

PERFORMANCE REPORT

As Required by

FEDERAL AID IN SPORT FISH RESTORATION ACT

TEXAS

FEDERAL AID PROJECT F-30-R-35

STATEWIDE FRESHWATER FISHERIES MONITORING AND MANAGEMENT PROGRAM

2009 Survey Report

**O. H. Ivie Reservoir**

Prepared by:

Mukhtar Farooqi, Mandy K. Scott, and \*Craig Bonds  
Inland Fisheries Division  
District 1-C, San Angelo, Texas  
\*Region 3 Office, Tyler, Texas



Carter P. Smith  
Executive Director

Gary Saul  
Director, Inland Fisheries

July 31, 2010

## TABLE OF CONTENTS

Survey and management summary.....	2
Introduction .....	3
Reservoir description .....	3
Management history .....	3
Methods .....	4
Results and discussion .....	4
Fisheries management plan .....	6
Literature cited .....	7
Figures and tables .....	8-33
Water level (Figure 1) .....	8
Reservoir characteristics (Table 1) .....	8
Harvest regulations (Table 2) .....	8
Stocking history (Table 3) .....	9
Habitat survey (Tables 4-5) .....	9
Percent directed angler effort per species (Table 6) .....	10
Total fishing effort and fishing expenditures (Table 7).....	10
Gizzard shad (Figures 2-3) .....	11
Bluegill (Figures 4-7; Table 8).....	13
Blue catfish (Figure 8) .....	17
Channel catfish (Figures 9-11; Table 9) .....	18
Flathead catfish (Figure 12) .....	21
White bass (Figures 13-15; Table 10) .....	22
Largemouth bass (Figures 16-20; Tables 11-13) .....	25
White crappie (Figures 21-23; Table 14) .....	30
Proposed sampling schedule (Table 15) .....	33
Appendix A	
Catch rates for all species from all gear types.....	33
Appendix B	
Map of 2009-2010 sampling locations .....	34
Appendix C	
Permian Basin Oilmans Bass Invitational tournament data .....	35

## SURVEY AND MANAGEMENT SUMMARY

Fish Populations in O. H. Ivie Reservoir were surveyed annually from 2006 to 2009 using electrofishing, in 2009 using trap nets, and in 2010 using gill nets. A creel survey was conducted from June 2009 to May 2010. This report summarizes the results of the surveys and contains a management plan for the reservoir based on those findings.

- **Reservoir Description:** O. H. Ivie Reservoir is a 19,200-acre impoundment, when full, and is located on the Colorado and Concho rivers in Concho, Runnels, and Coleman counties, Texas, approximately 55 miles east of San Angelo. Water level declined 26 feet from May 1998 to November 2004. Subsequent rainfall led to increases in water level in 2005 and 2007; the reservoir was approximately 21 feet below conservation pool at the time of fall sampling. In May 2010, reservoir surface area totaled 10,675 acres. Habitat features consisted of standing timber, rocks, flooded saltcedar, native submerged aquatic plants, and hydrilla.
- **Management History:** Important sport fish included largemouth bass, white bass, white crappie, and catfishes. The management plan from the 2005 survey report included annual electrofishing and creel surveys to evaluate the effectiveness of the 2001 largemouth bass length limit change (from 18-inch minimum length and 5-fish bag to a 5-fish bag, 2 of which may be <18 inches) and annual aquatic vegetation surveys primarily to monitor changes in hydrilla coverage. The purpose of the largemouth bass regulation change was to increase growth rates of 14- to 18-inch fish by reducing stockpiling through increased angler harvest. A variety of fish species have been stocked in the reservoir including threadfin shad, bluegill, channel, blue and flathead catfishes, Florida largemouth bass, smallmouth bass, white crappie, and walleye. Walleye stockings were discontinued after failing to produce a fishery.
- **Fish Community**
  - **Prey species:** Threadfin shad are present in the reservoir. Electrofishing catch of gizzard shad was higher than in previous years, and approximately one third were available as prey to most sport fish. Electrofishing catch of bluegill was low, but overall size structure was similar to previous years. Bluegill up to 10 inches were caught by anglers.
  - **Catfishes:** Blue catfish continue to offer a very low-density rod-and-line fishery. The channel catfish population offered a broad size range and greater abundance than blue catfish, attracting greater angling pressure and harvest. Flathead catfish were present in low numbers.
  - **White bass:** White bass were moderately abundant and the second most targeted fish by anglers; although they only accounted for <5% of directed angler effort. Angling catch rate was lower than in previous years, but harvest was substantially higher.
  - **Largemouth bass:** Largemouth bass were less abundant than in previous years; although there were some larger fish present. Most largemouth bass were in fair condition. The majority of anglers targeted largemouth bass, and the percentage of legal-size fish released was high. Tournament anglers accounted for 24.5% to 61.3% of directed effort from June 2006 to May 2010.
  - **Smallmouth bass:** Very few smallmouth bass have been collected in recent surveys and few anglers targeted them. However, anglers have reported catching low numbers when interviewed in recent creel surveys.
  - **White crappie:** Abundance of harvestable-size white crappie remained low; however, angler catch rates have increased over the past four years. Crappie were the third most targeted species, but directed angler effort was <4%.
- **Management Strategies:** Conduct annual creel, electrofishing, and aquatic vegetation surveys 2010-2014. Conduct trap net surveys in 2011 and 2013. Conduct gill net survey in 2014.

## INTRODUCTION

This document is a summary of fisheries data collected from O. H. Ivie Reservoir in 2006-2010. 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 (pre-2006) are presented for comparison.

