

PERFORMANCE REPORT

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FEDERAL AID PROJECT F-221-M-1

INLAND FISHERIES DIVISION MONITORING AND MANAGEMENT PROGRAM

2010 Survey Report

**Lost Creek Reservoir**

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## SURVEY AND MANAGEMENT SUMMARY

Fish populations in Lost Creek Reservoir were surveyed in 2010 using trap nets and electrofishing and in 2011 using gill nets. A March – May creel survey was performed in 2008 to examine angler effort and harvest preferences for largemouth bass. This report summarizes the results of the surveys and contains a reservoir management plan based on those findings.

- **Reservoir Description:** Lost Creek Reservoir is a 385-acre impoundment located on Lost Creek, a tributary of the West Fork of the Trinity River approximately 58 miles south of Wichita Falls. It has a primarily rocky shoreline with flooded terrestrial vegetation. Aquatic vegetation can be found in the littoral zone. Lost Creek water quality was good with very little turbidity.
- **Management history:** Historically important sport fish include channel catfish, white bass, largemouth bass and white crappie. The largemouth bass minimum length limit was reduced from 16 inches to the statewide 14 inch regulation on September 1, 2003. Stocking of advanced size channel catfish occurred in 2006 and 2008. Threadfin shad were stocked at the reservoir in 2008 and 2009 in an effort to boost the amount of available prey.
- **Fish Community**
  - **Prey species:** The gizzard shad catch rate was below average for the reservoir, but gizzard shad abundance has historically been poor. The catch per unit effort (CPUE) for bluegill was the second highest CPUE since random sampling became standard. Green sunfish and longear sunfish help supplement the prey base. One threadfin shad was sampled in 2010.
  - **Catfishes:** Channel catfish abundance decreased from the 2007 gill net survey. However, a desirable length range of 14 to 22 inches was sampled in 2011. The reservoir was stocked in 2008 with 3,700 advanced channel catfish fingerlings averaging 9 inches total length.  
  
Flathead catfish have historically been present in the reservoir and are still present as evidenced by two flathead catfish sampled during the 2011 gill net survey.
  - **White bass:** White bass remained present in relatively low abundance with lengths ranging from 12 to 16 inches. This species was illegally introduced by the public in 1994. The reproducing population puts an increased demand on the somewhat limited prey base.
  - **Largemouth bass:** Largemouth bass had the highest electrofishing catch rate recorded since 1993. The catch rate of legal bass increased more than double from the previous survey. Body condition, as measured by relative weight was improved for legal length bass compared to 2006.
  - **White crappie:** The catch rate for this species was the highest recorded since 1993, topping the previous best from the last survey in 2006. Relative abundance appears to be increasing and anglers are now starting to target and harvest crappie, although harvest and effort are still relatively low. All of the crappie inch classes showed desirable relative weights.
- **Management Strategies:** Conduct general monitoring by using trap nets, gill nets and electrofishing during 2014 and 2015. Continue alternate year stockings of advanced channel catfish at the rate of 10 per acre if available from state hatcheries.

### 3 INTRODUCTION

This document is a summary of fisheries data collected from Lost Creek Reservoir in 2008-2011. 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 species of fishes was collected, this report deals primarily with major sport fishes and important prey species. Historical data is presented with the 2008-2011 data for comparison.

#### *Reservoir Description*

Lost Creek Reservoir is a 385-acre impoundment constructed in 1990 on Lost Creek, a tributary of the West Fork of the Trinity River. It is located in Jack County approximately 58 miles south of Wichita Falls and is controlled by the City of Jacksboro. Primary uses include municipal water supply and recreation. Mean depth was 30 feet, shoreline development index was 2.3, and conductivity was 336  $\mu\text{mhos/cm}$ . Habitat consisted of aquatic vegetation, rocks, and dead trees. The water level has been within 7 feet of conservation pool since 2007 (Fig. 1). Boat access consisted of one two-lane public boat ramp. Bank fishing is available at the public access points including the boat ramp as well as a fishing pier managed by Fort Richardson State Park. Other descriptive characteristics for Lost Creek Reservoir are in Table 1.

#### *Management History*

**Previous management issues and actions:** Management issues and actions from the previous survey report (Howell and Mauk 2007) included:

1. **Issue:** Gizzard shad abundance was low and no threadfin shad had been sampled since 2002. Largemouth bass slow growth rates indicated that a supplemental prey base would be desirable and that threadfin shad introduced in 1996 reproduced and were available as prey until 2002.

**Action:** Reintroduced threadfin shad by stocking 100 adults in 2008 and 300 adults in 2009. Threadfin shad were sampled in 2010.

2. **Issue:** Channel catfish reproduction and recruitment continues to be low. Historically, supplemental stockings of advanced size fingerlings have shown some measure of success.

**Action:** Stocked advanced fingerling channel catfish in 2006 and 2008 at an approximate rate of 10 per acre.

3. **Issue:** Lost Creek has a history of slow growing, overly abundant largemouth bass.

**Action:** Conducted a spring quarter creel in 2008 to assess angler effort and harvest preferences for largemouth bass.

**Harvest regulation history:** Sport fish species in Lost Creek are currently managed under statewide regulations, with the largemouth minimum length limit having been changed from 16 inches to 14 inches on September 1, 2003 (Table 2).

**Stocking history:** Advanced fingerling channel catfish have been stocked twice at Lost Creek in the last five years to supplement poor catfish recruitment. Adequate numbers of advanced size fish were available from the state hatcheries during certain years. The stocking history is shown in Table 3.

**Water transfer:** Lost Creek Reservoir is primarily used for municipal water supply and recreation. There is one permanent pumping station on the reservoir which transfers water to the town of Jacksboro.

## 4 METHODS

Fishes were collected by electrofishing (one hour at 12 five-minute stations), gill netting (10 net nights at 10 stations), and trap netting (10 net nights at 10 stations). A March – May creel survey was performed in 2008 examining angler effort and harvest preferences for largemouth bass. Catch per unit effort for electrofishing was recorded as the number of fish caught per hour (fish/h) of actual electrofishing and for gill and trap nets, as the number of fish caught per net night (fish/nn). All survey sites were randomly selected. Habitat, vegetation, and access surveys were completed in 2010. All surveys were conducted according to TPWD Inland Fisheries Fishery Assessment Procedures (TPWD, Inland Fisheries Division, unpublished manual revised 2009).

Sampling statistics (CPUE for various length categories), structural indices [Proportional Size Distribution (PSD), as defined by Guy et al. (2007)], and condition indices [relative weights ( $W_i$ )] were calculated for target fishes according to Anderson and Neumann (1996). Index of vulnerability was calculated for gizzard shad (DiCenzo et al. 1996). Relative standard error (RSE = 100 X SE of the estimate/estimate) was calculated for all CPUE statistics and SE was calculated for structural indices and IOV. Source for the water level data is the United States Geological Survey.

## RESULTS AND DISCUSSION

**Habitat:** A physical habitat survey was conducted August 3, 2010 and indicated that the littoral zone habitat consisted primarily of rocky shoreline, some aquatic vegetation and flooded dead trees (Table 4). The previous physical habitat survey was conducted in 2006 (Howell and Mauk 2007). There were very few, if any observed manmade changes to the physical habitat during the four year period. However, there was an observed decrease in emergent and submergent aquatic plants compared to the 2006 survey. There was an increase in the acreage of flooded terrestrial vegetation compared to four years ago caused by an elevation rise from heavy rains prior to the survey. The reservoir was near full when survey was completed. Cattails *Typha* sp. and water willow *Justicia americana* were the dominant emergent species and pondweed *Potamogeton* sp. and muskgrass *Chara* sp. were the dominant submerged species.

**Creel Survey:** The most recent creel survey was from March – May 2008. Very little harvest was observed for any species. However, fishing effort for largemouth bass was fairly high at 5,449 hours, an increase over the 2002 creel largemouth bass effort of 4,722 hours for the same quarter. Approximately two out of three anglers (68.6%) reported trying to catch largemouth bass (Table 5). White crappie were the second most targeted species at 6.8%, over twice the rate of 2002. Total direct expenditures were estimated at \$36,377 during the three month creel period (Table 6).

