008. The 2008 survey found a volume of 4,687 acre-feet and a surface area of 1,009 acres at conservation pool elevation. According to the TWDB, Mexia Reservoir has accumulated 1,021 acre-feet of sediment volume, which equates to a loss of roughly 22 acre-feet of volume each year since impoundment.

Methods

Surveys were conducted to achieve survey and sampling objectives in accordance with the objective-based sampling (OBS) plan for Mexia Reservoir (Baird and Tibbs 2020). 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).

Common names of fishes and their hybrids in this report are used following Page et al. (2023) with an exception for Largemouth Bass. While we recognize recent changes to black bass names, Texas reservoirs contain a mix of Florida Bass, Largemouth Bass, and their intergrade offspring. Therefore, Largemouth Bass is used in this report for simplicity as well as consistency with previous reports.

Trap netting – White Crappie were collected by late-winter (February) trap netting (5 net nights at 5 stations) in 2024. Catch per unit of effort (CPUE) for trap netting was recorded as the number of fish caught per net night (fish/nn).

Gill netting – Channel Catfish, Blue Catfish and White Crappie were collected by spring with gill netting (5 net nights at 5 stations) in 2024. Catch per unit of effort (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 Neumann et al. (2012). Standard error (SE) was calculated for structural indices. Relative standard error (RSE = 100 X SE of the estimate/estimate) was calculated for all CPUE statistics.

Habitat – The 2011 structural habitat survey was conducted according to Tibbs and Baird (2012). The 2023 vegetation survey was conducted using an adaptation of the point method (TPWD, Inland Fisheries Division, unpublished manual revised 2022). Points were randomly generated on the shoreline and averaged a minimum of one point per shoreline mile. Aquatic vegetation has always been found close to the shore in Mexia Reservoir, so stratifying the random points to exclude deep-water areas increased precision and resulted in better data.

Water level – Source for water level data was the United States Geological Survey (USGS 2024).

Results and Discussion

Habitat: The last structural habitat survey estimated 19.9 miles (85.1%) of natural shoreline, 1.9 miles (8.3%) of bulk headed shoreline and 1.6 miles (6.6%) of rock shoreline (Tibbs and Baird 2012). Littoral zone habitat in summer 2023 was dominated by American water willow (76% or 19/25 randomly selected shoreline points), cutgrass (64% or 16/25 randomly selected shoreline points), and Alligator weed (52% or 13/25 randomly selected shoreline points). Structural habitat and open water vegetation were scarce.

Prey species: Body condition from Blue Catfish and Channel Catfish are being used as a proxy to categorize primary forage (Gizzard Shad and Threadfin Shad) abundance. These populations are still considered healthy because they have been able to sustain an existing, moderate Channel Catfish

population, plus a new, fast growing Blue Catfish population, with good to excellent body conditions despite drought effects during 2022 and 2023.

Catfishes: Blue Catfish were upgraded to important sport fish status in the previous report. In 2024, Blue Catfish were collected at a rate of 13.8 fish/nn, which is the highest catch rate for the species in Mexia Reservoir (Figure 2; Appendices A and B). The OBS goals for Blue Catfish, general monitoring to collect abundance (CPUE – Total; RSE ≤ 25) and size structure (PSD and length-frequency; N ≥ 50 stock) data, were both achieved with 53 stock-length individuals and an RSE value of 13 (Table 5; Figure 2). The PSD value decreased between 2020 and 2024, from 47 to 21, reflecting higher proportions of smaller fish in the population due to the exceptional 11 to 12-inch length classes represented. Relative weight (Wr), or body condition, decreased from 2020 to 2024 but still averaged near or above 90 for all but one length class.

Channel Catfish were collected at a rate of 11.4 fish/nn, which is near the historical high for the species (Figure 3; Appendices A and B). The OBS goals for Channel Catfish, general monitoring to collect abundance (CPUE – Total; RSE ≤ 25) and size structure (PSD and length-frequency; N ≥ 50 stock) data, were both achieved with 50 stock-length individuals and an RSE value of 16 (Table 5; Figure 3). The PSD value in 2024 improved from 38 to 52, reflecting higher proportions of larger fish in the population and many Channel Catfish were in the quality length category. Relative weight (Wr), or body condition, decreased from 2020 to 2024 except for the largest length classes, possibly due to drought effects during 2023 and 2024 or from interspecific competition with the Blue Catfish population which has increased dramatically since the last report (Figure 3).

