

PERFORMANCE REPORT

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FEDERAL AID PROJECT F-221-M-6

INLAND FISHERIES DIVISION MONITORING AND MANAGEMENT PROGRAM

2015 Fisheries Management Survey Report

**Millers Creek Reservoir**

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## SURVEY AND MANAGEMENT SUMMARY

Fish populations in Millers Creek Reservoir were surveyed in 2015 using electrofishing and trap netting and in 2016 using gill netting. Historical data are presented with the 2015-2016 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:** Millers Creek is a 1,794-acre impoundment located in Baylor County on Millers Creek in the Brazos River Basin approximately 77 miles southwest of Wichita Falls, Texas. The reservoir was completed in 1974 and is owned and operated by the North Central Texas Municipal Water Authority in Munday, Texas. At the time of the habitat survey the reservoir was slightly above capacity and the shoreline habitat consisted of natural and rocky shoreline. Shoreline and boat access are adequate, including limited handicapped access at normal pool elevations. .
- **Management History:** Important sport fish include catfish, White Bass, Palmetto Bass, Largemouth Bass, and White Crappie. Palmetto Bass and Florida Largemouth Bass were last stocked in 2016. Millers Creek has always been managed with statewide regulations.
- **Fish Community**
  - **Prey species:** Gizzard Shad catch rate was lower than average for the reservoir but the percentage available to predators slightly increased over the previous survey. The catch per unit effort (CPUE) for Bluegill was the lowest ever documented. Overall, there is ample available prey in the reservoir.
  - **Catfishes:** Blue Catfish were well represented in the gill net survey of 2016, and CPUE was near the historical average. Body condition was slightly improved from the previous two surveys. The Channel Catfish CPUE was at its lowest. While no Flathead Catfish caught in the 2016 gill net survey, they have historically been present and anglers report catching them.
  - **White Bass:** White Bass CPUE increased compared to the last two surveys and was the second highest recorded during random sampling. Body condition was also better compared to the two previous surveys.
  - **Palmetto Bass:** Palmetto Bass CPUE decreased from the two previous surveys and was the lowest CPUE recorded for the reservoir since 1997 random sampling began. Body condition was good.
  - **Largemouth Bass:** Largemouth Bass electrofishing catch rate was the lowest for the reservoir. Body condition of sampled bass was considered very good but all sampled bass were small and probably from the 2015 stocking.
  - **White Crappie:** The 2015 CPUE was the highest ever. Legal-length crappie had body conditions that were considered to be very good. Most crappie sampled were young fish, probably from the 2015 spawn.
- **Management Strategies:** Stock Florida Largemouth Bass and Palmetto Bass in 2016. The fishery is still good for Blue Catfish and White Crappie and should be promoted to increase angler effort, especially to anglers from around Lubbock. Past creel survey work found a large proportion of anglers utilizing Millers Creek are from the Lubbock area. Conduct additional electrofishing survey in 2017 and general monitoring surveys with trap nets, gill nets, and electrofishing surveys in 2019-2020. Access and vegetation surveys will be conducted in 2019.

## INTRODUCTION

This document is a summary of fisheries data collected from Millers Creek Reservoir in 2015-2016. The purpose is to provide fisheries information and make management recommendations to protect and improve the sport fishery. While information on other species of fishes was collected, this report deals primarily with important sport fish and prey species. Historical data are also presented with the 2015-2016 data for comparison.

### *Reservoir Description*

Millers Creek Reservoir is a 1,794-acre impoundment constructed in 1974 on Millers Creek. It is located in Baylor County approximately 77 miles southwest of Wichita Falls and is operated and controlled by North Central Texas Municipal Water Authority-Texas Water Development Board. Primary uses include municipal water supply and recreation. Maximum depth is 46 feet and mean depth when full is 14 feet, and conductivity in July 2015 was 339 uS/cm. Habitat consisted of natural or rocky shoreline. Reservoir elevation was above capacity during the survey work, recovering from a 4.5 year-long drought which lowered the water level nearly 23 feet (Figure 1). Other descriptive characteristics for Millers Creek are in Table 1.

### *Angler Access*

Millers Creek Reservoir has a three lane public boat ramp and no private boat ramps. The ramp was usable once the reservoir filled up after heavy rains in 2015. Extension of the ramp is not feasible when reservoir elevation reaches 1,319 mean sea level. Additional boat ramp characteristics are in Table 2. Shoreline access is adequate with almost half the reservoir available to shoreline anglers and a public fishing pier is located near the boat ramp.

### *Management History*

**Previous management strategies and actions:** Management strategies and actions from the previous survey report (Mauk 2012) included:

1. An increase in stocking Palmetto Bass from every other year to annually was recommended since the Gizzard Shad population was annually increasing in abundance.  
**Action:** Requested stocking Palmetto Bass in 2012, 2013 and 2015 at the rate of 10/acre but based on surface area at time of stocking. Did not request a 2014 stocking since reservoir elevation was quite low.
2. Continue to promote good fishery that is somewhat remote and on the edge of the district. A creel survey in 2003 found that most of the Millers Creek anglers reside outside of our district with many from the Lubbock area. News releases should include the Lubbock media.  
**Action:** Continued to promote fishery through news releases and the TPWD website. News releases have been sent to Lubbock newspaper.
3. Educating the public about invasive species which threaten aquatic habitats and organisms in Texas is a priority as well as documenting invasive species presence.  
**Action:** Presentations about invasive species have been given several times since the last management report.  
**Action:** The reservoir is checked for invasive species and signage has been put up at the boat ramps promoting Clean, Drain, and Dry boating practices.
4. A 2013 Largemouth Bass sampling was planned because the 2011 electrofishing survey revealed a missing year class that was likely due to the low reservoir elevations resulting from the drought.  
**Action:** Could not perform the planned electrofishing survey due to lack of adequate water to launch the boat.

**Harvest regulation history:** Sport fish species in Millers Creek Reservoir have always been managed using statewide regulations (Table 3).

**Stocking history:** Palmetto Bass and Florida Largemouth Bass were stocked in 2015 and 2016. Other sport fish have not been stocked recently since surveys have indicated adequate populations and recruitment. The complete stocking history is in Table 4.

**Vegetation/habitat management history:** Millers Creek has no significant vegetation/habitat management history. Noxious vegetation has not been observed at the reservoir.

**Water transfer:** Water is not transferred from the reservoir except through the North Central Texas Municipal Water Authority pump station. Water is pumped to the treatment plant from the reservoir for local municipalities.

## METHODS

Surveys were conducted to achieve survey and sampling objectives in accordance with the objective-based sampling (OBS) plan for Millers 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, Gizzard Shad, and Threadfin 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.

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

*Gill netting* – Blue Catfish, Channel Catfish, White Bass, and Palmetto Bass were collected by gill netting (5 net nights at 5 stations). CPUE for gill netting was recorded as the number of fish caught per net night (fish/nn).

*Statistics* – Sampling statistics (CPUE for various length categories), structural indices [Proportional Size Distribution (PSD), terminology modified by Guy et al. 2007], and condition indices [relative weight ( $W_r$ )] were calculated for target fishes according to Anderson and Neumann (1996). Palmetto Bass PSD was calculated according to Dumont and Neely (2011). 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 2015. Vegetation surveys were conducted in 2015. 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 2016.)