**Prey species:** Electrofishing catch rates of gizzard shad and bluegill were 2.0/h and 187.0/h, respectively. Total CPUE of bluegill in 2010 was the second highest CPUE since random sampling became standard and an increase over 2006 (111.0/hr; Fig. 3). Green sunfish (56.0/h) and longear sunfish (58.0/hr) help supplement the prey base (Appendix A). Total CPUE of gizzard shad in 2010 (2.0/hr; Fig. 2) was low but gizzard shad abundance has historically been poor (average 6.7/hr). One threadfin shad was sampled compared to 2006 when none were sampled.

**Blue catfish:** A blue catfish was sampled during the 2007 gill net survey which was the first time the species has been documented at Lost Creek. No blue catfish were observed during the 2011 survey.

**Channel catfish:** Channel catfish abundance decreased from the previous 2007 gill net survey of 1.1/nn to 0.6/nn in the current 2011 survey (Fig. 4). However, all fish sampled were of legal size with an observed length range from 14 to 22 inches. The population was supplemented by two advanced fingerling stockings in the last five years. Angling pressure had nearly doubled for this species as determined by the March – May 2008 creel survey compared to the 2002 survey.

**Flathead catfish:** Flathead catfish have historically been present in the reservoir and two flathead catfish

were observed in the 2011 gill net survey.

**White bass:** The gill net catch rate for white bass was 1.8/nn in 2011, which was similar to the 2007 and 2003 catch rates of 1.9/nn and 2.0/nn, respectively (Fig. 6). White bass were illegally introduced by anglers in 1994, but have remained at relatively low abundance.

**Largemouth bass:** The electrofishing CPUE of largemouth bass of 144.0/h in 2010 (Fig. 8), was the highest recorded since 1993 an increase from 133.0/h in 2006 and 117.0/h in 2002. The catch rate of legal bass increased from 5.0/hr in 2006 to 12.0/hr in 2010. Body condition, as measured by relative weight ( $W_r$ ) was improved for legal length bass compared to 2006. The 2008 creel survey showed directed effort for bass is much higher than all other species combined and had increased 15% from the previous survey in 2002.

**White crappie:** The trap net catch rate of white crappie was 3.4/nn in 2010 and was the highest recorded since 1993. The previous survey in 2006 had a catch rate of 2.1/nn (Fig 10). The abundance appears to be increasing and anglers are now starting to target and harvest crappie, although harvest and effort are still relatively low (Table 12). All of the crappie inch classes showed desirable relative weights near 85 or above.

## Fisheries management plan for Lost Creek Reservoir, Texas

Prepared – July 2011

**Issue 1:** Channel catfish reproduction and recruitment continues to be low. Historically, supplemental stockings of advanced size fingerlings have shown some measure of success.

### MANAGEMENT STRATEGIES

1. Continue to request advanced size channel catfish at the rate of 10/acre every other year if supplemental fish are available from the state hatchery program.
2. Supplementally sample channel catfish with tandem hoop nets to attempt to learn more about the population, by increasing our sample size compared gill nets.

**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.

### SAMPLING SCHEDULE JUSTIFICATION:

Standard sampling will be conducted in 2014-2015 to continue monitoring species population trends. Additional sampling could take place if identified issues in the future support it (Table 7).

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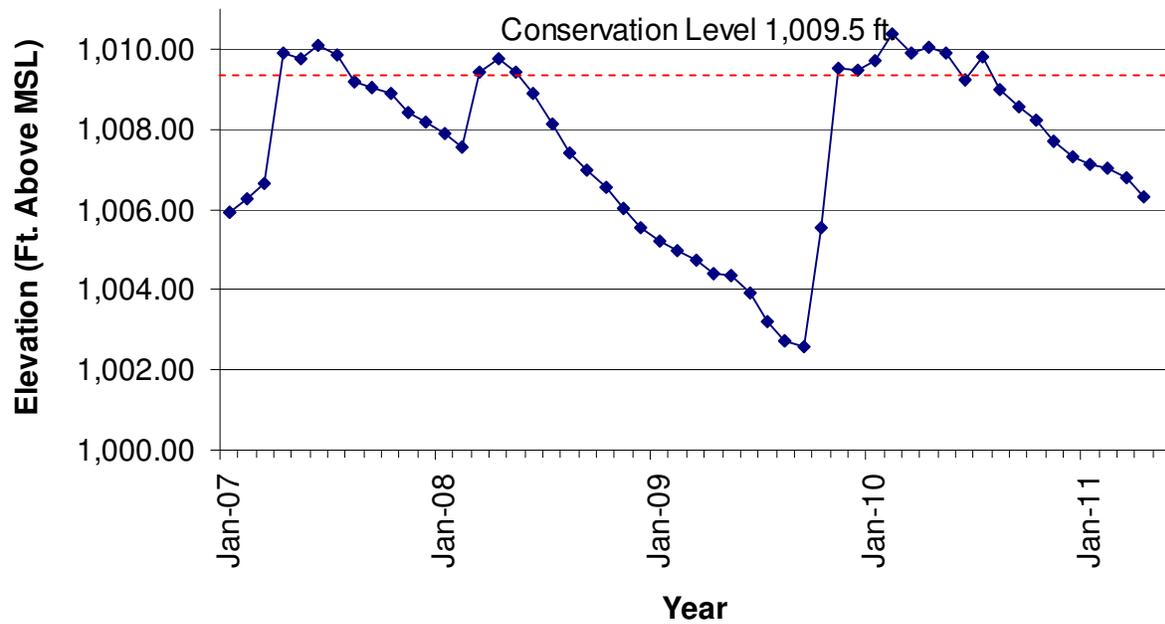


Figure 1. Average monthly water level elevations in feet above mean sea level (msl) recorded for Lost Creek Reservoir, Texas.

Table 1. Characteristics of Lost Creek Reservoir, Texas.

Characteristic	Description
Year constructed	1990
Controlling authority	City of Jacksboro
County	Jack
Reservoir type	Tributary
Shoreline development index (SDI)	2.3
Conductivity	336 $\mu$ mhos/cm
Secchi disc reading	220 cm

Table 2. Harvest regulations for Lost Creek Reservoir.

Species	Bag Limit	Length Limit (inches)
Catfish: Channel and blue catfish, their hybrids and subspecies	25 (in any combination)	12 minimum
Flathead catfish	5	18 minimum
White bass	25	10 minimum
Largemouth bass	5	14 minimum*
White crappie	25	10 minimum

\*Largemouth bass regulation was changed from 16-inch minimum to the statewide 14-inch minimum length limit in Sept. 1, 2003.

Table 3. Stocking history of Lost Creek, Texas. Life stages are fry (FRY), fingerlings (FGL), advanced fingerlings (AFGL), and adults (ADL). 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.

<b>Species</b>	<b>Year</b>	<b>Number</b>	<b>Life Stage</b>	<b>Mean TL (in)</b>
Bluegill	1991	121,939	FGL	1.2
	Total	121,939		
Channel catfish	1991	24,450	FGL	3.3
	1993	6,120	AFGL	6.0
	1993	50,601	FGL	2.6
	2006	4,000	AFGL	9.4
	2008	3,703	AFGL	9.1
Total	88,874			
Coppernose bluegill	1991	28,902	FGL	1.5
	Total	28,902		
Florida Largemouth bass	1990	50,141	FRY	1.0
	1994	50,000	FGL	1.2
	Total	100,141		
Smallmouth bass	1991	25,088	FGL	1.3
	Total	25,088		
Threadfin shad	1996	359	ADL	4.4
	2008	100	ADL	3.5
	2009	300	AFGL	2.0
	Total	759		
White crappie	1990	25,364	FRY	0.9
	Total	25,364		

Table 4. Survey of littoral zone and physical habitat types for Lost Creek on August 3 & 5, 2010 (1,009.3 feet msl). A linear shoreline distance (miles) was recorded for each habitat type found. Surface area (acres) and percent of reservoir surface area was determined for each type of aquatic vegetation found including flooded terrestrial.