White Crappie: White Crappie were collected with trap nets and gill nets at a rate of 51.8 fish/nn and 12.6 fish/nn, respectively (Figures 4 and 5). The trap netting catch rate was similar to the historical average for the species (Figure 4; Appendices A and B). The OBS goals for White Crappie, general monitoring to collect abundance (CPUE – Total; RSE ≤ 25) and size structure (PSD and length-frequency; N ≥ 50 stock) data, were only partially achieved with trap netting since 238 stock-length individuals were collected with an RSE value of 42 (Table 5; Figure 4). However, these OBS goals were achieved through gill netting efforts with 63 stock-length individuals and an RSE of 10 (Figure 5). The PSD value from 2024 trap netting improved from 32 to 80, reflecting higher proportions of larger fish in the population; many White Crappie reached or approached the memorable length category. Similar to the 2015 and 2019 surveys, Relative weight (Wr), or body condition, was excellent and generally improved with increasing length (Figure 5).

Fisheries Management Plan for Mexia Reservoir, Texas

Prepared – July 2024

ISSUE 1:   Electrofishing was discontinued as a standard management tool back in 2016 due to low and inconsistent catch rates of Largemouth Bass. Total Largemouth Bass CPUE was 12.0/h during fall 2015 electrofishing, which remains the lowest reported rate in district history. Although electrofishing has not been conducted since 2015, it still remains the best management tool to collect important information on forage species. Additionally, the new Smith-Root Apex electrofishing units should show improved catches over the Smith-Root 7.5 units

MANAGEMENT STRATEGIES

1. Pending results from the Pat Cleburne daytime versus nighttime electrofishing comparison, conduct either a 12-station daytime or 12-station nighttime electrofishing survey in fall 2027 to monitor forage species and Largemouth Bass populations.
2. Update the 2024-2028 OBS Plan pending results from these surveys.

ISSUE 2:   Alligator weed was first observed in vegetation surveys in 2019 and has slowly increased in coverage since that time.

MANAGEMENT STRATEGY

1. Monitor Alligator weed coverage annually for the next four years.

ISSUE 3:   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 the BMWSD to maintain appropriate signage at access points around the reservoir.
2. Educate the public about AIS through social media and the internet.
3. Make a speaking point about AIS when presenting to constituent and user groups.
4. Keep track of (i.e., map) existing and future interbasin water transfers to facilitate potential AIS responses.

Objective-Based Sampling Plan and Schedule (2024–2028)

Sport fish, forage fish, and other important fishes

Sport fishes in Mexia Reservoir include White Crappie, Channel Catfish and Blue Catfish. Important forage fishes include Gizzard Shad, Threadfin Shad, Bluegill, and Longear Sunfish.

Sport fishes with low-density populations

Largemouth Bass, Spotted Bass, Flathead Catfish, White Bass and Black Crappie occur in low abundance in Mexia Reservoir. We will continue collecting and reporting data for these species and upgrade their status if appropriate.

Survey objectives, fisheries metrics, and sampling objectives

Fall Electrofishing: This survey will be used to evaluate Largemouth Bass, Bluegill, Longear Sunfish, Gizzard Shad, and Threadfin Shad. Largemouth Bass catch rates for fall 2015 (12.0 fish/h) were the lowest on record for Mexia. Catch rates for all sunfish species were also near historical lows. Since catch rates are well below those desired for general monitoring, the goal of the 2027 survey will be exploratory sampling only. Twelve random five-minute daytime or nighttime electrofishing stations will be sampled during fall 2027 to assess the status of the Largemouth Bass, shad and sunfish populations. No target precision or target sample sizes will be sought. Index of vulnerability (IOV) will be calculated for Gizzard Shad to assess the relative proportion of individuals in the population suitable as prey for sport fishes. No additional sampling effort will be conducted.

Late winter trap netting: Anecdotal evidence suggests White Crappie are highly sought in Mexia Reservoir. The goal of the 2028 survey will be general monitoring (using CPUE, size structure and relative weight as metrics) to characterize the White Crappie population and make comparisons with historical and future data. Catch per unit effort target precision will be an RSE ≤ 25. Target sample size will be an N ≥ 50 stock-length fish to determine population size structure, allowing us to calculate proportional size distributions with 80% confidence. A minimum of 5 randomly selected trap netting stations will be sampled during late winter 2028. If the goal is not attained, and catch rates indicate that collecting the proposed number of fish is reasonable, sampling will continue at pre-determined random stations until the target is reached.

Spring gill netting: This survey will be used to evaluate Channel Catfish and Blue Catfish. A minimum of 5 randomly selected gill netting stations will be sampled in spring 2028. Both species will be monitored using abundance (CPUE-Stock), size structure (PSD and length frequency), and condition (mean relative weight) as metrics to make comparisons with historical and future data sets. Target precision for CPUE-Stock will be an RSE-Stock ≤ 25 and target sample size for size structure will be N ≥ 50 stock, allowing us to calculate proportional size distributions with 80% confidence. Body condition will be determined by measuring and weighing at least 5 fish per represented inch group ≥ stock-length for each species. If the goal for a species isn't attained in 5 randomly selected stations, and catch rates indicated that collecting the proposed number of fish is reasonable, sampling will continue at random stations until targets are reached.