## RESULTS AND DISCUSSION

**Habitat:** A structural habitat survey conducted July 2015 consisted primarily of natural or rocky shoreline (Table 5). No vegetation was noted during the survey (Table 6). The reservoir was above conservation pool (0.3 ft.) at the time of the survey. No manmade changes to the physical habitat had occurred during the four-year period.

**Prey species:** Electrofishing catch rates of Gizzard Shad and Bluegill during 2015 were 266.0/h (Figure 2) and 12.0/h (Figure 3), respectively. Index of vulnerability for Gizzard Shad was good, indicating that 95% of Gizzard Shad were available to predators; this was an increase over IOV estimates in the previous two surveys. Total CPUE of Gizzard Shad was lower in 2015 compared to the previous three surveys and below the historical average of 805.8/hr. While abundance is below historical averages, it is still considered adequate for the predators in the reservoir. Total CPUE of Bluegill in 2015 was lower than any previous survey.

**Blue Catfish:** Blue Catfish gill net 2016 CPUE (10.2/nn) was slightly down from the 2012 CPUE (12.6/nn) and near the historical CPUE average of 10.9/nn (Figure 4). Blue Catfish appear to have fared well through the drought. Blue Catfish ranged in size from 4 to 29 inches in length.  $W_r$ 's for Blue Catfish ranged from 86 to 114 which is an improvement over the previous two surveys when they ranged from 80

to 95 in 2012 and 84 to 99 in 2010.

**Channel Catfish:** Channel Catfish 2016 gill net CPUE was 0.2/nn, a decrease from the previous 2012 and 2010 surveys CPUE of 1.0/nn and 1.3/nn, respectively (Figure 5). This was the lowest CPUE for a gill netting survey at Millers Creek. These catch rates are considerably lower than the 1999 survey CPUE documented before Blue Catfish became well established in the reservoir indicating Blue Catfish are competing with the Channel Catfish.

**White Bass:** The gill net catch rate for White Bass was 5.0/nn in 2016, which was up from 3.7/nn in 2012 and 0.1/nn in 2010 (Figure 6).  $W_r$ 's ranged from 89 to 106 and were an improvement over 2012 when  $W_r$  ranged from 82 to 96.

**Palmetto Bass:** Palmetto Bass gill net CPUE was 0.8/nn, a decrease from the previous two surveys of 3.4/nn and 1.1/nn sampled in 2012 and 2010, respectively (Figure 7). Relative weights were considered good, being above 100. The drought and sporadic stocking with small number of fish have hurt this population.

**Largemouth Bass:** The electrofishing CPUE of Largemouth Bass was 30.0/h in 2015, down from the previous surveys in 2011 (48.0/h) and 2007 (46.0/h; Figure 8). Body condition as measured by  $W_r$  was excellent being over 100. Notable was a lack of bass over 10-inches in the survey. The drought of record likely negatively affected the bass population. Bass that were sampled could be from those we stocked in 2015. The last few genetic analysis of the population found no pure Florida Largemouth Bass (Table 8) in the survey. Since we have stocked only Florida Largemouth Bass in 2015 and 2016, a new genetic analysis should be completed during the next electrofishing survey.

**White Crappie:** The trap net catch rate of White Crappie was 90.0/nn in 2015, higher than any previous surveys, and well above 2011 (11.9/nn), 2007 (44.3/nn; Figure 9), and the historical average of 46.3/nn. Legal sized crappie had  $W_r$ 's above 115 indicating great body condition. Comparing the catch rates and length frequency histograms of the last three surveys, it is obvious reproduction in 2015 has been very good. Increase in reproduction was likely a result of the flooding of terrestrial vegetation that provided considerable spawning and nursery habitat.

## Fisheries management plan for Millers Creek Reservoir, Texas

Prepared – July 2016

**Issue 1:** Palmetto Bass have been a part of the fishery at Millers Creek since 1980 but in the 2003 and 2011-2012 creel surveys, only 1.4% and 1.3% of the anglers identified themselves as targeting this specie. The district has tried to promote the fishery but has had no success.

### MANAGEMENT STRATEGY

1. No longer request Palmetto Bass stockings for the reservoir.

**Issue 2:** Millers Creek has historically been recognized as an excellent reservoir for fishing. Creel surveys have found that a majority of anglers that fish the reservoir are from outside of the District, so writing public news releases that are printed only within the District boundaries do not reach the target audience of Millers Creek anglers.

### MANAGEMENT STRATEGIES

1. Continue to promote the fishery, especially beyond our district boundaries. Ensure news releases include the Lubbock media.
2. Update the reservoir's web page when appropriate with new information on the fishery.

**Issue 3:** Many invasive species threaten aquatic habitats and organisms in Texas and can adversely affect the state ecologically, environmentally, and economically. For example, zebra mussels (*Dreissena polymorpha*) can multiply rapidly and attach themselves to any available hard structure, restricting water flow in pipes, fouling swimming beaches and plugging engine cooling systems. Giant salvinia (*Salvinia molesta*) and other invasive vegetation species can form dense mats, interfering with recreational activities like fishing, boating, skiing and swimming. The financial costs of controlling and/or eradicating these types of invasive species are significant. Additionally, the potential for invasive species to spread to other river drainages and reservoirs via watercraft and other means is a serious threat to all public waters of the state.

### MANAGEMENT STRATEGIES

1. 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 and literature so that they can in turn educate others.
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

### FY 2016- 2019

#### Sport fish, forage fish, and other important fishes

Sport fishes in Millers Creek Reservoir have historically included Blue and Channel Catfish, White and Palmetto Bass, Largemouth Bass, and White Crappie. The primary forage species have been Bluegill and Gizzard Shad.

#### Low-density fisheries

Due to extreme low water level prior to 2015, the fisheries for Largemouth Bass, White Bass, and Palmetto Bass would be considered as low density populations that are currently being rebuilt. Largemouth Bass are an important species that is targeted by 12.5% of anglers according to a 2011-2012 creel survey. White and Palmetto Bass were targeted in the single digits (2.6% and 1.6%; respectively).

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

Currently, most fish populations are in rebuilding mode through stocking. Because of this, sampling objectives are to collect general monitoring trend data until populations have recovered (Table 9). The data needed is CPUE with an RSE of  $\leq 25$  is the sampling objective for Largemouth Bass, Blue Catfish, and White Crappie. Other species will be collected until the RSE's for these species are met. While Largemouth Bass have been restocked in 2015, they were stocked at a reduced rate calculated on the reservoir being near half full. Largemouth Bass sampled in 2015 were sub-legal in length and most were probably stocked fish. Standard effort will initially be used to determine CPUE with RSE  $\leq 25$  and will begin with 12 random electrofishing stations and 5 trap net and gill net stations. Once fish populations are detected in the above sampling techniques and determined to be established, survey objectives, fisheries metrics, and sampling effort will be reevaluated.