### *Reservoir Description*

O. H. Ivie Reservoir is a 19,200-acre impoundment, when full, and was constructed in 1990 on the Colorado and Concho rivers. It is located in Concho, Runnels, and Coleman counties approximately 55 miles east of San Angelo and is operated and controlled by the Colorado River Municipal Water District (CRMWD). Primary water uses included municipal water supply and recreation. O. H. Ivie Reservoir was eutrophic with a mean TSI chl-a of 46.6, which was higher than previous samples (Texas Commission on Environmental Quality 2008). Habitat in 2009 consisted of rocks, flooded timber and saltcedars, and native and non-native submerged vegetation. Native aquatic plants present were sago and Illinois pondweeds, and marine naiad. Hydrilla, a non-native, was first discovered in the reservoir in 1997. Water level remained near conservation pool elevation from impoundment in 1990 through 1998, but declined 26 feet from May 1998 to November 2004. Water level increased in 2005 and 2007, but was followed by declines in 2006 and 2008. The reservoir was 21 feet below conservation pool at time of sampling (Figure 1). In May 2010, reservoir surface area totaled 10,675 acres. Boat access consisted of three public boat ramps and several private boat ramps. Bank fishing access was restricted to CRMWD parks. Other descriptive characteristics for O. H. Ivie Reservoir are in Table 1.

### *Management History*

**Previous management strategies and actions:** Management strategies and actions from the previous survey report (Bonds and Scott 2006) included:

1. Conduct annual electrofishing surveys through 2009 to monitor largemouth bass population trends following the 2001 length limit change and conduct Category 4 largemouth bass age collection in 2009 to facilitate population modeling.  
**Action:** Annual electrofishing surveys were conducted through 2009 and additional daytime electrofishing was conducted in 2009 in an effort to maximize sample size for Category 4 age analysis.
2. Conduct annual aquatic vegetation surveys and recommend treatment if necessary.  
**Action:** Aquatic vegetation surveys were conducted annually in August from 2006 to 2009 to monitor coverage of hydrilla.
3. Conduct annual creel surveys through 2009.  
**Action:** Creel surveys were conducted from June 2006 through May 2010.

**Harvest regulation history:** Sportfishes in O. H. Ivie Reservoir are currently managed with statewide regulations with the exception of largemouth bass and smallmouth bass (Table 2). From 1990 to 2001, largemouth bass were managed with an 18-inch minimum length limit (MLL). The regulation was changed in 2001 to no minimum length limit, but only two <18 inches could be harvested per day. The latter was implemented to alleviate stockpiling and improve growth of largemouth bass measuring 14 to 18 inches.

**Stocking history:** The majority of Florida strain largemouth bass stockings were carried out between 1990 and 2001. The last stocking was in 2010 which included fingerlings from the ShareLunker program. Threadfin shad, blue, channel, and flathead catfish, bluegill, smallmouth bass, and white crappie were introduced in 1990. Walleye were stocked three times from 1991 to 1994, but failed to produce a fishery. The complete stocking history is in Table 3.

**Vegetation/habitat history:** O. H. Ivie Reservoir supported a mix of aquatic vegetation species (Table 4). Native submerged aquatic vegetation consisted primarily of sago pondweed, marine naiad, and Illinois

pondweed. Hydrilla was first discovered in the reservoir in 1997, and has remained in varied amounts since. The shoreline was dominated by natural and rocky habitat (Table 5).

## METHODS

Fish were collected by electrofishing (2 hours at 24, 5-min stations), gill netting (15 net nights at 15 stations), and trap netting (15 net nights at 15 stations). Catch per unit effort (CPUE) 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 per net night (fish/nn). All survey sites were randomly selected, and all surveys were conducted according to the Fishery Assessment Procedures (TPWD, Inland Fisheries Division, unpublished manual revised 2009). An access-point creel survey was conducted during daylight hours from June 2009 to May 2010 and targeted rod-and-line anglers only.

Sampling statistics (CPUE for various length categories), structural indices [Proportional Size Distribution (PSD), as defined by Guy *et al.* (2007)], and condition indices [relative weight ( $W_t$ )] were calculated for target fishes according to Anderson and Neumann (1996). Index of vulnerability (IOV) 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 for creel statistics, and SE was calculated for structural indices and IOV. Ages of largemouth bass were determined using otoliths. We attempted to collect 400 largemouth bass >6 inches for aging (subsampling at 10 per 0.39 inches). An additional 3.86 hours of daytime bass-only sampling was conducted in an effort to meet the Category 4 age and growth sample size requirement. We attempted to collect 13 white bass and 13 white crappie between 9 and 10.9 inches to calculate mean age at 10-inch length. A littoral habitat and vegetation survey was conducted according to the Fishery Assessment Procedures (TPWD, Inland Fisheries Division, unpublished manual revised 2009). Source for water level data was the United States Geological Survey (USGS) website.

## RESULTS AND DISCUSSION

**Habitat:** O. H. Ivie Reservoir supported a mix of aquatic vegetation species (Table 4). Native submerged aquatic vegetation consisted primarily of sago pondweed, marine naiad, and some Illinois pondweed. Hydrilla covered 34.6% of the reservoir in 2009. Natural and rocky shoreline accounted for 85% of the littoral zone (Table 5).

**Creel:** Directed fishing effort by anglers from June 2009 to May 2010 was highest for largemouth bass (81%), followed by anglers fishing for white bass (5%), and white crappie (4%) (Table 6). Total fishing effort for all species at O. H. Ivie Reservoir was 105,617 h, and estimated directed expenditure was \$1,332,694 (Table 7). Direct expenditures have remained relatively high since the 2005 - 2006 survey when an estimated \$551,447 was recorded.

**Prey species:** Electrofishing catch rates of bluegill and gizzard shad were 63.5/h and 164.5/h, respectively. Index of vulnerability for gizzard shad was 36, indicating that approximately one third were appropriately sized as prey. This was higher than that recorded in 2008 (IOV = 7) (Figures 2 and 3). Total CPUE of gizzard shad in 2009 was the highest recorded in annual surveys conducted between 2004 and 2009 (Figures 2 and 3). Total CPUE of bluegill in 2009 was the lowest recorded during the last six annual surveys (Figures 4 and 5). Bluegill size structure in 2009 was dominated by 3 to 5-inch fish, although fish up to 9 inches in length were recorded. Proportional size distribution has declined since 2007.