Shoreline habitat type	Shoreline Distance		Surface Area	
	Miles	Percent of total	Acres	Percent of reservoir surface area
Rocky shore	4.5	72.6		
Rock bluff	0.2	3.2		
Featureless	1.5	24.2		
<b>Vegetation</b>				
Native emerged vegetation			2.0	0.5
Native submerged vegetation			0.7	0.2
Flooded dead terrestrial			19.4	5.0
<b>Habitat adjacent to shoreline</b>				
Boat docks			0.1	<0.1
Dead trees			7.2	1.9

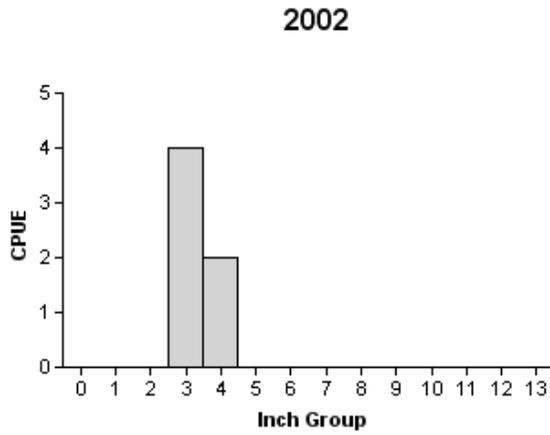
Table 5. Percent directed angler effort by species, percent harvest and catch for all anglers for Lost Creek Reservoir, Texas, from March – May 2002 compared to March – May 2008 quarter.

Species	Percent directed effort		Percent harvest all anglers		Percent catch all anglers	
	2002	2008	2002	2008	2002	2008
Channel catfish	1.9	2.8		29.2		0.8
Catfish spp.	3.5					
White bass	0.8	2.4	22.6	0.0	7.0	6.8
Bluegill			11.3		2.0	
Panfish spp.					3.5	
Largemouth bass	65.7	68.6	49.5	35.4	84.6	90.2
White crappie	3.1	6.8		35.4		2.2
Freshwater drum			16.5		2.9	
Anything	25.1	19.4				

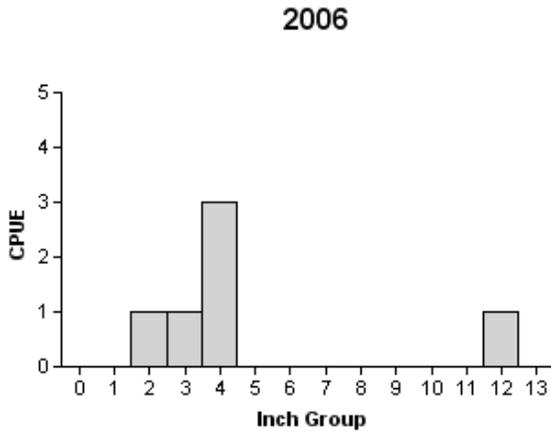
Table 6. Total fishing effort (h) for all species and total directed expenditures at Lost Creek from March – May 2002 compared to March – May 2008 quarter.

Creel Statistic	Year	
	March – May 2002	March – May 2008
Total fishing effort (h)	7,188	7,940
Total directed expenditures	\$16,210	\$33,677

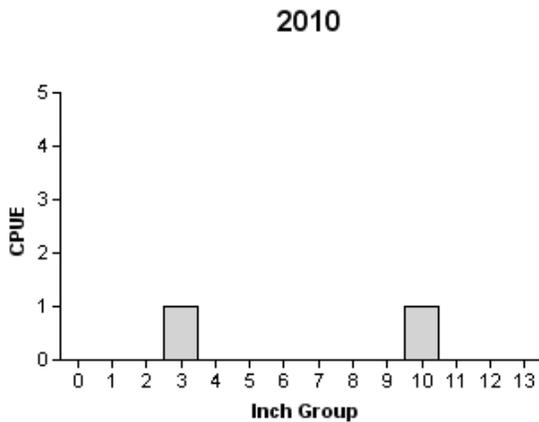
# Gizzard Shad



Effort = 1.0  
 Total CPUE = 6.0 (83; 6)  
 Stock CPUE = 0.0 (0; 0)  
 IOV = 100 (0)



Effort = 1.0  
 Total CPUE = 6.0 (46; 6)  
 Stock CPUE = 1.0 (100; 1)  
 IOV = 83 (17)



Effort = 1.0  
 Total CPUE = 2.0 (67; 2)  
 Stock CPUE = 1.0 (100; 1)  
 IOV = 50 (36.9)

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, Lost Creek Reservoir, Texas, 2002, 2006, and 2010.

# Bluegill

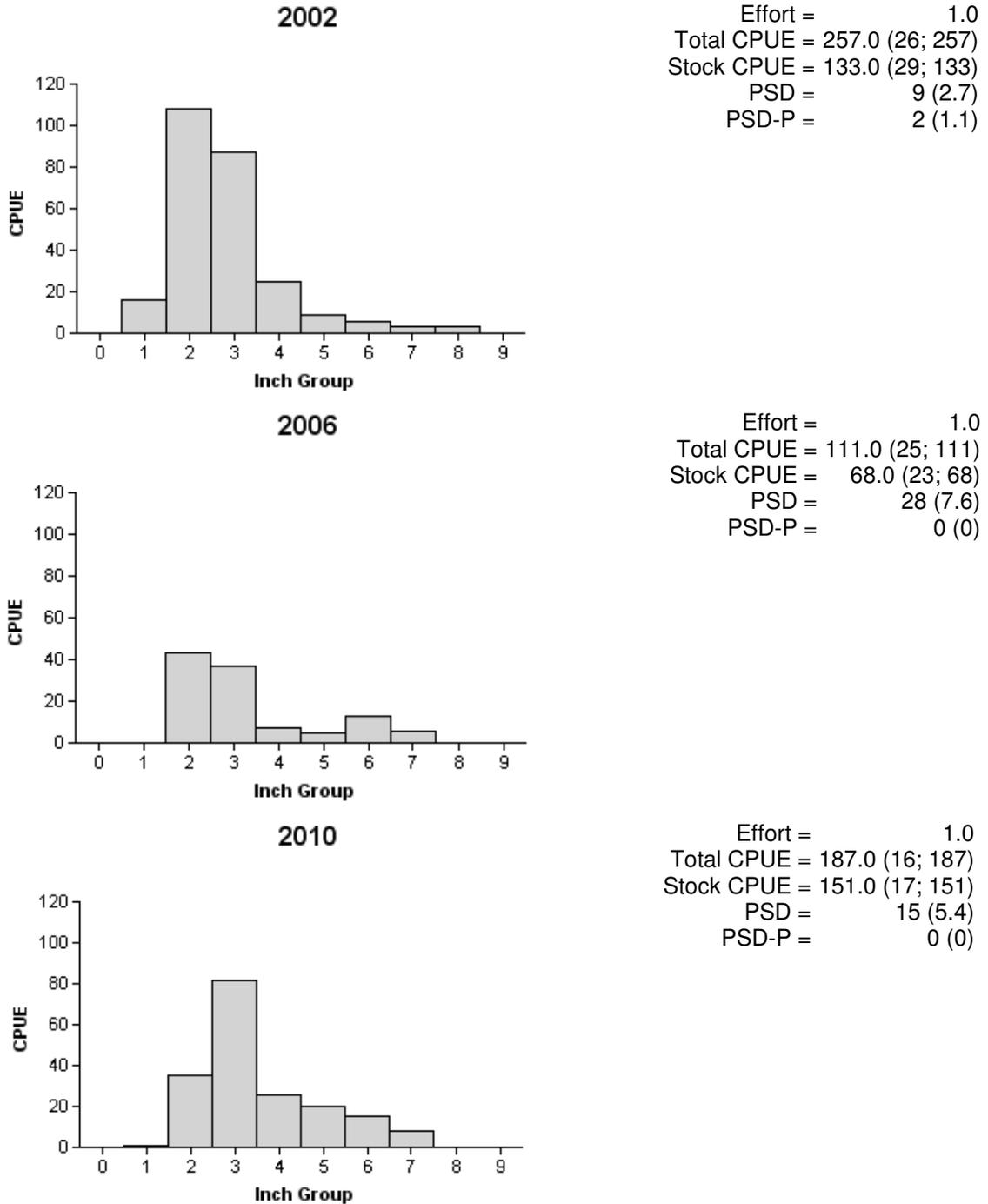


Figure 3. Number of bluegill caught per hour (CPUE) and population indices (RSE and N for CPUE and SE for size structure are in parentheses) for fall electrofishing surveys, Lost Creek Reservoir, Texas, 2002, 2006, and 2010.