Literature Cited

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Tables and Figures

Figure 1. Daily water level elevations in feet above MSL recorded for Mexia Reservoir, Texas, January 1, 2020, through June 1, 2024. The figure is from the United States Geological Survey (USGS) website. NGVD 1929 refers to the National Geodetic Vertical Datum of 1929. The vertical dashed line represents the lowest water elevation during the period (445.71 MSL), the horizontal line indicates Conservation pool (448.3), the thick line represents daily water level elevations, and the thin line represents median water elevations during the period. Sampling times for vegetation (V), trap netting (TN) and gill netting (GN) are noted.

Table 1. Characteristics of Mexia Reservoir, Texas.

Characteristic	Description
Year Constructed	1961
Controlling authority	BMWSD
County	Limestone
Reservoir type	Tributary, Brazos River Basin
Shoreline Development Index	8.0
Conductivity	220 umhos

Table 2. Boat ramp characteristics for Mexia Reservoir, Texas, September 2023. Reservoir elevation at time of survey was 446.7 feet above MSL (1.6 feet below conservation pool).

Boat ramp	Latitude Longitude (dd)	Parking capacity (N)	Public	Condition
Bistone MWSD	31.65416/-96.59361	15	Y	Double lane; good

Table 3. Harvest regulations for Mexia Reservoir, Texas.

Species	Bag Limit	Length limit
Catfish: Channel Catfish, Blue Catfish, their hybrids and subspecies[1]	25 (only 10 ≥ 20 inches)	No minimum
Catfish, Flathead	5	18 – inch minimum
Bass, White	25	10 – inch minimum
Bass, Largemouth	5	14 – inch minimum
Bass, Spotted, Guadalupe and hybrids[2]	5	No minimum
Crappie: White Crappie, Black Crappie, their hybrids and subspecies	25 (in any combination)	10 – inch minimum

[1]The Blue and Channel Catfish regulation is no minimum length limit; daily bag of 25 (in any combination – no more than 10 can be 20 inches or greater in length).

[2] Daily bag for Largemouth Bass and Spotted Bass = 5 in any combination.

Table 4. Stocking history of Mexia Reservoir, Texas. Life stages are fry (FRY), fingerling (FGL), adult (ADL) 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)
Blue Catfish	1975	30,000	UNK	UNK
	1995	140,000	FGL	1.9
	1996	140,000	FGL	1.9
	2008	60,061	FGL	2.0
	2022	44,918		
	Total	414,979		
Flathead Catfish	1969	3,806	UNK	UNK
	Total	3,806		
Florida Largemouth Bass	1974	63,745	FGL	2.2
	1974	11,375	FRY	1.0
	1976	70,000	FRY	1.0
	1977	140,340	FRY	1.0
	1995	142,384	FGL	1.3
	1998	140,668	FGL	1.3
	Total	568,512		
Green Sunfish x Redear Sunfish	1980	1,000	UNK	UNK
	Total	1,000		
Largemouth Bass	1996	43	ADL	12.0
	Total	43		

Table 5. Objective-based sampling plan components for Mexia Reservoir, Texas 2024.

Gear/target species	Survey objective	Metrics	Sampling objective
Gill netting			
Channel Catfish Abundance		CPUE-Total	RSE ≤ 25
	Size Structure	PSD, length frequency	N ≥ 50 stock
	Condition	W_r	10 fish/inch group (max)
Blue Catfish Abundance		CPUE-Total	RSE ≤ 25
	Size Structure	PSD, length frequency	N ≥ 50 stock
	Condition	W_r	10 fish/inch group (max)
Trap netting			
White Crappie Abundance		CPUE-Total	RSE ≤ 25
	Size Structure	PSD, length frequency	N ≥ 50 stock
	Condition	W_r	10 fish/inch group (max)

Since electrofishing is no longer used as a management tool for Mexia Reservoir (Largemouth Bass and prey species are no longer collected), body condition from sport fish will continue to be used as a proxy for forage abundance and vulnerability.

Blue Catfish

2016

Effort = 5
Total CPUE = 0.4 (100; 2)
Stock CPUE = 0.4 (100; 2)
PSD = 100 (0)

2020

Effort = 5
Total CPUE = 3.2 (55; 16)
Stock CPUE = 3 (61; 15)
PSD = 47 (7)

2024

Effort = 5
Total CPUE = 13.8 (11; 69)
Stock CPUE = 10.6 (13; 53)
PSD = 21 (6)

Figure 2. Number of Blue Catfish caught per net night (CPUE, bars), mean relative weights (squares) and population indices (RSE and N for CPUE and SE for size structure in parentheses) for spring gill netting surveys, Mexia Reservoir, Texas, 2016, 2020, and 2024. The minimum length limit (vertical line) for Blue Catfish was 12-inches during 2016 and 2020; there was none after September 1, 2021.