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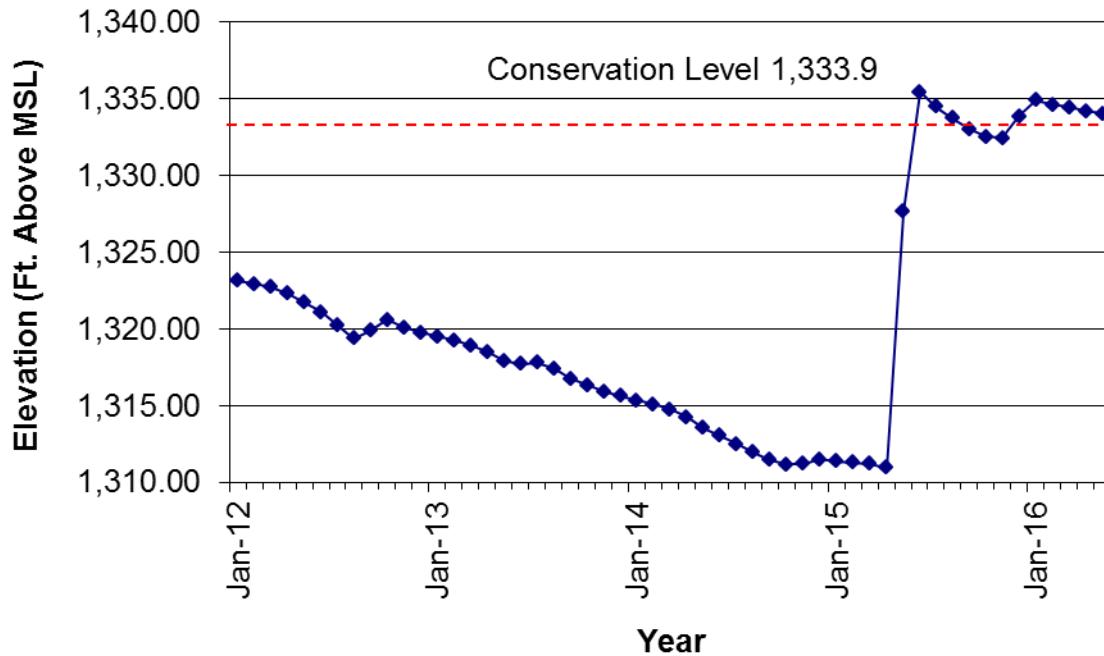


Figure 1. Monthly water level elevations in feet above mean sea level (MSL) recorded for Millers Creek Reservoir, Texas. Reservoir elevation data obtained from USGS website.

Table 1. Characteristics of Millers Creek Reservoir, Texas.

Characteristic	Description
Year constructed	1974
Controlling authority	North Central Texas Municipal Water Authority
County	Baylor
Reservoir type	Tributary
Shoreline Development Index (SDI)	3.64
Conductivity	339 $\mu$ S/cm

Table 2. Boat ramp characteristics for Millers Creek Reservoir, Texas, July, 2015. Reservoir elevation at time of survey was 1,334.2 feet above mean sea level.

Boat ramp	Latitude Longitude (dd)	Public	Parking capacity (N)	Elevation at end of boat ramp (ft)	Condition
Millers Creek Boat Ramp	33.41711 -99.38057	Y	50	1,319	Good

Table 3. Harvest regulations for Millers Creek Reservoir, Texas.

Species	Bag Limit	Length limit
Catfish: Channel and Blue, their hybrids and subspecies	25 (in any combination)	12-inch minimum
Catfish, Flathead	5	18-inch minimum
Bass, White	25	10-inch minimum
Bass, Palmetto	5	18-inch minimum
Bass, Largemouth	5	14-inch minimum
Crappie, White	25	10-inch minimum

Table 4. Stocking history of Millers Creek, Texas. FGL= fingerlings , AFG=advanced fingerlings, ADL=adults and UNK=unknown.

<b>Species</b>	<b>Year</b>	<b>Number</b>	<b>Life Stage</b>	<b>Mean TL (in)</b>
Blue Catfish	1990	19,354	FGL	2.0
	1991	19,000	FGL	2.1
	Total	38,354		
Channel Catfish	1974	62,500	AFGL	7.9
	1980	750	UNK	UNK
	Total	63,250		
Florida Largemouth Bass	1985	93,341	FRY	1.0
	2012	87,759	FGL	1.6
	2015	16,080	FGL	1.6
	2016	182,467	FGL	1.8
	Total	379,647		
Largemouth Bass	1974	25,000	UNK	UNK
	Total	25,000		
Palmetto Bass (Striped X White Bass hybrid)	1980	12,376	UNK	UNK
	1982	21,036	UNK	UNK
	1994	24,900	FGL	1.6
	1995	30,457	FGL	1.1
	1997	16,256	FGL	1.1
	1999	23,048	FGL	1.3
	2002	23,090	FGL	1.3
	2004	18,013	FGL	1.7
	2006	19,000	FGL	1.7
	2008	18,600	FGL	1.6
	2009	16,510	FGL	1.3
	2012	6,605	FGL	2.1
	2013	7,533	FGL	1.8
	2015	9,501	FGL	2.1
2016	27,539	FGL	1.5	
Total	274,464			
White Crappie	1994	479	ADL	6.0
	1994	3,094	AFGL	5.0
	Total	3,573		

Table 5. Objective-based sampling plan components for Millers Creek Reservoir, Texas 2015 – 2016.

Gear/target species	Survey objective	Metrics	Sampling objective
<i>Electrofishing</i>			
Largemouth Bass	Exploratory	Presence/absence	Practical effort
Bluegill	Exploratory	Presence/absence	Practical effort
Gizzard Shad	Exploratory	Presence/absence	Practical effort
<i>Gill netting</i>			
Channel Catfish	Exploratory	Presence/absence	Practical effort
Blue Catfish	Exploratory	Presence/absence	Practical effort
White Bass	Exploratory	Presence/absence	Practical effort
Palmetto Bass	Exploratory	Presence/absence	Practical effort
<i>Trap netting</i>			
White Crappie	Exploratory	Presence/absence	Practical effort

Table 6. Survey of structural habitat types, Millers Creek Reservoir, Texas, 2015. Shoreline habitat type units are in miles and standing timber is acres.

Habitat type	Estimate	% of total
Natural	10.3 miles	60.6
Rocky	6.7 miles	39.4
Standing timber	245.0 acres	3.4

Table 7. Survey of aquatic vegetation, Millers Creek Reservoir, Texas, 2003-2015. Surface area (acres) is listed with percent of total reservoir surface area in parentheses.