# Channel Catfish

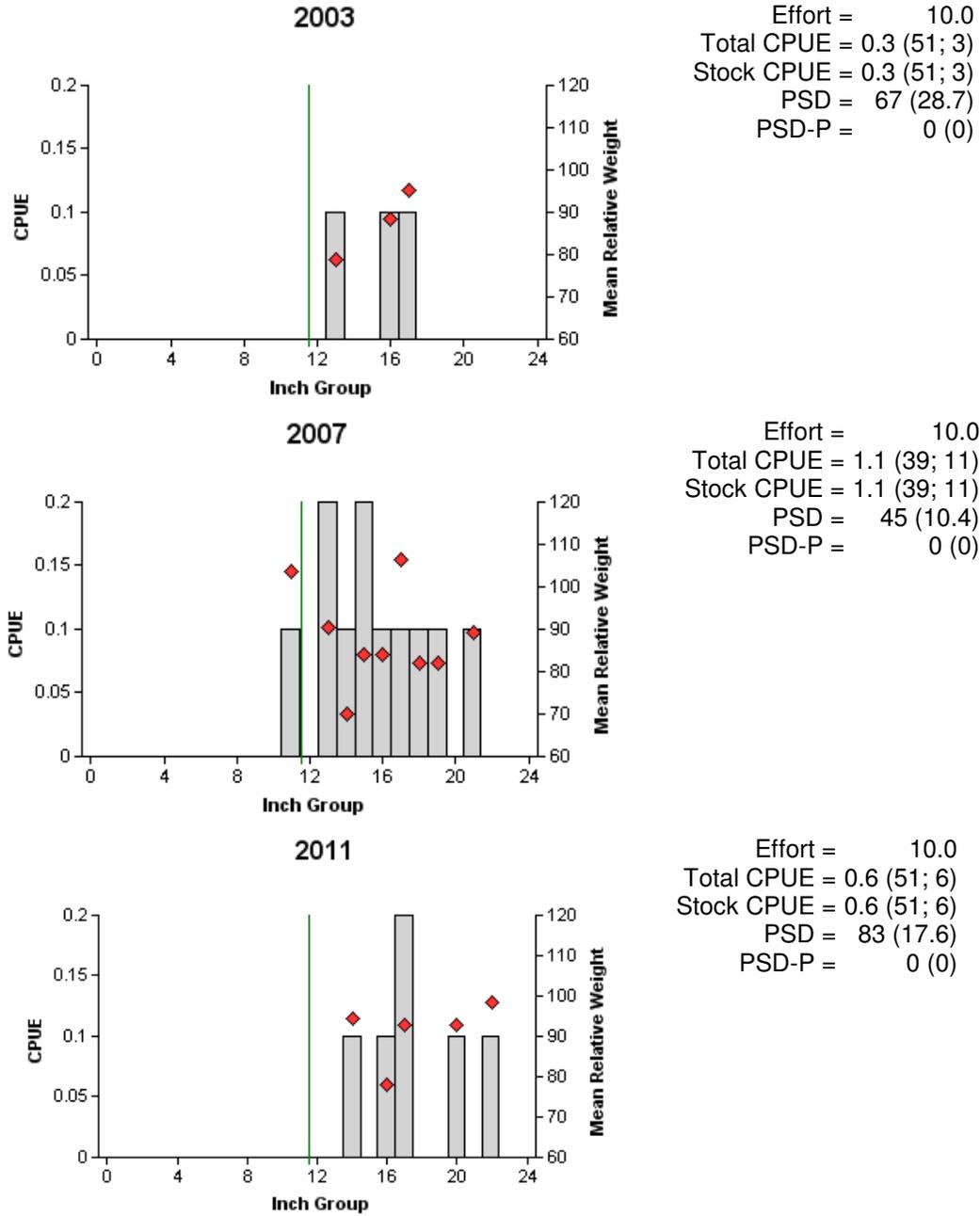


Figure 4. Number of channel catfish caught per net night (CPUE, bars), mean relative weight (diamonds), and population indices (RSE and N for CPUE and SE for size structure are in parentheses) for spring gill netting surveys, Lost Creek Reservoir, Texas, 2003, 2007, and 2011. Line indicates minimum length limit at time of sampling.

## Channel Catfish

Table 7. Creel survey statistics for channel catfish at Lost Creek Reservoir from March – May 2002 compared to March – May 2008 quarters, where total catch per hour is for anglers targeting channel catfish and total harvest is the estimated number of channel catfish harvested by all anglers. Relative standard errors (RSE) are in parentheses.

Creel Survey Statistic	Year	
	March – May 2002	March – May 2008
Directed effort (h)	133.5 (375.8)	224.3 (127.6)
Directed effort/acre	0.3 (375.8)	0.6 (127.6)
Total catch per hour	0.0(-)	0.3(-)
Total harvest	0.0 (-)	135.8 (100.0)
Harvest/acre	0.0 (-)	0.4 (100.0)

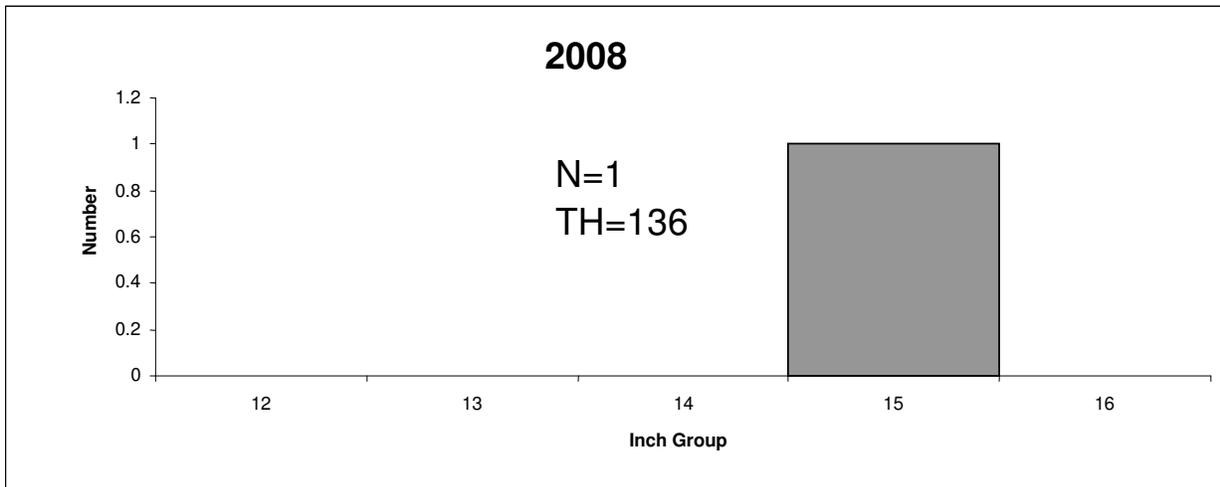
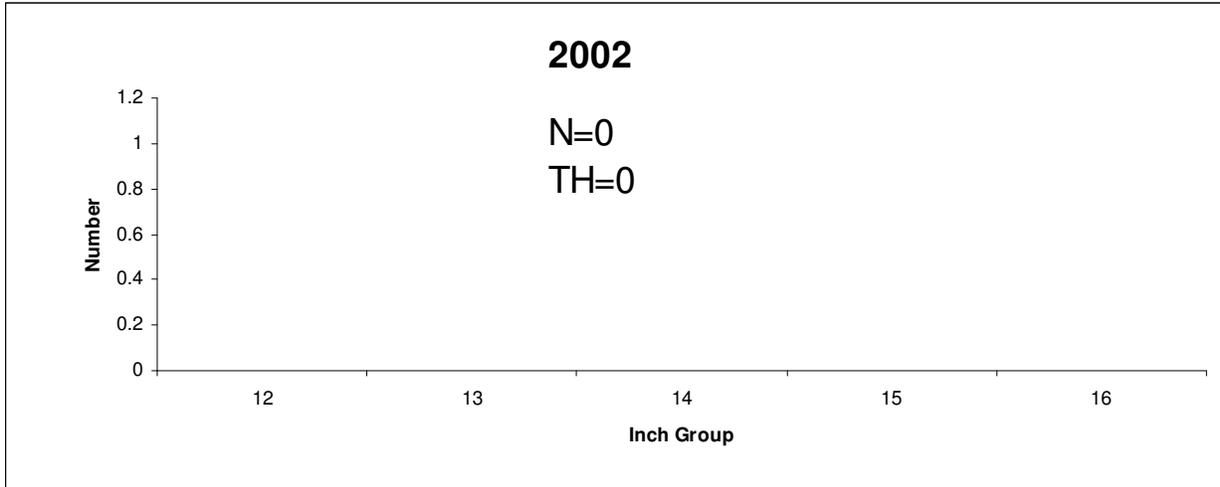


Figure 5. Length frequency of harvested channel catfish observed during creel surveys at Lost Creek March – May 2002 compared to March – May 2008, all anglers combined. N is the number of harvested channel catfish observed during creel surveys, and TH is the total estimated harvest for the creel period. Twelve inch length limit at time of sampling.