Channel Catfish

2016

Effort = 5
Total CPUE = 9.6 (16; 48)
Stock CPUE = 8.2 (19; 41)
PSD = 34 (3)

2020

Effort = 5
Total CPUE = 7 (38; 35)
Stock CPUE = 6.8 (38; 34)
PSD = 38 (8)

2024

Effort = 5
Total CPUE = 11.4 (16; 57)
Stock CPUE = 10 (16; 50)
PSD = 52 (5)

Figure 2. Number of Channel Catfish caught per net night (CPUE, bars), mean relative weights (squares) and population indices (RSE and N for CPUE and SE for size structure in parentheses) for spring gill netting surveys, Mexia Reservoir, Texas, 2016, 2020, and 2024. The minimum length limit (vertical line) for Channel Catfish was 12-inches during 2016 and 2020; there was none after September 1, 2021.

White Crappie

2015

Effort =		5
Total CPUE =		88.8 (11; 444)
Stock CPUE =		82.6 (12; 413)
PSD =		55 (6)
PSD-P =		26 (6)

2019

Effort =		5
Total CPUE =		51.6 (42; 258)
Stock CPUE =		36.4 (25; 182)
PSD =		32 (6)
PSD-P =		9 (1)

2024

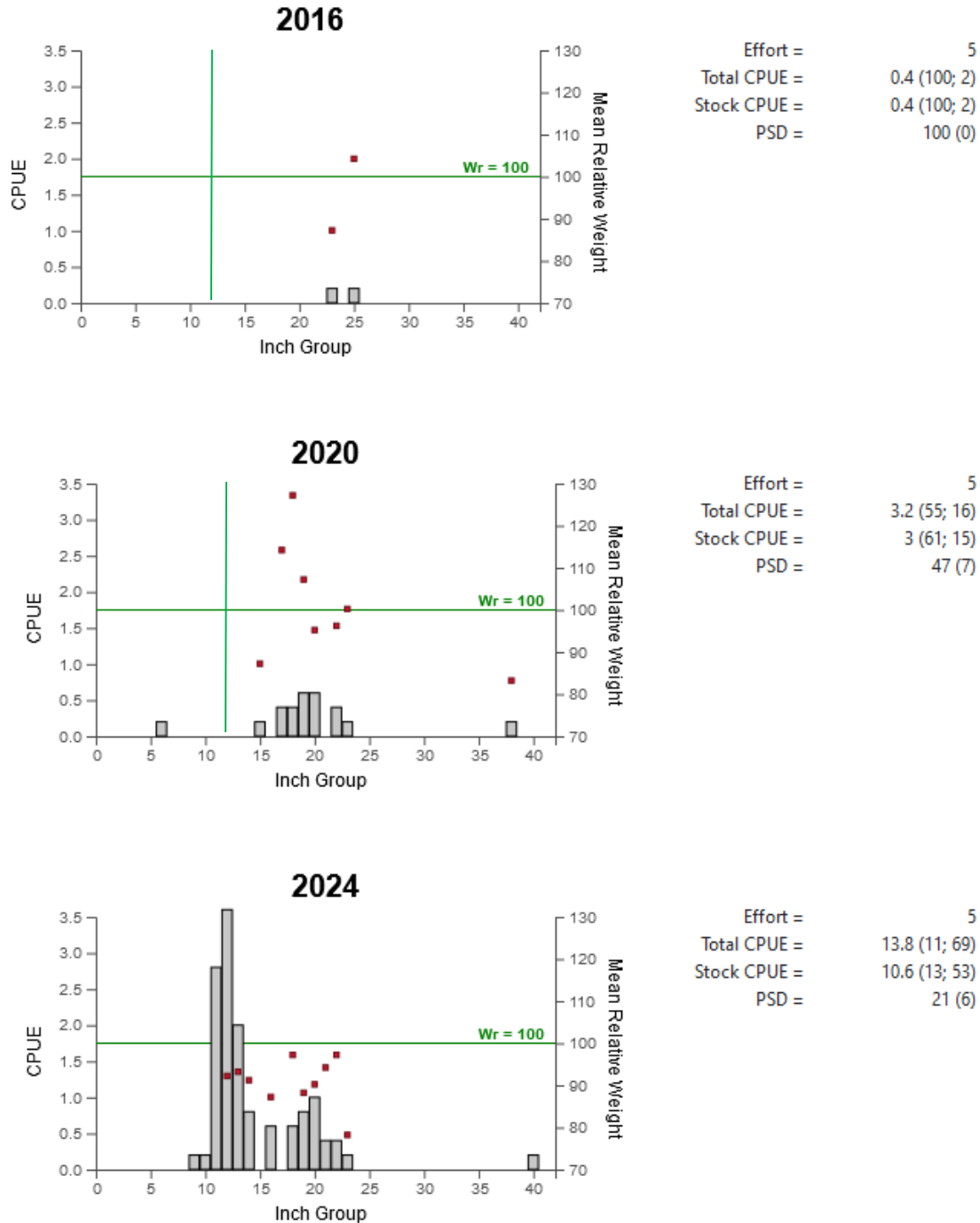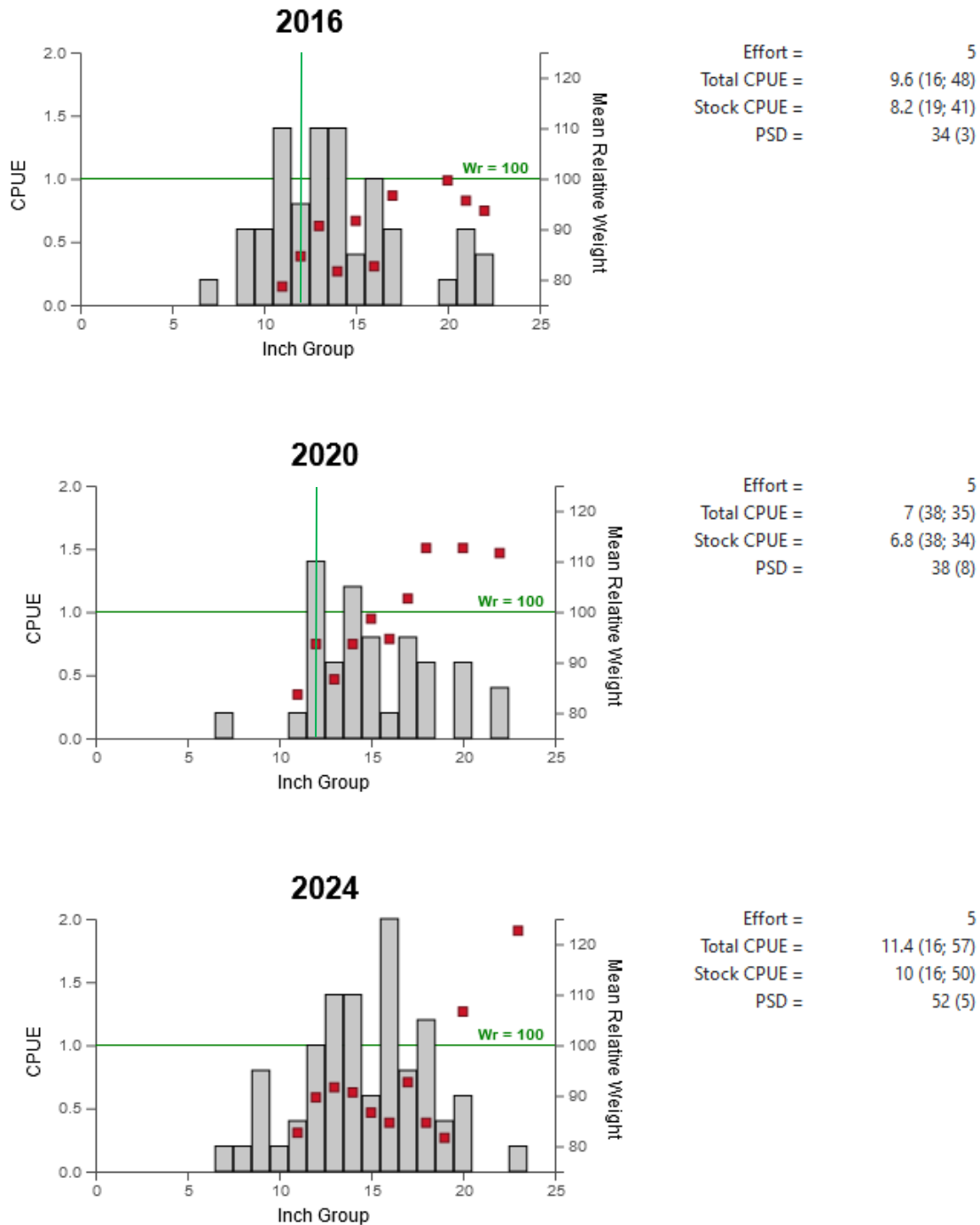|		
Effort =		5
Total CPUE =		51.8 (37; 259)
Stock CPUE =		47.6 (42; 238)
PSD =		80 (6)
PSD-P =		51 (8)