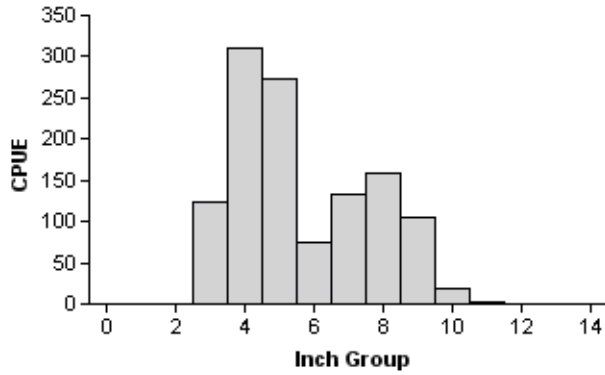
Vegetation	2003	2007	2011	2015
Native submersed	<0.1 (<1.0)	0.1 (<1.0)	0	0

Native emergent	0.3 (<0.1)	0.1 (<1.0)	0	0
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## Gizzard Shad

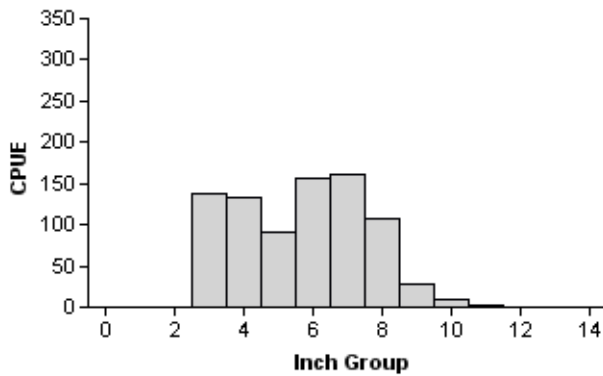
**2007**

Effort = 1.0  
Total CPUE = 1,201.0 (18; 1201)  
IOV = 76 (4)



**2011**

Effort = 1.0  
Total CPUE = 828.0 (9; 828)  
IOV = 82 (2)



**2015**

Effort = 1.0  
Total CPUE = 266.0 (18; 266)  
IOV = 95 (1)

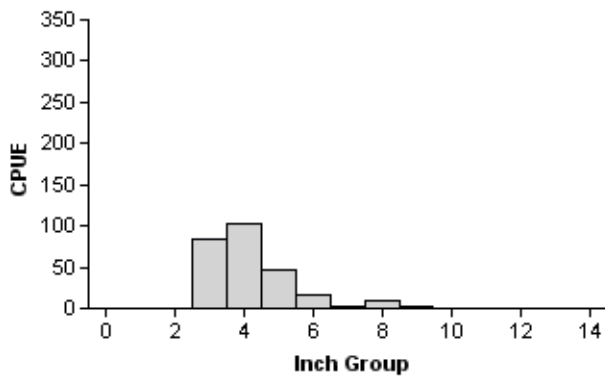


Figure 2. Number of Gizzard Shad caught per hour (CPUE) and population indices (RSE and N for CPUE and SE for IOV are in parenthesis) for fall electrofishing surveys, Millers Creek Reservoir, Texas, 2007, 2011, and 2015.

## **Bluegill**



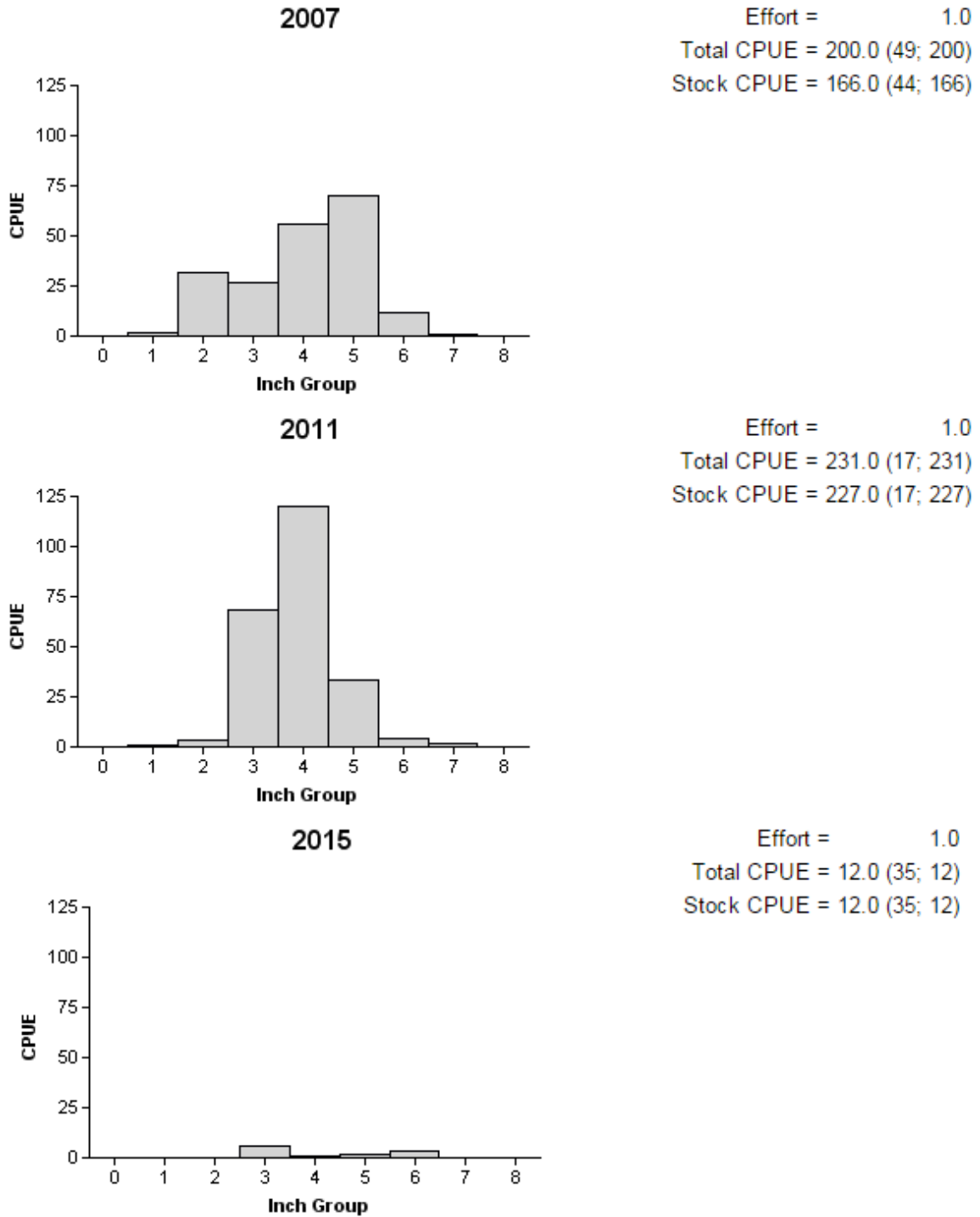


Figure 3. Number of Bluegill caught per hour (CPUE) and population indices (RSE and N for CPUE and SE for size structure are in parentheses) for fall electrofishing surveys, Millers Creek Reservoir, Texas, 2007, 2011, and 2015.