# White Bass

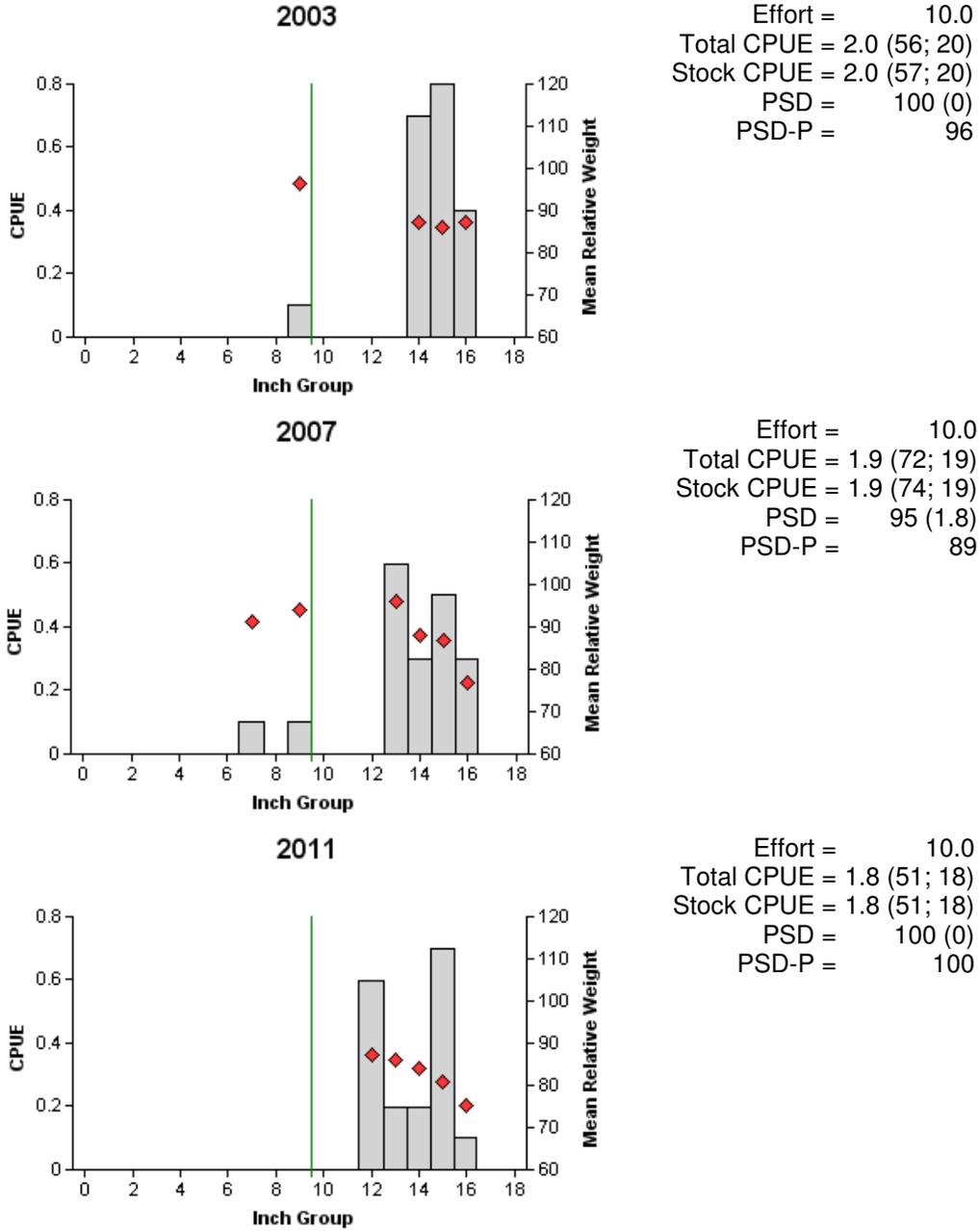


Figure 6. Number of white bass caught per net night (CPUE, bars), mean relative weight (diamonds), and population indices (RSE and N for CPUE and SE for size structure are in parentheses) for spring gill netting surveys, Lost Creek Reservoir, Texas, 2003, 2007, and 2011. Line indicates minimum length limit at time of sampling.

## White Bass

Table 8. Creel survey statistics for white bass at Lost Creek Reservoir from March – May 2002 compared to March – May 2008 quarters, where total catch per hour is for anglers targeting white bass and total harvest is the estimated number of white bass harvested by all anglers. Relative standard errors (RSE) are in parentheses.

Creel Survey Statistic	Year	
	March – May 2002	March – May 2008
Directed effort (h)	59.7 (303.7)	186.9 (140.5)
Directed effort/acre	0.2 (303.7)	0.5 (140.5)
Total catch per hour	0.5 (-)	3.0 (-)
Total harvest	312.4 (71.2)	0.0 (-)
Harvest/acre	0.8 (71.2)	0.0 (-)

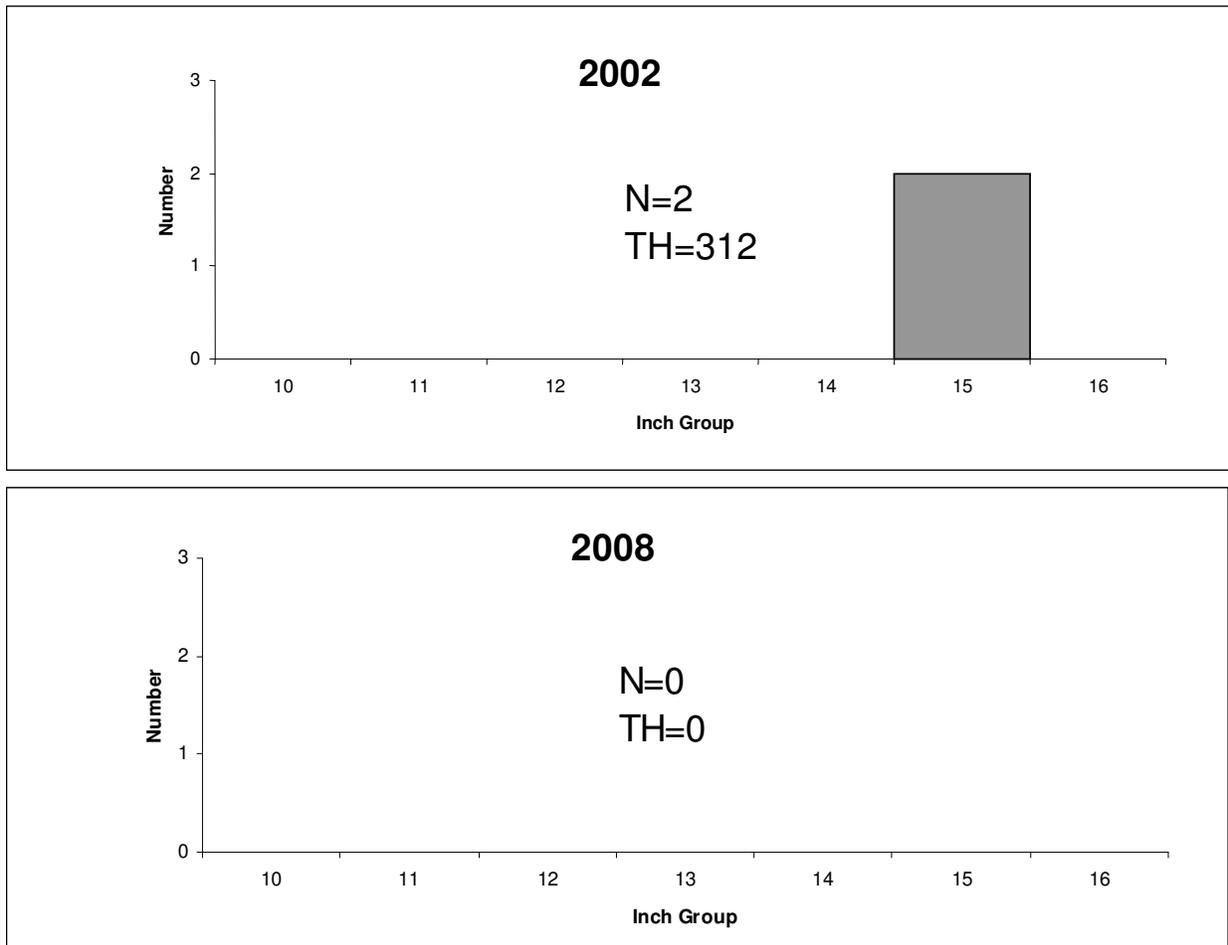


Figure 7. Length frequency of harvested white bass observed during creel surveys at Lost Creek Reservoir, Texas, March – May 2002 and March – May 2008, all anglers combined. N is the number of harvested white bass observed during creel surveys, and TH is the total estimated harvest for the creel period. Ten inch minimum length limit at time of sampling.