Figure 3. Number of White Crappie caught per net night (CPUE, bars), mean relative weight (squares), and population indices (RSE and N for CPUE and SE for size structure in parentheses) for trap netting surveys, Mexia Reservoir, Texas, 2015 (December), 2019 (December), and 2024 (February). The minimum length limit (vertical line) for White Crappie was 10-inches for all three survey periods.
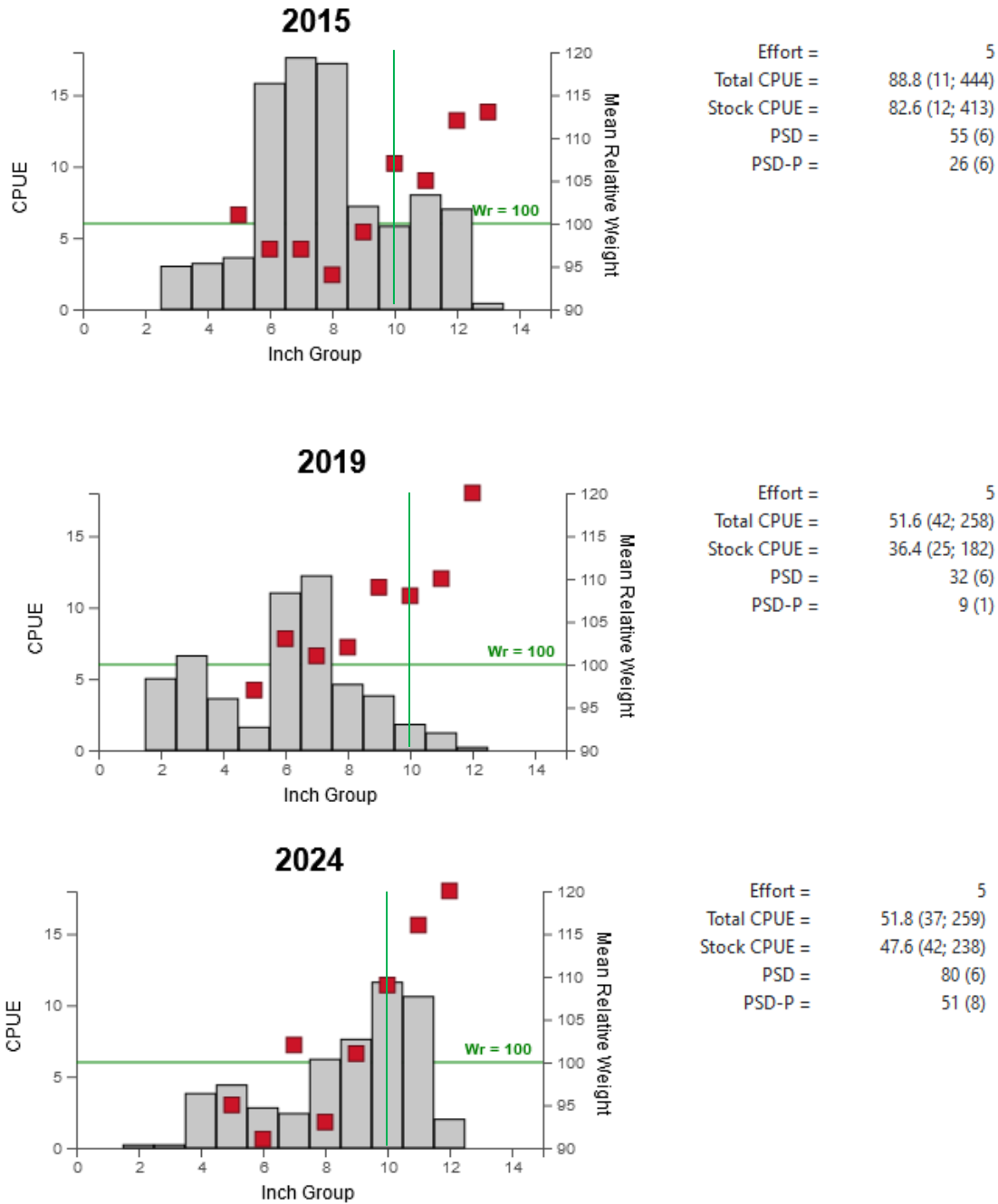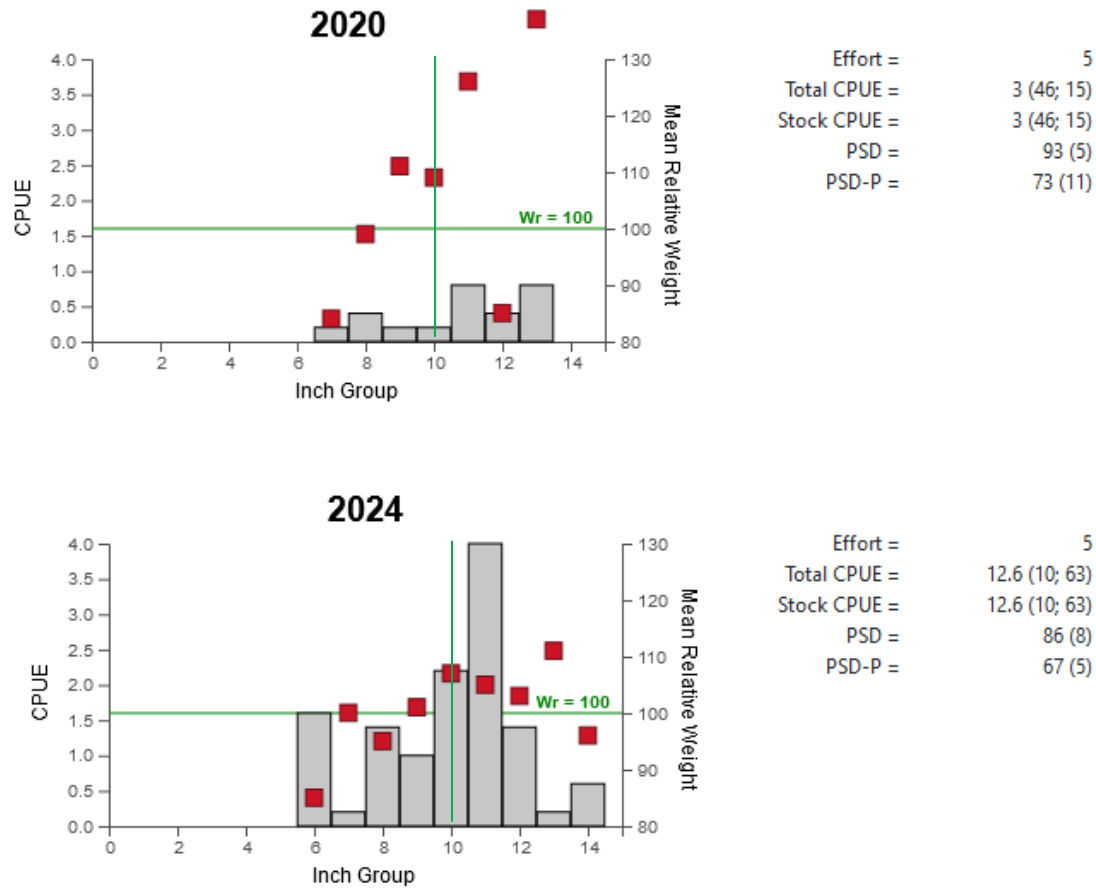
Figure 4. Number of White Crappie caught per net night (CPUE, bars), mean relative weight (squares), and population indices (RSE and N for CPUE and SE for size structure in parentheses) for spring gill netting surveys, Mexia Reservoir, Texas, 2020 and 2024. The minimum length limit (vertical line) for White Crappie was 10-inches for both survey periods.