## Blue Catfish

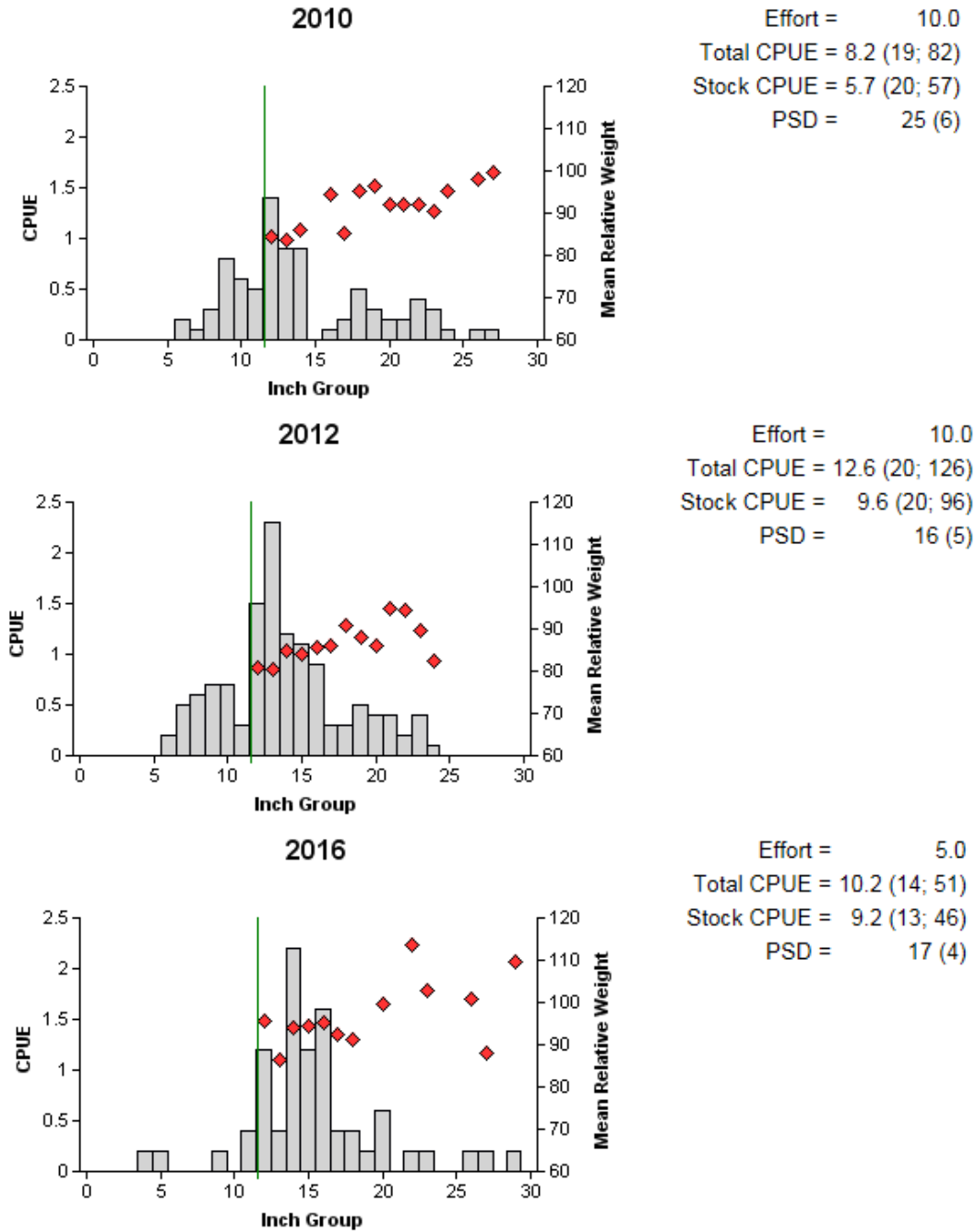


Figure 4. Number of Blue Catfish caught per net night (CPUE, bars), mean relative weight (diamonds), and population indices (RSE and N for CPUE and SE for size structure are in parentheses) for spring gill net surveys, Millers Creek Reservoir, Texas, 2010, 2012, and 2016. Line indicates minimum length limit at time of sampling.

## Channel Catfish

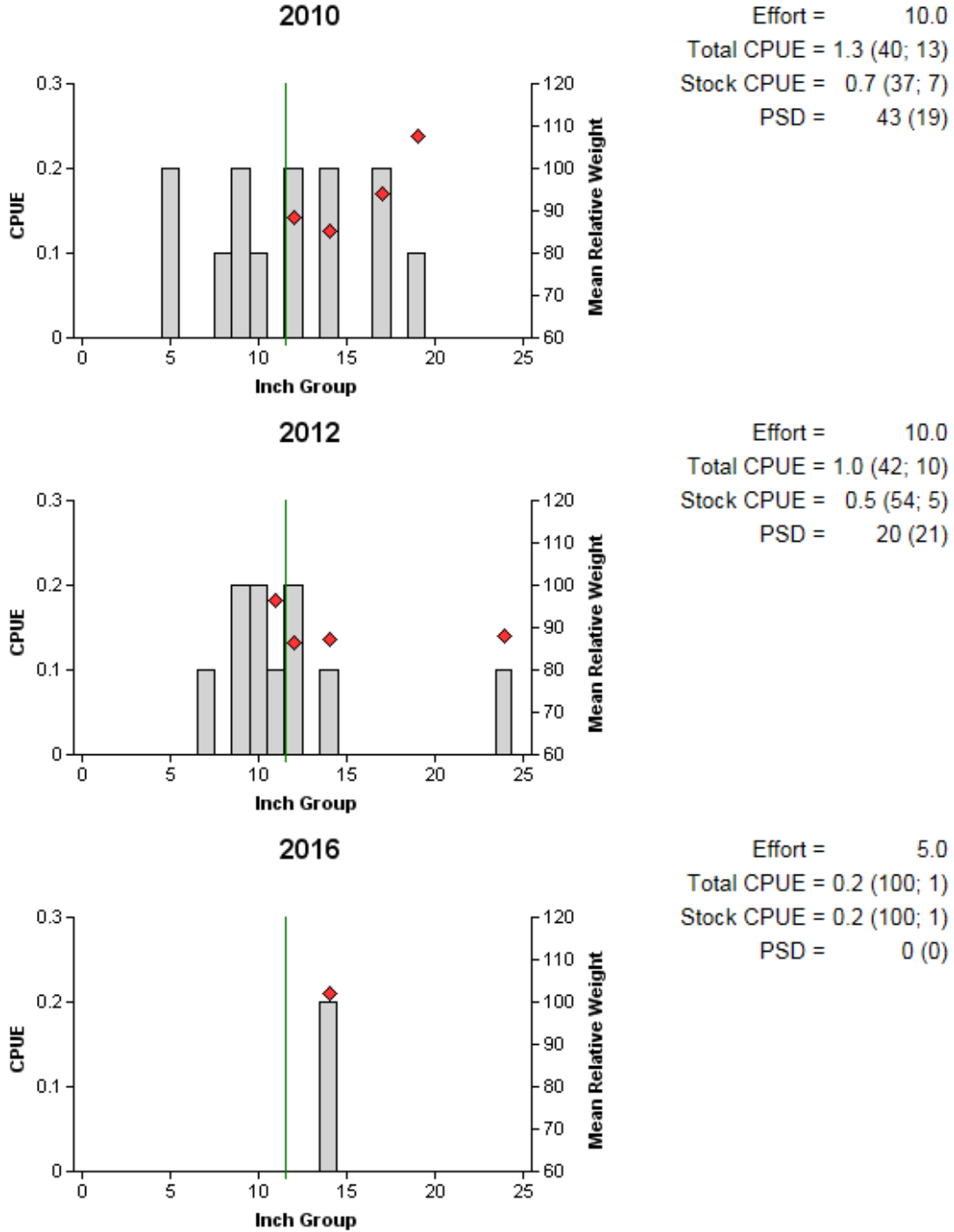


Figure 5. Number of Channel Catfish caught per net night (CPUE, bars), mean relative weight (diamonds), and population indices (RSE and N for CPUE and SE for size structure are in parentheses) for spring gill net surveys, Millers Creek Reservoir, Texas, 2010, 2012, and 2016. Line indicates minimum length limit at time of sampling.