Directed angler effort for bluegill was low, ranging from 0 h to 1,926 h annually during the period June 2006 to May 2010 (Table 8). Low sample size reduced precision of creel statistics. During the 2009/10 survey, average angler catch per hour was 0.96. Anglers harvested fish between 4 and 10 inches in length (Figures 6 and 7).

**Blue catfish:** Blue catfish were stocked in 1990 and 1991 to diversify angling opportunities. Although blue catfish developed a self-sustaining population, it can be characterized as one of low abundance (Figure 8). The gill net catch rate in 2010 (0.6/nn) was similar to previous years (2006 = 0.3/nn; 2002 = 0.3/nn). Fish measuring up to 29 inches in length were collected in 2010.

Few rod-and-line anglers targeted blue catfish during the 2009/10 creel survey (directed effort = 216 h; RSE = 121), while none did so during the 2006/7, 2007/8, and 2008/9 surveys precluding any meaningful creel statistics for this species.

**Channel catfish:** The gill net catch rate (1.4/nn) of channel catfish in 2010 was similar to that recorded in 2006 (1.2/nn) (Figure 9). The majority of fish were in good condition as indicated by high relative weight values. The proportion of larger fish had increased since 2002 as indicated by PSD-P values (Figure 9).

Directed fishing effort (571 h) and total harvest (272) for channel catfish was considerably lower during the 2009/10 survey (Table 9), but overall data from June 2006 to May 2010 indicates it is a more popular rod-and-line fishery than blue catfish. Harvested fish ranged in length from 12 to 30 inches (Figures 10 and 11).

**Flathead catfish:** Three flathead catfish ranging in size from 20 to 25 inches (0.2 fish/nn) were collected in 2010, indicating continued presence in the reservoir. No rod-and-line anglers targeted flathead catfish from June 2006 to May 2010.

**White bass:** Gill net catch rate of white bass was 4.7/nn in 2010 compared to 3.1/nn in 2006 and 7.3/nn in 2002 (Figure 13). Catch rate of harvestable-size fish (3.1/nn) had increased since 2006 (1.5/nn). Relative weight was between 80 and 90 for most fish in 2010, 2006, and 2002. White bass size structure (PSD, PSD-P, and PSD-M) has been relatively unchanged since 2002 (Figure 13). Sample size was too small for meaningful growth analysis.

Directed fishing effort for white bass was 4,898 h and was in line with effort recorded since 2006. However, total harvest (10,748) was higher in 2009/10 (Table 10). Angler catch rate was 1.02/h, which was lower than in 2008/9 (2.17/h), but closer to values obtained in 2006/07 (1.37/h) and 2007/08 (1.2/h). Approximately 8% of legal-size white bass caught by anglers were released during 2009/10. However, proportionally more were released in previous years (Table 10). Observed harvest from June 2009 to May 2010 showed good angler compliance, and harvested fish ranged in length from 10 to 16 inches (Figure 14). In previous years, fish up to 19 inches in length were harvested (Figure 15).

**Largemouth bass:** Total CPUE in 2009 was the lowest recorded during the last six annual electrofishing surveys, and stock CPUE was also relatively low (Figures 16 and 17). Size structure has improved somewhat since 2005, with fish up to 24 inches in length collected. Figures 16 and 17 show that relatively strong year classes were produced in 2004, 2005, and 2007. This corresponds with water level increases.

Slow growth in older (>age 3) largemouth bass resulted in stockpiling between 14 and 18 inches in past years (Farquhar and Dennis 2000, Dennis 2002) which led to the liberalization of harvest restrictions in 2001. In 2009, average length for age-1 to 3 largemouth bass was greater than that recorded in 2001 (Table 11, Figure 18). Mean length at age-3 was 15.9 inches. Two hours of standard electrofishing and 3.86 h of daytime bass-only electrofishing resulted in a sample size of 201 largemouth bass which was considerably less than that required ( $N = 400$ ) for Category 4 age related analyses. Overall, body condition has been somewhat cyclical since 2004, alternating between years when the majority of fish had relative weights >90 with those years when relative weights were <90. Data from the last two surveys shows that the majority of fish between 15 and 18 inches had relative weights between 80 and 90 (Figure 17). Mean  $W_r$  for bass between 15 and 20 inches was the lowest it has been since 1999 (Table 12). Average length-at-age data together with a greater abundance of larger fish in moderate condition indicates that stockpiling may have been less problematic than in previous years, but may still be an issue since further substantial improvements in the condition of fish between 14 and 18 inches in length has not occurred.

Directed effort, total catch per hour, and total harvest was highest in 2006/07 and lowest in 2007/08. All three statistics subsequently increased in 2008/09 and 2009/10 (Table 13). Tournament anglers accounted

for 24.5% to 61.3% of directed effort from June 2006 to May 2010. The majority of largemouth bass were released, up to 89% (Table 13). Non-tournament anglers harvested bass from 10 to 24 inches (Figures 19 and 20). From June 2006 to May 2010, 70% to 89% of harvested bass observed during creel surveys were those held by tournament anglers which were later released.

Tournament data from the Permian Basin Oilmans Bass Invitational indicated that anglers have caught larger trophy bass over the last few years (Appendix C). This is also reflected by the number of entries in the Toyota ShareLunker Program during 2009/10 (11 largemouth bass >13 lbs. in weight). One of these fish became the new lake record at 16.08 lbs. During the 2009/2010 ShareLunker season two official ShareLunker receiving stations were established at the reservoir.

**Smallmouth bass:** Smallmouth bass were stocked in 1990. During the last four annual electrofishing surveys one was caught in 2007 and one in 2009. Anglers did not specifically target smallmouth bass during the June to May creel surveys of 2006/07, 2008/09, and 2009/10, but they did catch some smallmouth bass (total catch  $N = 288$ ,  $RSE = 1003$ ;  $N = 13$ ,  $RSE = 3126$ , and  $N = 0$ , respectively). From June 2007 to May 2008, anglers expended 328 h ( $RSE = 98$ ) of effort for smallmouth bass, 16 ( $RSE = 710$ ) were harvested and 121 ( $RSE = 561$ ) released. The current lake record of 5.32 lbs was caught in 2009.