Proposed Sampling Schedule

Table 7. Proposed sampling schedule for Mexia Reservoir, Texas. Survey period is June through May. Gill netting surveys are conducted in the spring while trap netting surveys are conducted in late winter. Scheduled surveys are denoted by X.

	Survey year			
	2024-2025	2025-2026	2026-2027	2027-2028
Angler Access				X
Vegetation				X
Electrofishing – Fall				X
Trap netting				X
Gill netting				X
Report				X

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

Number (N), relative standard error (RSE) and catch rate (CPUE) for all target species collected with all gear types from Mexia Reservoir, Texas, 2024.

Species	Gill Netting		Trap Netting	
	N/RSE	CPUE	N/RSE	CPUE
Blue Catfish	69/11	13.8		
Channel Catfish	57/16	11.4		
White Bass	1/100	0.2		
White Crappie	63/10	12.6	259/37	51.8
Black Crappie			1/100	0.2

APPENDIX B – Historical catch rates for targeted species

Catch rates (CPUE) of targeted species collected with electrofishing, trap netting and gill netting surveys on Mexia Reservoir, Texas, 1996 to present. Electrofishing stations were sampled with a 5.0 Smith-Root GPP (Gas Powered Pulsator) until 2010, a 7.5 Smith-Root GPP from 2010 to 2019, and a Smith-Root Apex unit thereafter. No electrofishing was conducted in fall 2019 or 2023. Species averages are in bold. Dashes represent no data available. Beginning in 2024, trap netting surveys were conducted in late winter instead of late fall.

Electrofishing

	1999	2003	2007	2011	2015	2019	2023	Average
Gizzard Shad	107.3	505.0	519.0	1432.0	2152.8	---	---	**943.2**
Threadfin Shad	0.0	2007.0	18.0	1379.0	674.4	---	---	**815.7**
Bluegill	89.3	86.0	143.0	186.0	21.6	---	---	**105.2**
Longear	91.3	10.0	20.0	47.0	12.0	---	---	**36.1**
Warmouth	2.7	1.0	4.0	5.0	0.0	---	---	**2.5**
Green	68.0	0.0	1.0	5.0	2.4	---	---	**15.3**
`Largemouth Bass	108.7	62.0	26.0	40.0	12.0	---	---	**49.7**