## Largemouth Bass

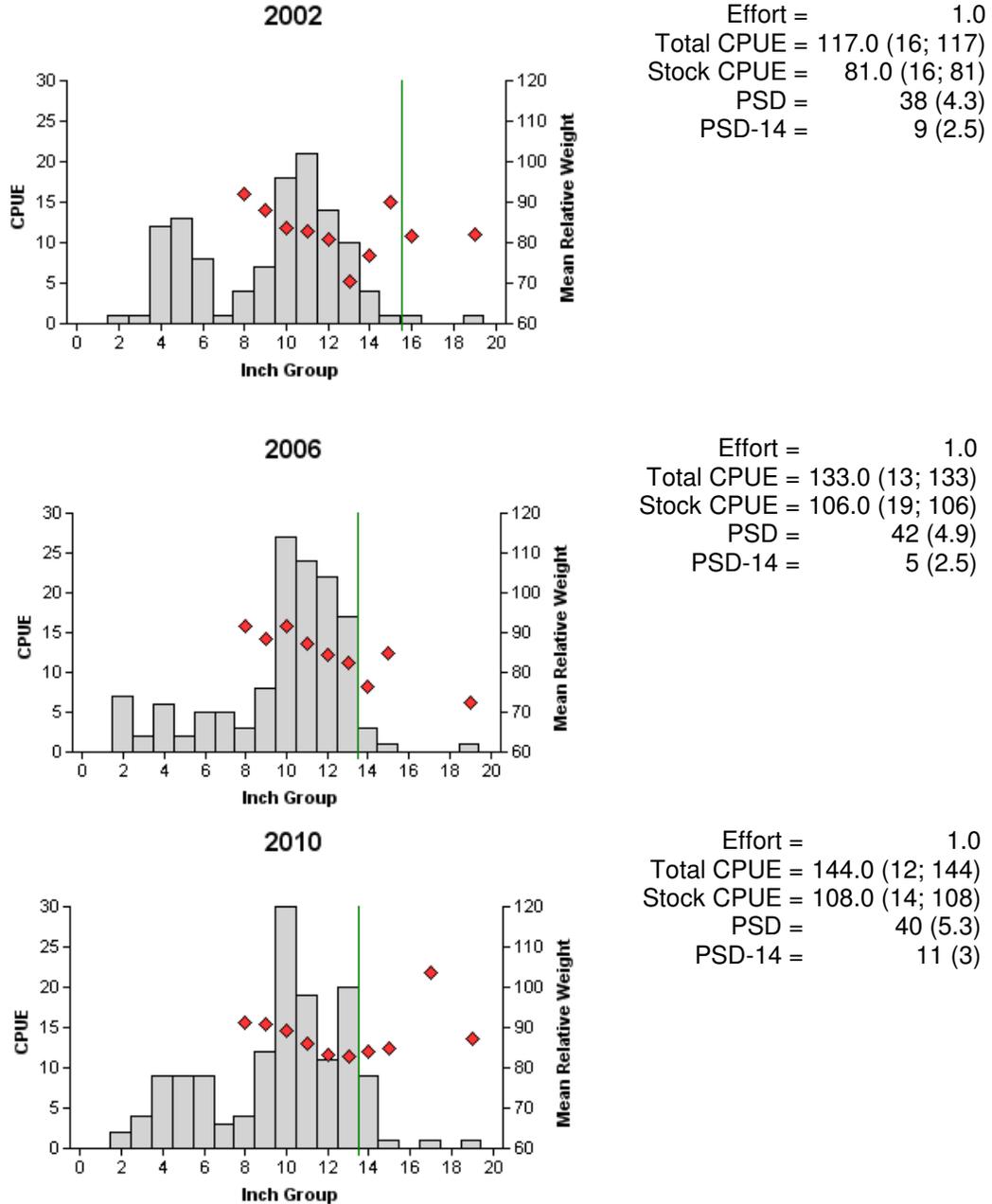


Figure 8. Number of largemouth bass caught per hour (CPUE, bars), mean relative weight (diamonds), and population indices (RSE and N for CPUE and SE for size structure are in parentheses) for fall electrofishing surveys, Lost Creek Reservoir, Texas, 2002, 2006 and 2010. Line indicates minimum length limit at time of sampling.

## Largemouth Bass

Table 9. Results of genetic analysis of largemouth bass collected by fall electrofishing at Lost Creek Reservoir, Texas. FLMB = Florida largemouth bass, NLMB = Northern largemouth bass, F1 = first generation hybrid between a FLMB and a NLMB, Fx = second or higher generation hybrid between a FLMB and a NLMB. Genetic analysis was changed in 2005 from examining allozymes to microsatellite DNA genetics testing.

Year	Sample size	Genotype			% FLMB alleles	% pure FLMB
		FLMB	FX	NLMB		
1993	30	0	1	29	1.7	0.0
1998	9	0	4	5	21.0	0.0
2001	17	0	15	2	36.8	0.0
2002	27	2	19	6	38.6	7.4
2006	30	0	28	2	38.0	0.0

Table 10. Average length at capture for largemouth bass (sexes combined) collected by fall electrofishing surveys at Lost Creek Reservoir, Texas, 1995, 1998, 2000, 2001, 2002 and 2006 compared to ecological region averages. Lengths are followed by the sample size in parentheses (N).

Sampling date	Length (inches) at capture for age						
	1	2	3	4	5	6	7
10/24/1995	9.7(15)	11.9(9)	12.8(5)	14.8(1)			
10/14/1998	10.3(15)	12.9(6)	13.8(7)	15.4(1)			
10/04/2000	9.4(14)	11.6(9)	13.4(5)	14.3(4)	15.9(2)	14.8(1)	
10/08/2001	10.6(11)	12.5(5)	14.2(2)				
10/01/2002	10.6(11)	12.5(5)	14.2(2)				
09/26/2006	10.0(47)	12.4(16)	13.7(16)	15.6(2)		18.1(1)	19.6(1)
Averages <sup>a</sup>	10.1	12.9	15.1	16.9	18.3	19.4	20.3

<sup>a</sup>Ecological region 5 averages from Prentice (1987); lengths derived for October 15.

## Largemouth bass

Table 11. Creel survey statistics for largemouth bass at Lost Creek Reservoir from March – May 2002 compared to March – May 2008 quarters, where total catch per hour is for anglers targeting largemouth bass and total harvest is the estimated number of largemouth bass harvested by all anglers. Relative standard errors (RSE) are in parentheses.