## White Bass

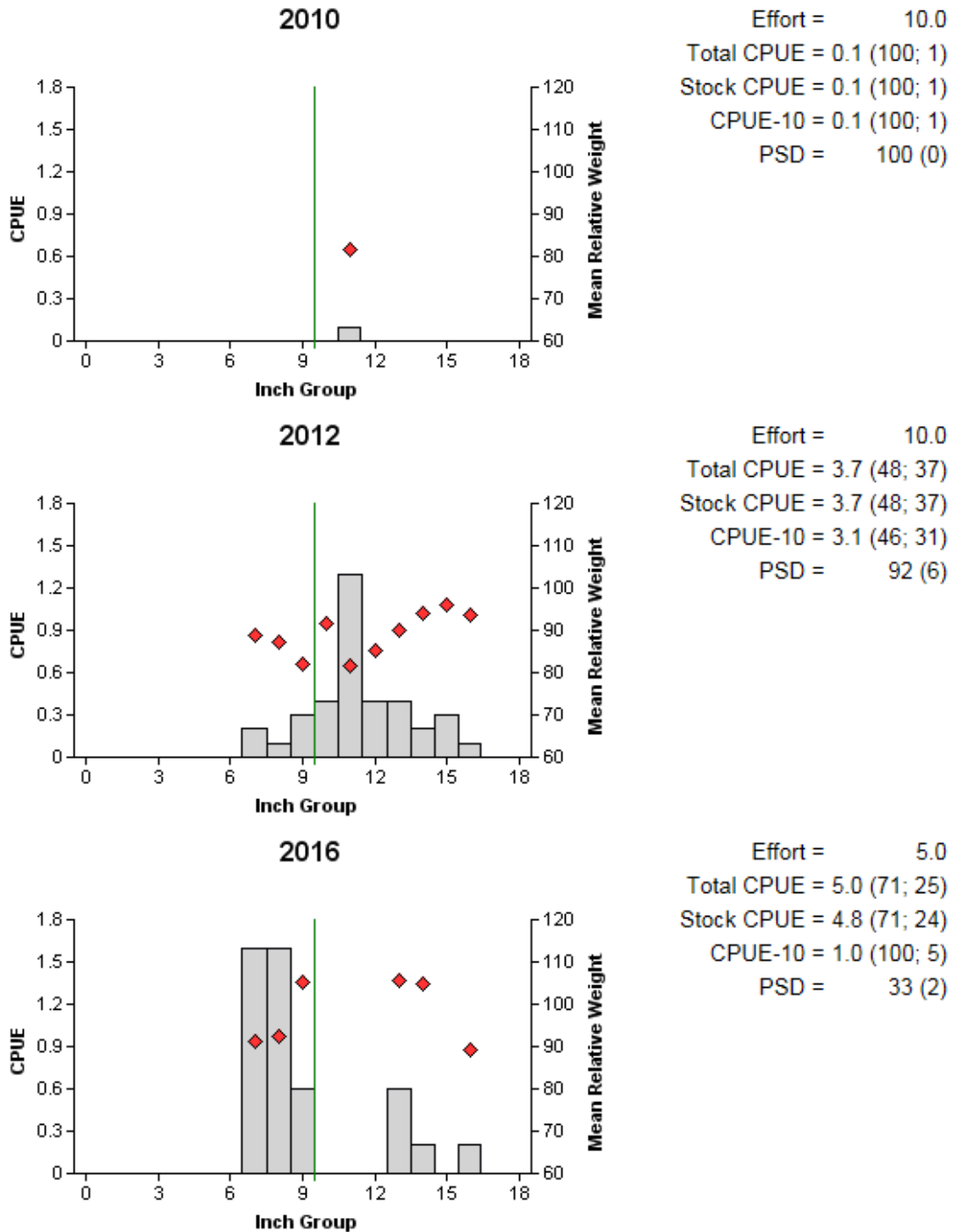


Figure 6. Number of White Bass caught per net night (CPUE, bars), mean relative weight (diamonds), and population indices (RSE and N for CPUE and SE for size structure are in parentheses) for spring gill net surveys, Millers Creek Reservoir, Texas, 2010, 2012, and 2016. Line indicates minimum length limit at time of sampling.