Trap netting

	1996	1999	2003	2007	2015	2019	2024	Average
White Crappie	38.8	49.6	36.4	59.2	89.0	51.6	51.8	**53.8**
Black Crappie							0.2	**0.2**

Gill netting

	1999	2004	2008	2012	2016	2020	2024	Average
Blue Catfish	1.8	0.0	0.2	2.8	0.4	3.2	13.8	**3.2**
Channel Catfish	1.6	6.6	4.8	15.2	9.6	7.0	11.4	**8.0**
Flathead Catfish	0.0	0.0	0.0	0.0	0.0	0.0	0.0	**0.0**
White Bass	1.0	2.6	0.0	1.4	1.0	2.4	0.2	**1.2**
White Crappie	---	---	---	6.6	---	3.0	12.6	**7.4**
Black Crappie	---	---	---	---	---	---	---	**0.0**

APPENDIX C – Map of sampling locations
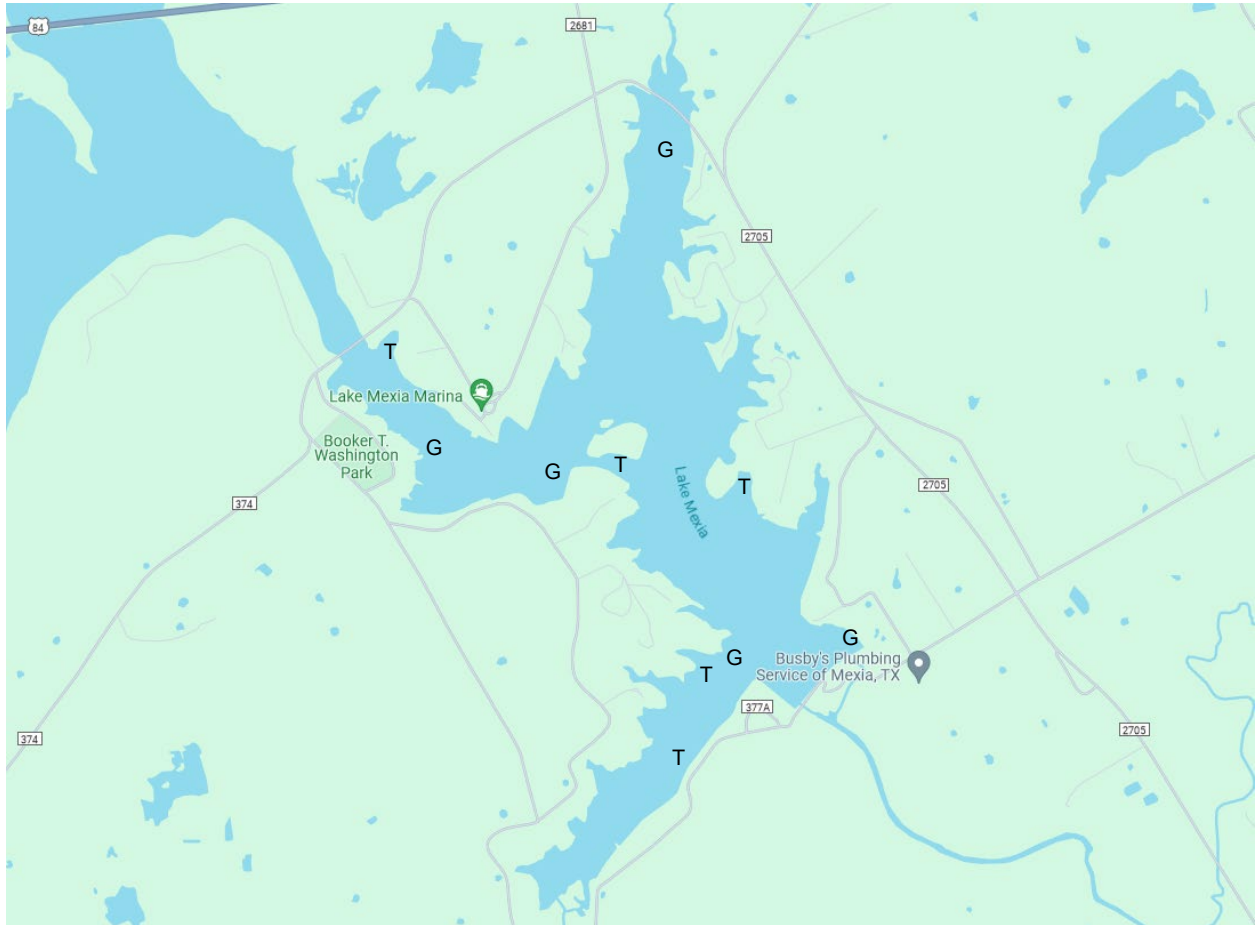
Location of sampling sites, Mexia Reservoir, Texas, 2024. Trap netting and gill netting stations are indicated by T and G respectively. Water level was at conservation pool at time of sampling.

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