Creel Survey Statistic	Year	
	March – May 2002	March – May 2008
Directed effort (h)	4,722.0 (53.3)	5,448.6 (28.4)
Directed effort/acre	12.3 (53.3)	14.2 (28.4)
Total catch per hour	1.6 (32.3)	1.8 (16.9)
Total harvest	683.6 (103.0)	164.7 (57.2)
Harvest/acre	1.8 (103.0)	0.4 (57.2)

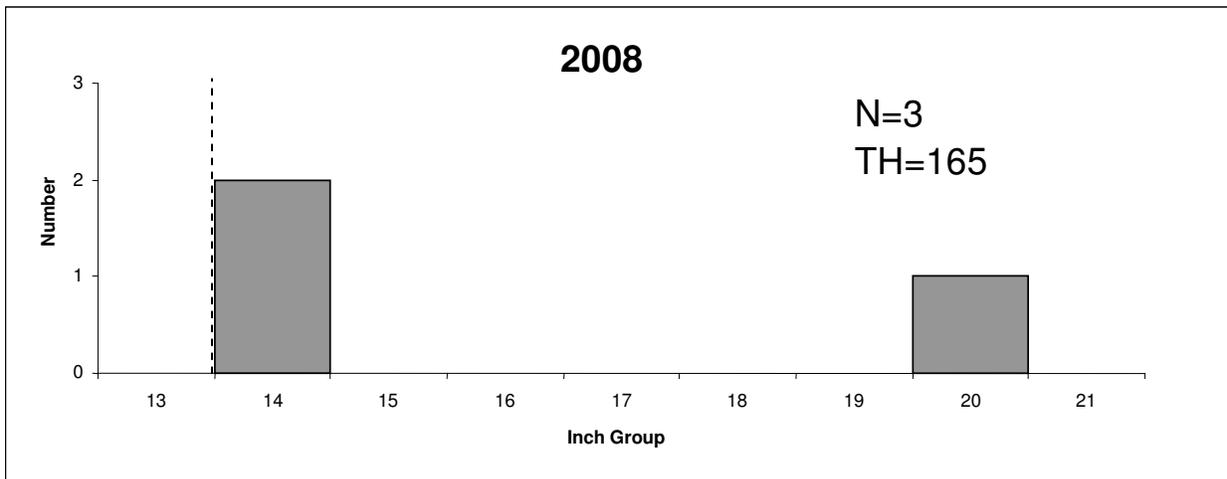
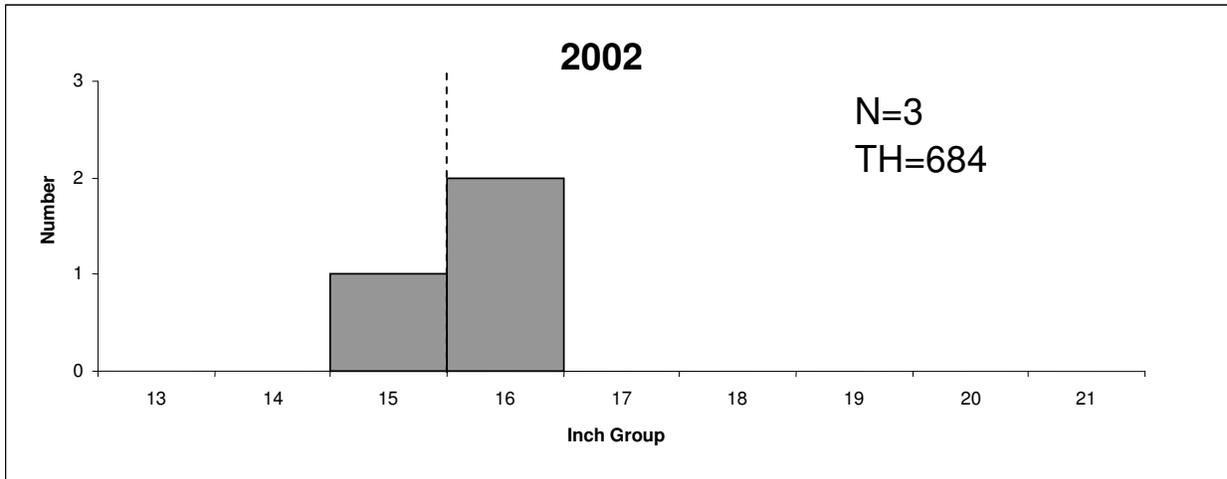


Figure 9. Length frequency of harvested largemouth bass observed during creel surveys at Lost Creek March – May 2002 compared to March – May 2008 quarters, all anglers combined. N is the number of harvested largemouth bass observed during creel surveys, and TH is the total estimated harvest for the creel period. Dash line indicates minimum length limit at time of sampling.

# White Crappie

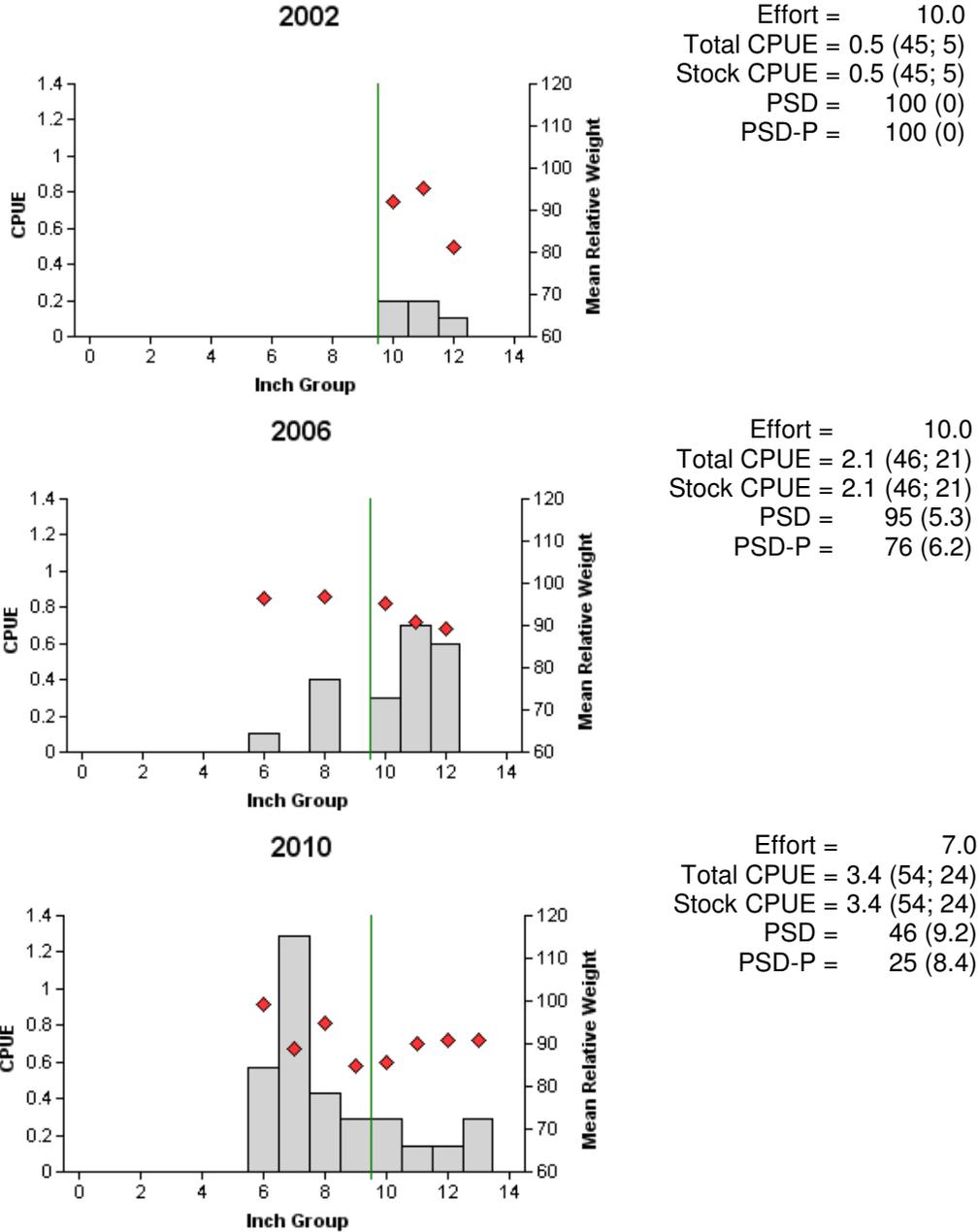


Figure 10. Number of white crappie caught per net night (CPUE, bars), mean relative weight (diamonds), and population indices (RSE and N for CPUE and SE for size structure are in parentheses) for fall trap netting surveys, Lost Creek Reservoir, Texas, 2002, 2006, and 2010. Line indicates minimum length limit at time of sampling.

## White Crappie

Table 12. Creel survey statistics for white crappie at Lost Creek Reservoir from March – May 2002 compared to March – May 2008 quarters, where total catch per hour is for anglers targeting white crappie and total harvest is the estimated number of white crappie harvested by all anglers. Relative standard errors (RSE) are in parentheses.