**White crappie:** The trap net catch rate of white crappie was 1.9/nn in 2009, lower than in 2005 (10.7/nn) and 2003 (7.5/nn) (Figure 21). Catch per unit effort of harvestable-size fish has remained low over the 2009 (0.2/nn), 2005 (0.1nn), and 2003 (0.8/nn) surveys. Sample size was too small for meaningful growth analysis.

Angler catch rates have steadily increased from 2006/07 (0.14/h) to 2009/10 (0.64/h) while directed effort had decreased from 7,802 h to 3,761 h during the same period (Table 14). In 2009/10, the percent of legal-size fish released was considerably lower than in previous years. Size of harvested white crappie ranged from 10 to 16 inches in total length (Figures 22 and 23).

## **Fisheries management plan for O. H. Ivie Reservoir, Texas**

Prepared – July 2010.

**ISSUE 1:** The 18-inch minimum length limit was adjusted in 2001 to no minimum length limit, but two fish less than 18 inches could be harvested per day. This strategy was implemented to address poor growth, body condition, and stockpiling in older (> age 3) fish. Assessing the impacts of this regulation on the largemouth bass population has been challenging due to confounding factors such as water level fluctuations. It appears that stockpiling could still be problematic thus further monitoring is necessary.

### **MANAGEMENT STRATEGIES**

1. Conduct annual electrofishing surveys through 2013.
2. Conduct Category 4 largemouth bass age collection in fall 2010 in conjunction with surveys scheduled to be conducted by researchers from TPWD's Heart of the Hills Research Center.

**ISSUE 2:** Changes in aquatic plant coverage can influence fish population characteristics and have other impacts. Hydrilla has been present in the reservoir since 1997 and is capable of inhibiting public access if coverage increases greatly.

### **MANAGEMENT STRATEGY**

1. Conduct annual aquatic vegetation surveys through 2013.

**ISSUE 3:** O. H. Ivie Reservoir is a popular fishing destination, particularly for tournament and non-tournament anglers targeting largemouth bass. The publicity surrounding the 11 ShareLunkers caught in 2009/2010 may lead to an increase in fishing pressure over the next couple of years. As competing demands for municipal water continue to rise, maintaining a long-term database cataloging angler success, effort, and expenditures may prove valuable when decisions concerning future water allocation and watershed water conservation practices pertaining to this important reservoir are made.

#### MANAGEMENT STRATEGY

1. Continue annual creel surveys through 2013.

#### SAMPLING SCHEDULE JUSTIFICATION:

The proposed sampling schedule includes additional electrofishing in 2010, 2011, 2012, additional trap net sampling in 2011, and mandatory monitoring in 2013/2014 (Table 15). Additional electrofishing surveys are necessary on this heavily used largemouth bass fishery. Additional trap net sampling in 2011 is necessary to monitor an apparent decline in the white crappie population. Gill net surveys are only necessary every four years at this point to ensure presence or absence of blue catfish, channel catfish, flathead catfish, and white bass. Annual creel surveys are needed to maintain consistent data for trend information on angler effort, catch and harvest rates, and direct expenditures.

#### 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, 2<sup>nd</sup> edition. American Fisheries Society, Bethesda, Maryland.
- Bonds, C. C., and M. K. Scott. 2006. Statewide freshwater fisheries monitoring and management program survey report for O.H. Ivie Reservoir, 2005. Texas Parks and Wildlife Department, Federal Aid Report F-30-R, Austin.
- Dennis, J. 2002. Statewide freshwater fisheries monitoring and management program survey report for O. H. Ivie Reservoir, 2001. Texas Parks and Wildlife Department, Federal Aid Report F-30-R, Austin.
- DiCenzo, V. J., M. J. Maceina, and M. R. Stimert. 1996. Relations between reservoir trophic state and gizzard shad population characteristics in Alabama reservoirs. North American Journal of Fisheries Management 16:888-895.
- Farquhar, B. and Dennis. 2000. Statewide freshwater fisheries monitoring and management program survey report for O.H. Ivie Reservoir, 1999. Texas Parks and Wildlife Department, Federal Aid Report F-R, Austin.
- Guy, C. S., R. M. Neumann, D. W. Willis, and R. O. Anderson. 1999. Proportional size distribution (PSD): a further refinement of population size structure index terminology. Fisheries 24 (7):348.
- Texas Commission on Environmental Quality. 2008. Trophic classification of Texas reservoirs; 2008 Texas water quality inventory and 303(d) list (March 19, 2008). 15 pp.