## Palmetto Bass

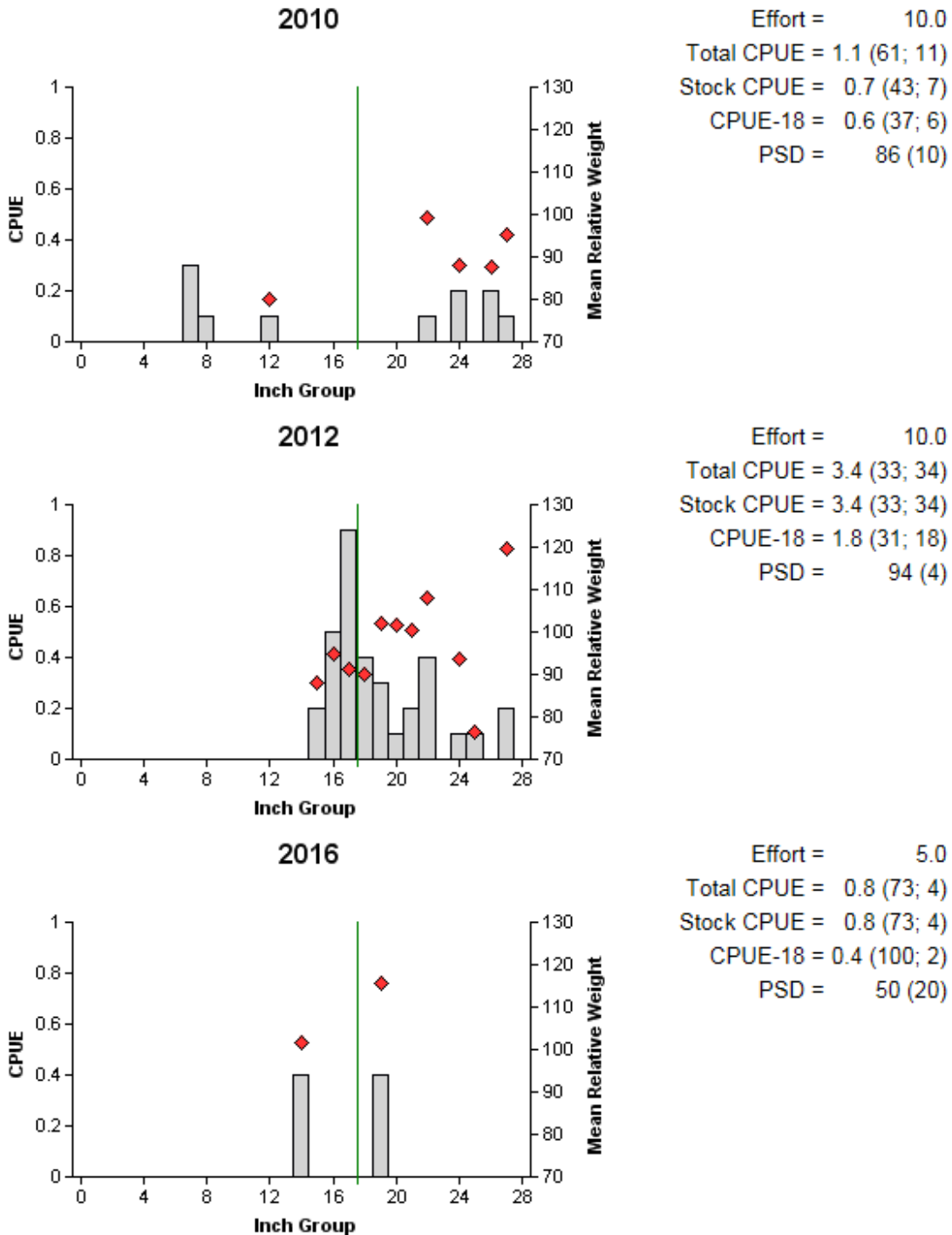


Figure 7. Number of Palmetto Bass caught per net night (CPUE, bars), mean relative weight (diamonds), and population indices (RSE and N for CPUE and SE for size structure are in parentheses) for spring gill net surveys, Millers Creek Reservoir, Texas, 2010, 2012, and 2016. Line indicates minimum length limit at time of sampling.

## Largemouth Bass

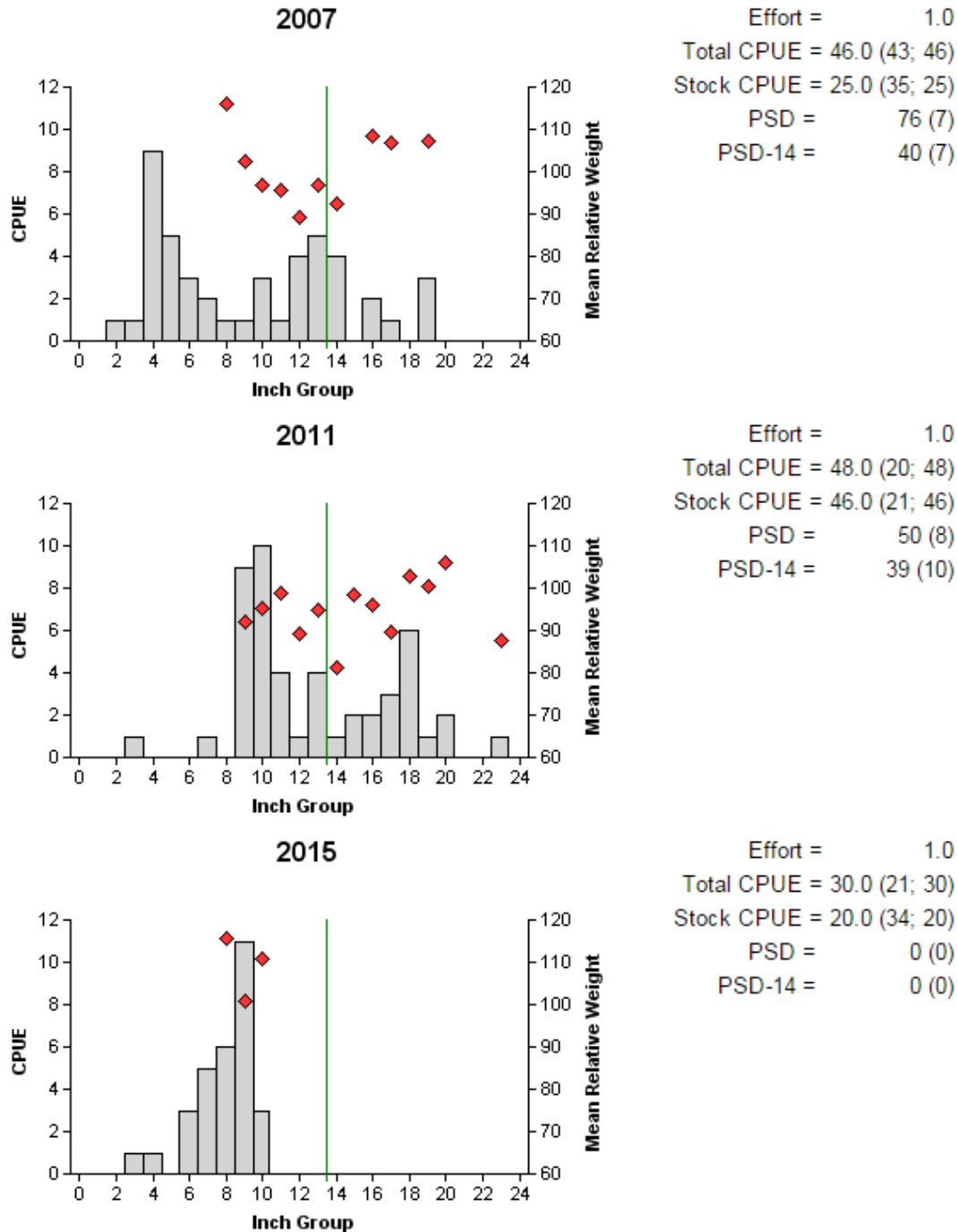


Figure 8. Number of Largemouth Bass caught per hour (CPUE, bars), mean relative weight (diamonds), and population indices (RSE and N for CPUE and SE for size structure are in parentheses) for fall electrofishing surveys, Millers Creek Reservoir, Texas, 2007, 2011, and 2015. Line indicates minimum length limit at time of sampling.

## Largemouth Bass

Table 8. Results of genetic analysis of Largemouth Bass collected by fall electrofishing, Millers Creek Reservoir, Texas, 1996, 1999, 2003 2007, and 2011. 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	Genotype			% FLMB alleles	% pure FLMB
		FLMB	Intergrade	NLMB		
1996	30	1	23	6	30.0	3.3
1999	22	1	18	3	45.5	4.5
2003	29	1	24	4	37.9	3.4
2007	30	0	28	2	27.7	0.0
2011	30	0	30	0	35.0	0.0