Creel Survey Statistic	Year	
	March – May 2002	March – May 2008
Directed effort (h)	220.4 (162.3)	540.1 (66.9)
Directed effort/acre	0.6 (162.3)	1.4 (66.9)
Total catch per hour	0.0 (-)	0.1 (100.0)
Total harvest	0.0 (-)	164.7 (73.1)
Harvest/acre	0.0 (-)	0.4 (73.1)

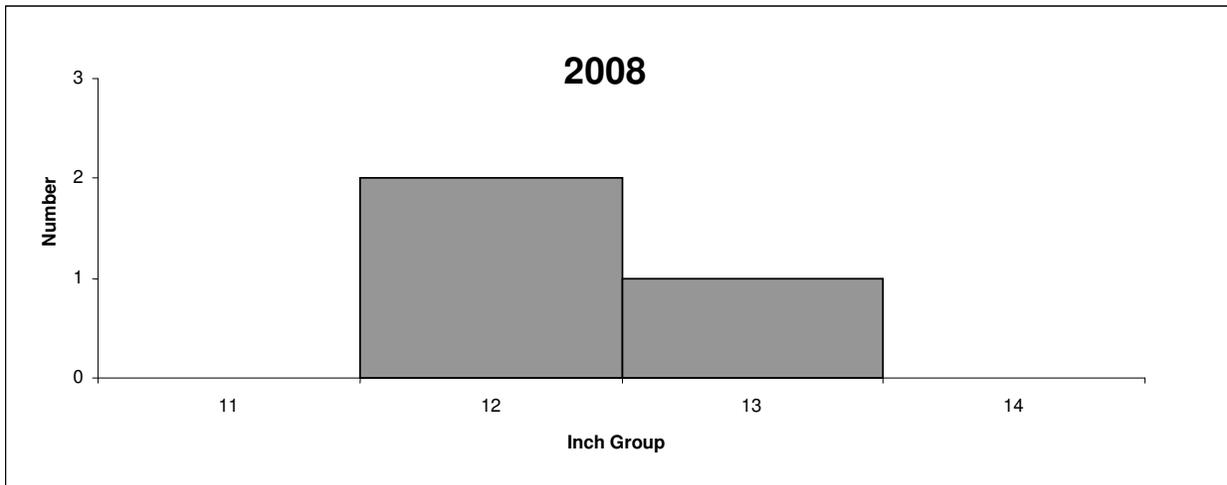
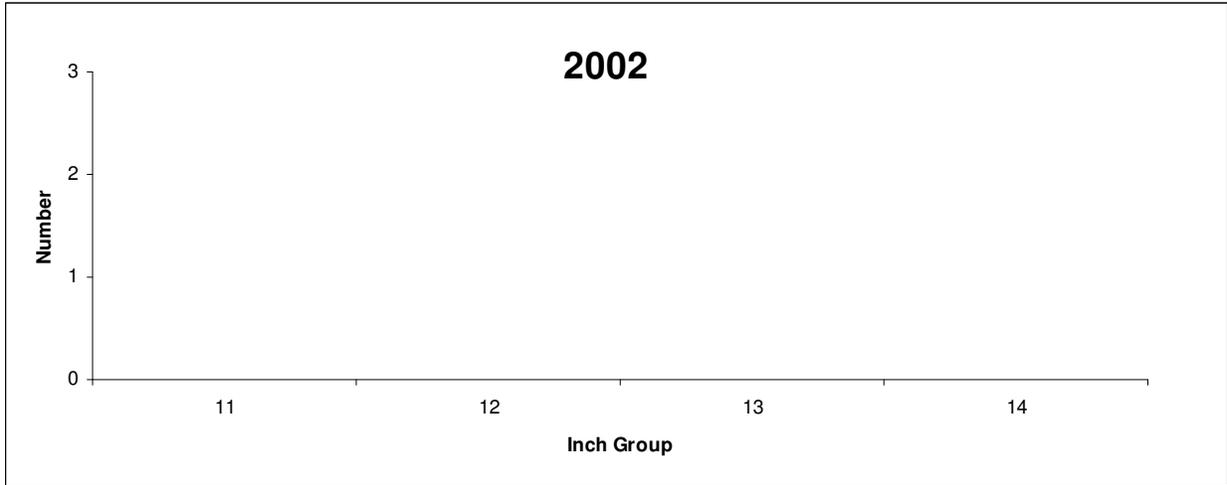


Figure 11. Length frequency of harvested white crappie observed during creel surveys at Lost Creek March – May 2002 compared to March – May 2008, all anglers combined. N is the number of harvested white crappie observed during surveys, and TH is the total estimated harvest for the creel period. Ten inch minimum length limit at time of sampling.

Table 13. Proposed sampling schedule for Lost Creek Reservoir, Texas. Gill netting surveys are conducted in the spring, while electrofishing and trap netting surveys are conducted in the fall. Standard surveys are denoted by S and additional surveys denoted by A.

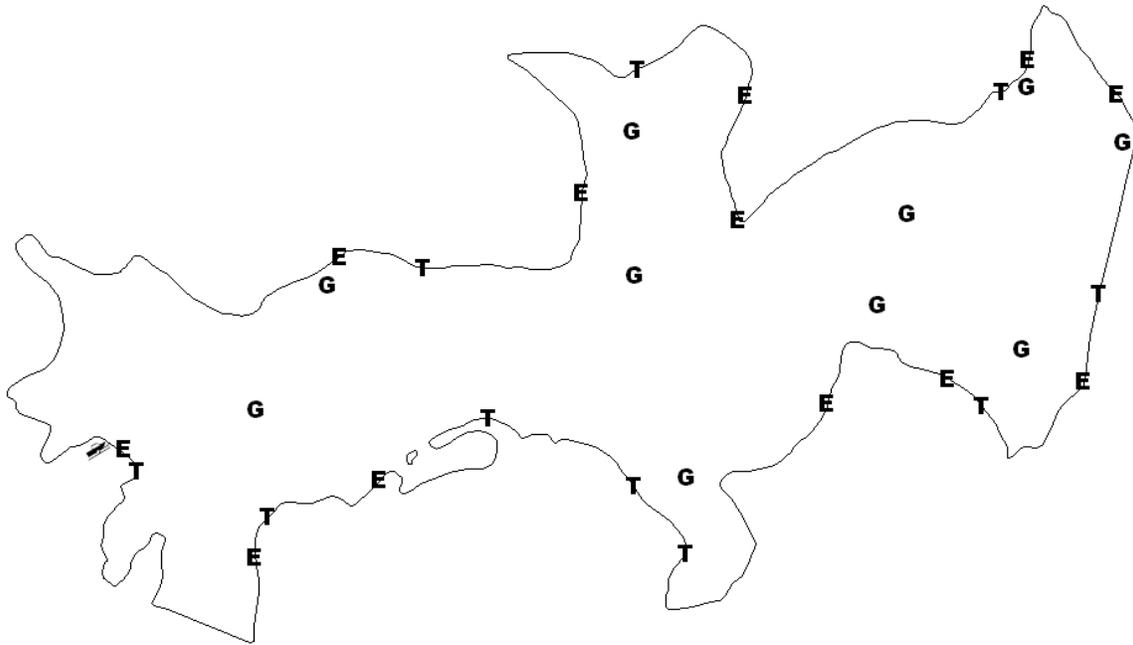
Survey Year	Electrofisher	Trap Net	Gill Net	Creel Survey	Vegetation Survey	Access Survey	Report
Fall 2011-Spring 2012							
Fall 2012-Spring 2013							
Fall 2013-Spring 2014							
Fall 2014-Spring 2015	S	S	S		S	S	S

**APPENDIX A**

Number (N) and catch rate (CPUE) for species collected from gill nets (2011), trap nets (2010) and electrofishing (2010) from Lost Creek Reservoir, Texas.

Species	Gill Nets		Trap Nets		Electrofishing	
	N	CPUE	N	CPUE	N	CPUE
Gizzard shad	18	1.8			2	2.0
Threadfin shad					1	1.0
Common carp	2	0.2				
River carpsucker	5	0.5				
Smallmouth buffalo	20	2.0				
Channel catfish	6	0.6				
Flathead catfish	2	0.2				
White bass	18	1.8				
Green sunfish			1	0.1	56	56.0
Warmouth					15	15.0
Bluegill	1	0.1	57	8.1	187	187.0
Longear sunfish			1	0.1	58	58.0
Redear sunfish					9	9.0
Largemouth bass	21	2.1			144	144.0
White crappie	3	0.3	24	3.4		

APPENDIX B



Location of sampling sites, Lost Creek Reservoir, Texas, 2010-11. Trap net, gill net, and electrofishing stations are indicated by T, G, and E, respectively.