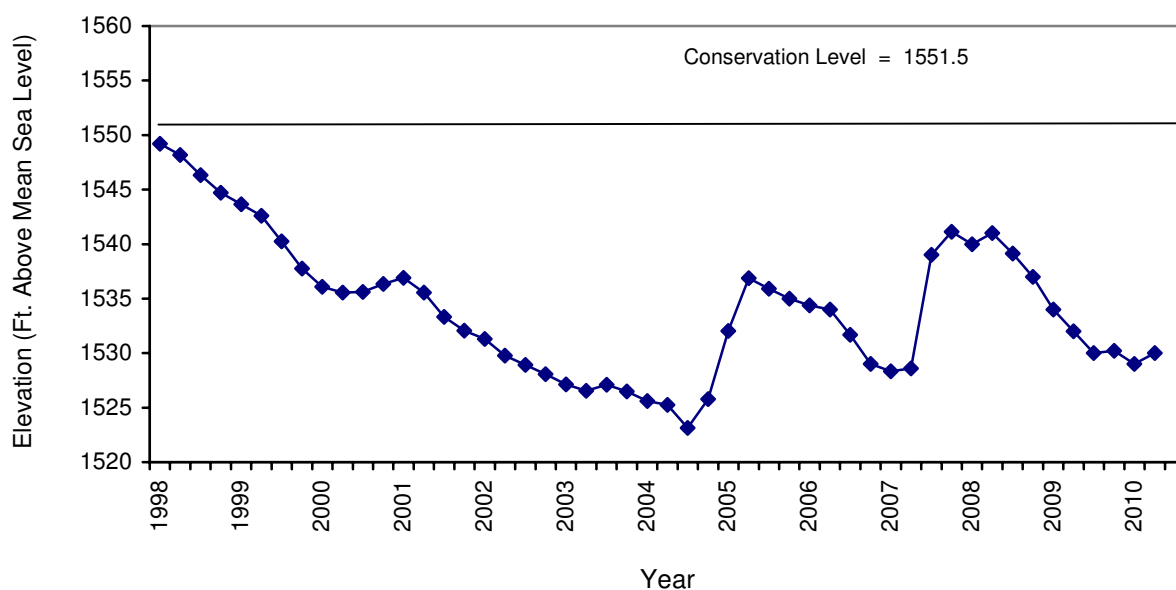


Figure 1. Quarterly water level elevations in feet above mean sea level recorded for O. H. Ivie Reservoir, Texas (1998-2010).

Table 1. Characteristics of O. H. Ivie Reservoir, Texas.

Characteristic	Description
Year constructed	1990
Controlling authority	Colorado River Municipal Water District
Counties	Concho, Runnels, and Coleman
Reservoir type	Mainstream
Shoreline Development Index (SDI)	10.6
Conductivity	2,000 $\mu$ mhos/cm

Table 2. Harvest regulations for O. H. Ivie Reservoir, Texas.

Species	Bag Limit	Minimum-Maximum Length (inches)
Catfish: channel and blue catfish, their hybrids and subspecies	25 (in any combination)	12 - No Limit
Catfish, flathead	5	18 - No Limit
Bass, white	25	10 - No Limit
Bass, smallmouth	3	18 - No Limit
Bass, largemouth	5	No limit (2 may be < 18 inches)
Crappie: white and black crappie, their hybrids and subspecies	25 (in any combination)	10 - No Limit

Table 3. Stocking history of O. H. Ivie Reservoir, Texas. Size categories are: FRY =  $\leq 1$  inch; FGL = 1-3 inches; ADL = adults; SL = ShareLunker offspring.

Species	Year	Number	Size
Threadfin shad	1990	300	ADL
Coppernose bluegill	1990	332,548	FGL
Bluegill	1991	103,335	FGL
Blue catfish	1990	194,510	FGL
	1991	192,381	FGL
	Total	386,891	
Channel catfish	1990	195,561	FGL
	1991	194,875	FGL
	1996	250	ADL
	1999	250	ADL
	Total	390,936	
Flathead catfish	1990	3,013	FRY
Smallmouth bass	1990	120,802	FGL
Florida largemouth bass	1990	495,845	FRY
	1991	1,920,593	FGL
	1991	633	ADL
	1992	50	ADL
	1999	31,496	FGL
	1999	250	ADL
	2001	19,968	FGL
	2010	267,201	FGL
	Total	2,736,036	
ShareLunker offspring	2010	8,143	FGL
White crappie	1990	122,638	FGL
	1991	183,661	FGL
	Total	306,299	
Walleye	1991	2,495,000	FRY
	1992	860,000	FRY
	1994	400,000	FRY
	Total	3,755,000	

Table 4. Results of a vegetation survey conducted at O. H. Ivie Reservoir, Texas, in August, 2009. Surface area coverage (acres) was estimated for each vegetation type for the 10,800 acres using 162 randomly selected sample points.

Vegetation type	Coverage	Percent	Lower 95% CL	Upper 95% CL
Hydrilla	3733	34.6	27.6	41.6
Native submerged*	2667	24.7	17.7	31.7
Flooded terrestrial	733	6.8	2.8	10.8
Timber	800	7.4	3.4	11.4

\* Illinois pondweed, sago pondweed, marine naiad

Table 5. Results of a structural habitat survey conducted at O. H. Ivie Reservoir, Texas, in August, 2009. Linear distance (miles) was estimated for each habitat type for the 111 miles of shoreline using 315 randomly selected sample points.

Habitat type	Linear distance	Percent	Lower 95% CL	Upper 95% CL
Rocky	42.0	37.8	32.8	42.8
Natural	53.0	47.3	41.3	53.3
Bluff	3.0	2.5	0.5	4.5
Gravel	14.0	12.4	8.4	16.4

Table 6. Percent directed angler effort by species for O. H. Ivie Reservoir, Texas, June 2006 – May 2010.

Species	Year			
	2006/2007	2007/2008	2008/2009	2009/2010
Common carp	0.0	0.0	0.2	0.0
Catfish	0.0	0.3	0.0	0.0
Blue catfish	0.0	0.0	0.0	0.2
Channel catfish	3.5	1.3	3.2	0.5
White bass	1.2	10.6	3.9	4.6
Bluegill	0.0	0.7	0.0	1.8
Bass	0.0	0.0	0.3	1.2
Smallmouth bass	0.0	0.4	0.0	0.0
Largemouth bass	85.6	65.8	77.3	81.1
White Crappie	3.6	8.6	5.7	3.6
Anything	6.1	12.4	9.5	6.9

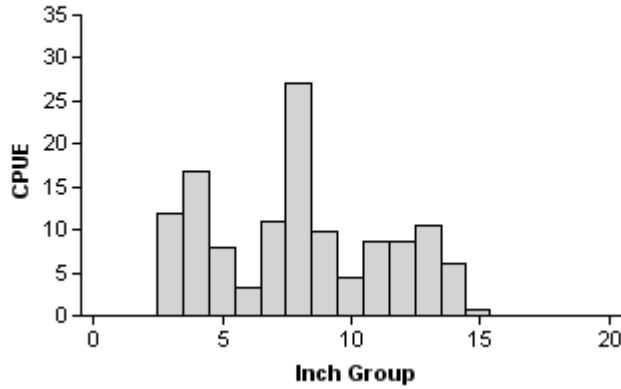
Table 7. Total fishing effort (h) for all species and total directed expenditures at O. H. Ivie Reservoir, Texas, June 2006 to May 2007, June 2007 to May 2008, June 2008 to May 2009, and June 2009 to May 2010.