# White Crappie

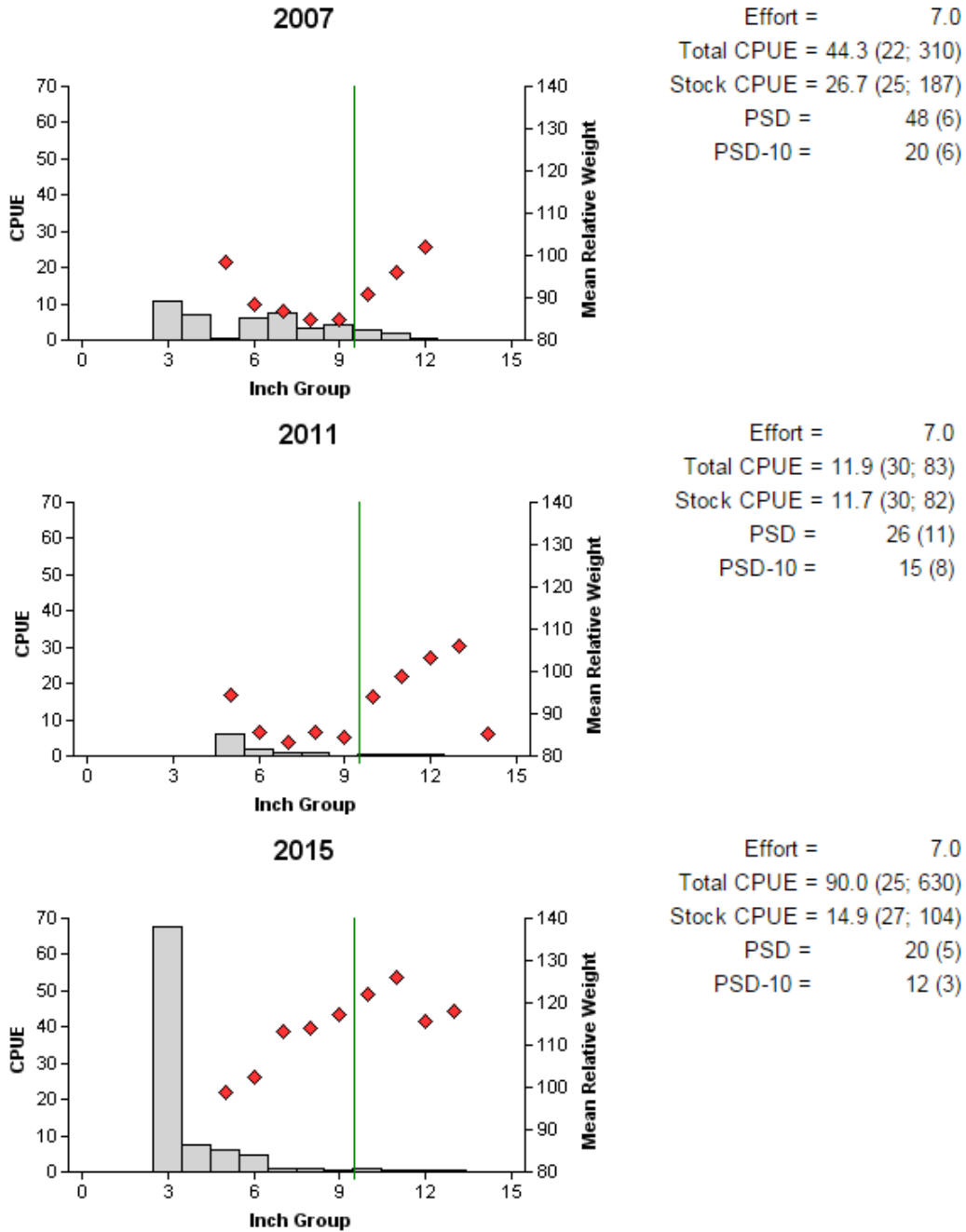


Figure 9. Number of White Crappie caught per net night (CPUE, bars), mean relative weight (diamonds), and population indices (RSE and N for CPUE and SE for size structure are in parentheses) for fall trap net surveys, Millers Creek Reservoir, Texas, 2007, 2011, and 2015. Line indicates minimum length limit at time of sampling.



Table 9. Proposed sampling schedule for Millers Creek Reservoir, Texas. Survey period is June through May. Gill netting 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	Electrofishing Fall	Trap net	Gill net	Habitat			Creel survey	Report
				Structural	Vegetation	Access		
2016-2017								
2017-2018								
2018-2019								
2019-2020	S	S	S		S	S		S

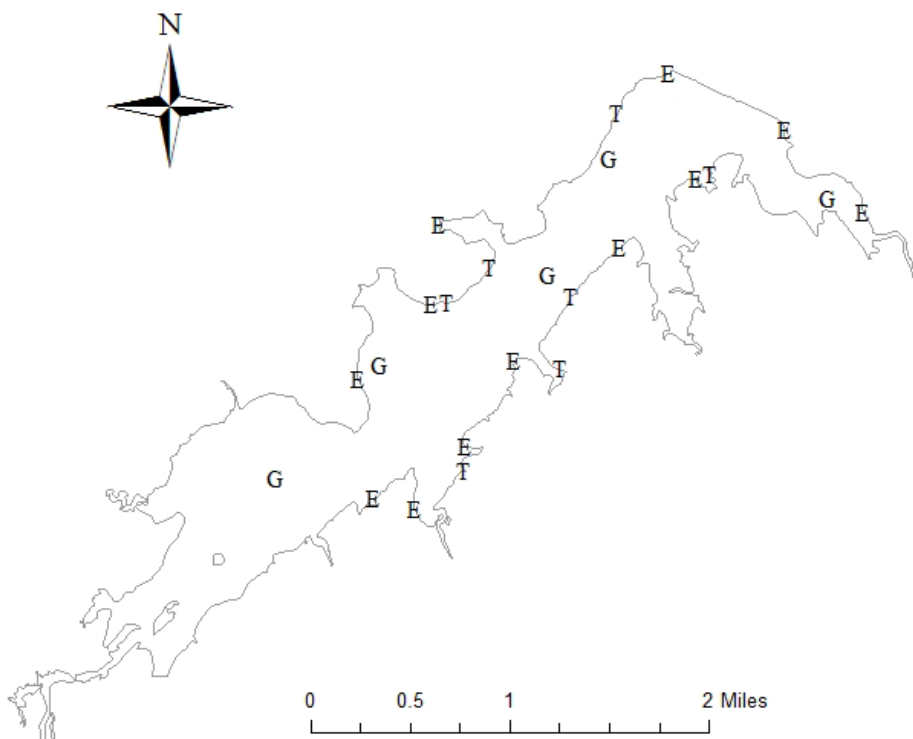
**APPENDIX A**

Number (N) and catch rate (CPUE) of all species collected from all gear types from Millers Creek Reservoir, Texas, 2015-2016 Sampling effort was 5 net nights of gill netting, 7 net nights of trap netting, and 1 hour of electrofishing.

Species	Gill Nets		Trap Nets		Electrofishing	
	N	CPUE	N	CPUE	N	CPUE
Spotted Gar	6	1.2	1	0.1		
Longnose Gar	19	3.8				
Gizzard Shad	33	6.6	4	0.6	266	266.0
Common Carp	24	4.8	2	0.3		
River Carpsucker	2	0.4	1	0.1		
Smallmouth Buffalo	34	6.8	1	0.1		
Blue Catfish	51	10.2	1	0.1		
Black Bullhead			1	0.1		
Channel Catfish	1	0.2	1	0.1		
White Bass	25	5.0				
Palmetto Bass	4	0.8				
Green Sunfish			2	0.3	2	2.0
Bluegill	2	0.4	60	8.6	12	12.0
Longear Sunfish			9	1.3	1	1.0
Largemouth Bass	7	1.4			30	30.0
White Crappie	6	1.2	630	90.0		
Freshwater Drum	2	0.4				

30.0

## APPENDIX B



Location of sampling sites, Millers Creek Reservoir, Texas, 2015-2016. Trap net, gill net, and electrofishing stations are indicated by T, G, and E, respectively. Water level was near full pool at time of sampling.



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