Creel Statistic	Year			
	2006/2007	2007/2008	2008/2009	2009/2010
Total fishing effort	217,143	90,148	88,346	105,617
Total directed expenditures	\$2,381,400	\$990,541	\$1,021,963	\$1,332,694

## Gizzard Shad

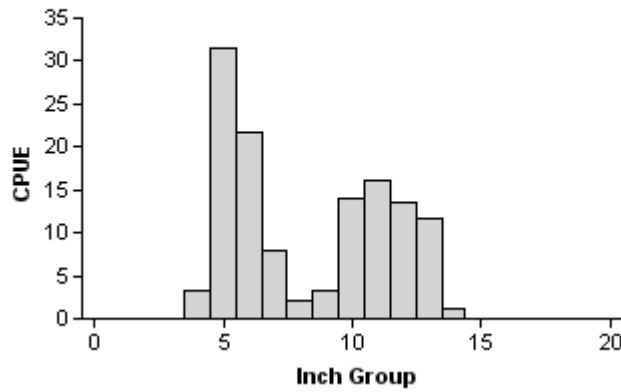
**2004**

Effort = 2.7  
Total CPUE = 126.8 (18; 338)  
IOV = 40 (7.4)



**2005**

Effort = 2.5  
Total CPUE = 126.0 (30; 315)  
IOV = 51 (7.3)



**2006**

Effort = 2.0  
Total CPUE = 88.5 (21; 177)  
IOV = 7 (2.7)

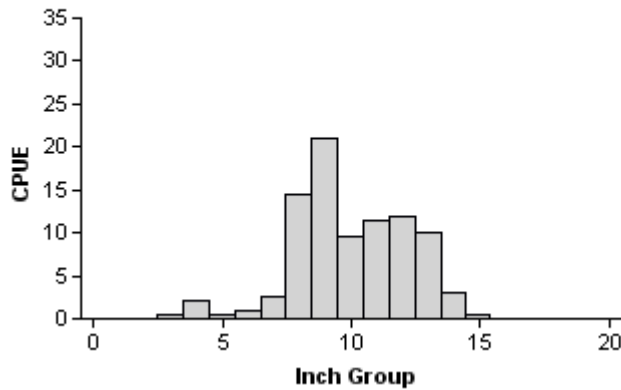


Figure 2. Number of gizzard shad caught per hour (CPUE) and population indices (RSE and N for CPUE and SE for IOV are in parentheses) for fall electrofishing surveys, O. H. Ivie Reservoir, Texas, 2004, 2005, and 2006.

## Gizzard Shad

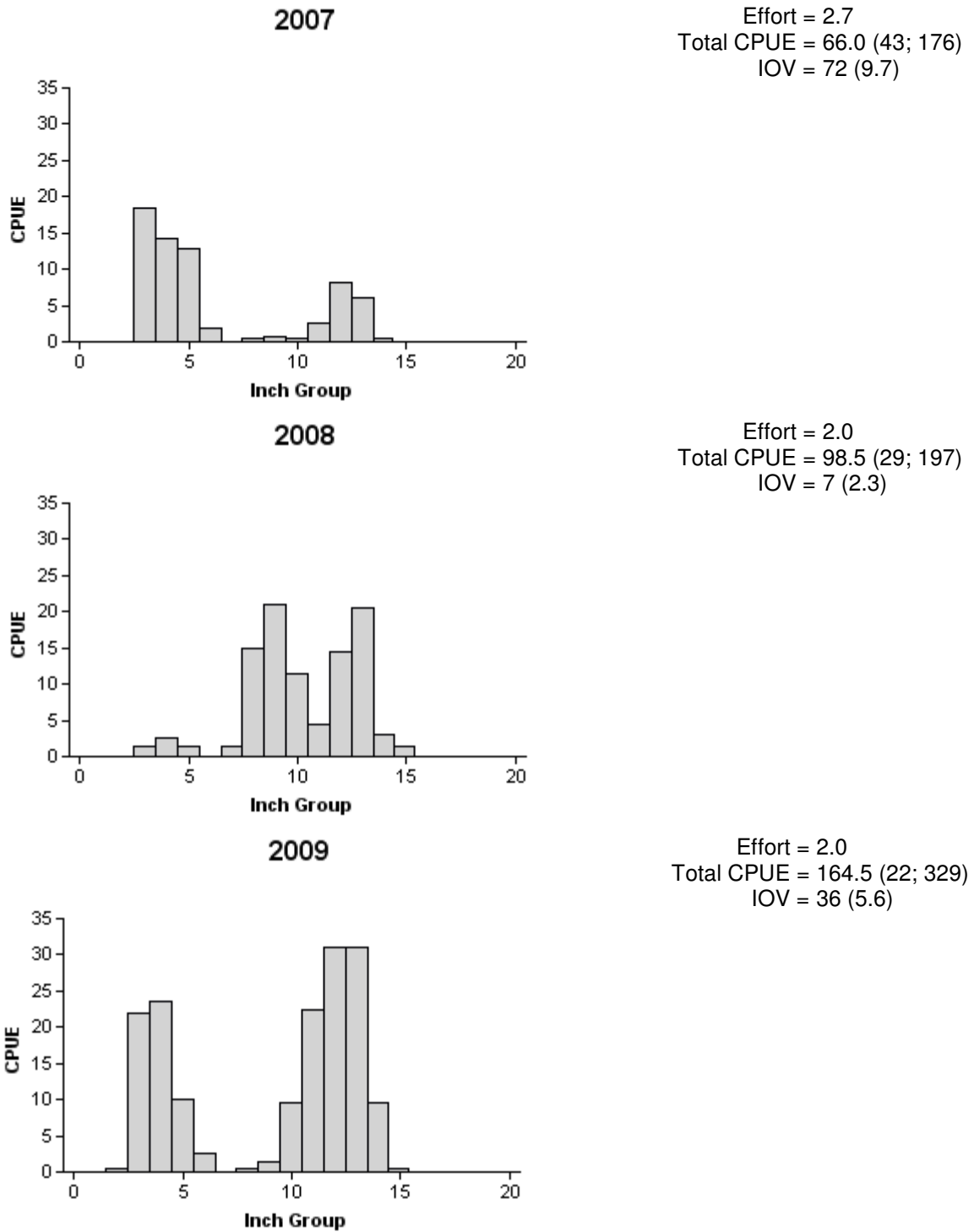
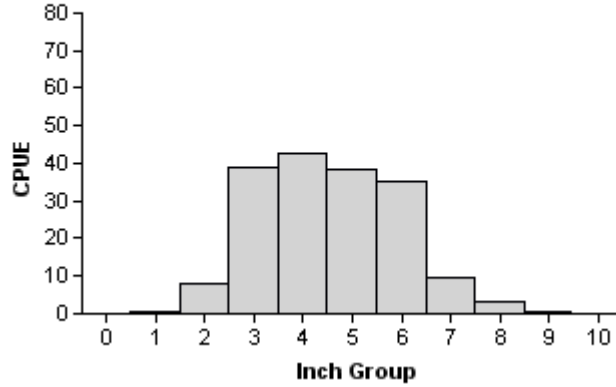


Figure 3. Number of gizzard shad caught per hour (CPUE) and population indices (RSE and N for CPUE and SE for IOV are in parentheses) for fall electrofishing surveys, O. H. Ivie Reservoir, Texas, 2007, 2008, and 2009.

## Bluegill

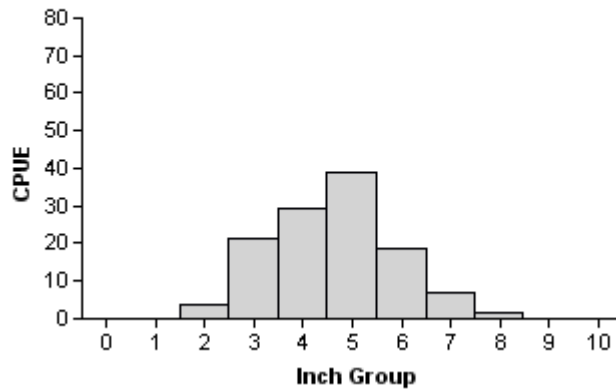
**2004**

Effort = 2.7  
Total CPUE = 177.8 (13; 474)  
PSD = 29 (3.8)



**2005**

Effort = 2.5  
Total CPUE = 120.8 (22; 302)  
PSD = 23 (3.4)



**2006**

Effort = 2.0  
Total CPUE = 216.0 (17; 432)  
PSD = 12 (2.6)

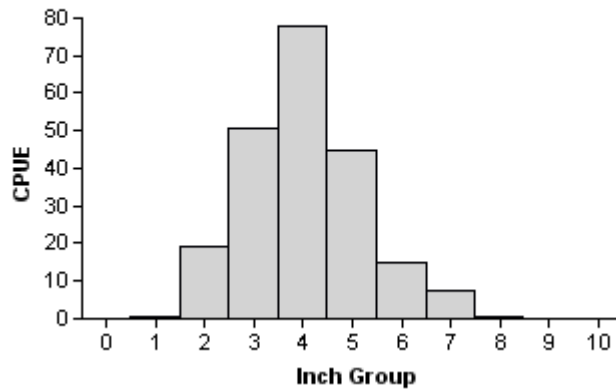
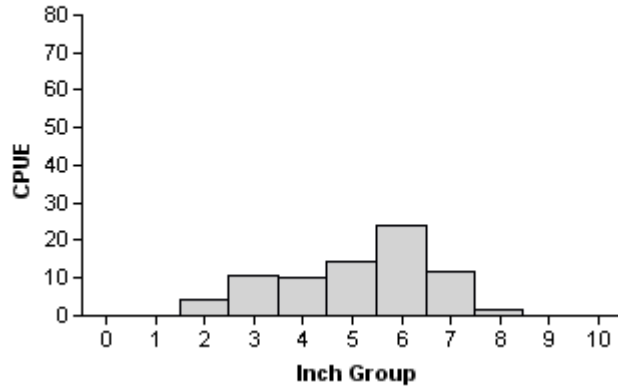


Figure 4. Number of bluegill caught per hour (CPUE) and population indices (RSE and N for CPUE and SE for size structure are in parentheses) for fall electrofishing surveys, O. H. Ivie Reservoir, Texas, 2004, 2005, and 2006.

## Bluegill

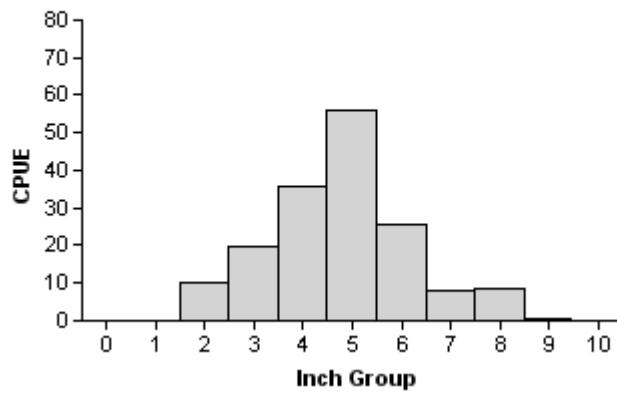
**2007**

Effort = 2.7  
Total CPUE = 76.5 (16; 204)  
PSD = 52 (4.1)



**2008**

Effort = 2.0  
Total CPUE = 163.5 (20; 327)  
PSD = 28 (2.3)



**2009**

Effort = 2.0  
Total CPUE = 63.5 (22; 127)  
PSD = 17 (4.7)

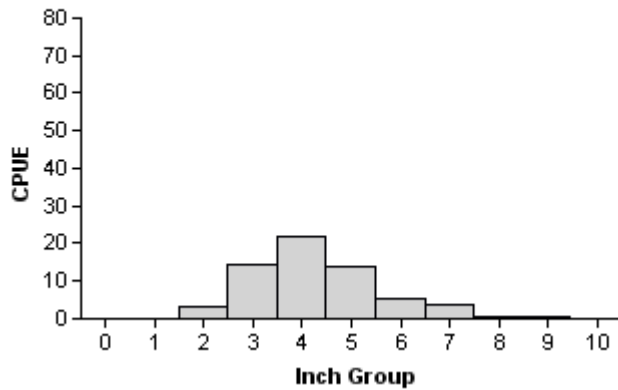


Figure 5. Number of bluegill caught per hour (CPUE) and population indices (RSE and N for CPUE and SE for size structure are in parentheses) for fall electrofishing surveys, O. H. Ivie Reservoir, Texas, 2007, 2008, and 2009.

## Bluegill

Table 8. Creel survey statistics for bluegill at O. H. Ivie Reservoir from June 2006 through May 2007, June 2007 through May 2008, June 2008 through May 2009, and June 2009 through May 2010, where total catch per hour is for anglers targeting bluegill and total harvest is the estimated number of bluegill harvested by all anglers. Relative standard errors (RSE) are in parentheses.

Creel Survey Statistic	Year			
	2006/2007	2007/2008	2008/2009	2009/2010
Directed effort (h)	18.23 (112)	586.59 (79)	0.00 (NA)	1926.29 (47)
Directed effort/acre	0.00 (NA)	0.04 (79)	0.00 (NA)	0.18 (47)
Total catch per hour	0.00 (NA)	1.06 (96)	0.00 (NA)	0.96 (18)
Total harvest	375.55 (300)	627.59 (85)	70.87 (337)	540.44 (115)
Harvest/acre	0.04 (300)	0.04 (85)	0.006 (337)	0.05 (115)
Percent released	66.7	67.8	74.1	75.2

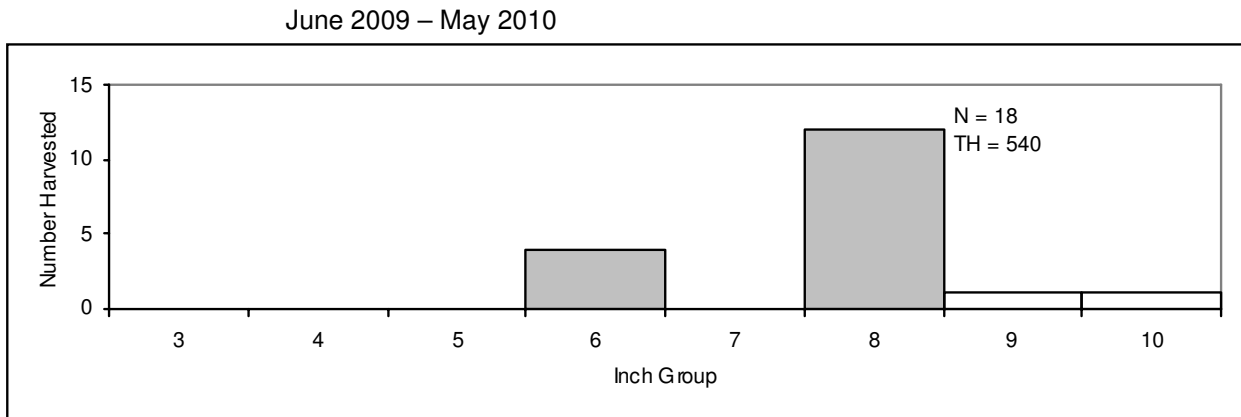
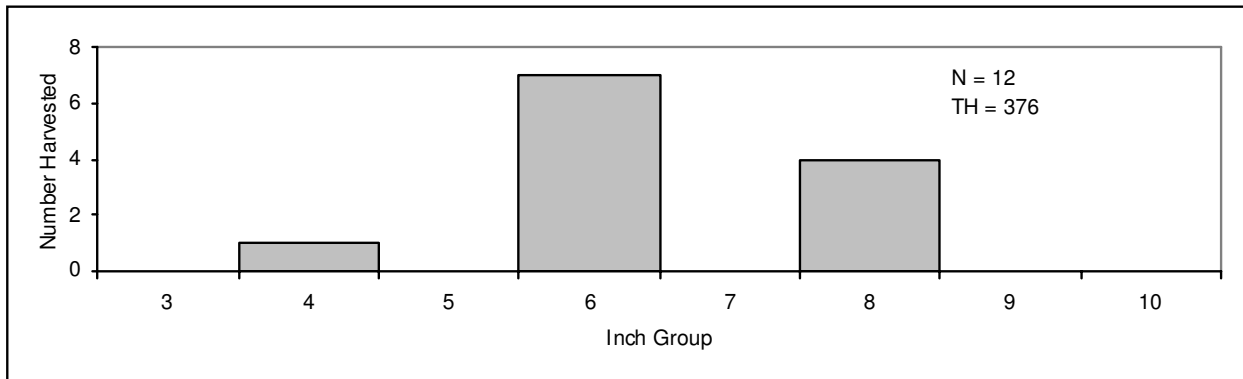


Figure 6. Length frequency of harvested bluegill observed during creel surveys at O. H. Ivie Reservoir, Texas, June 2009 through May 2010, all anglers combined. N is the number of harvested bluegill observed during creel surveys and TH is the total estimated harvest for the creel period.

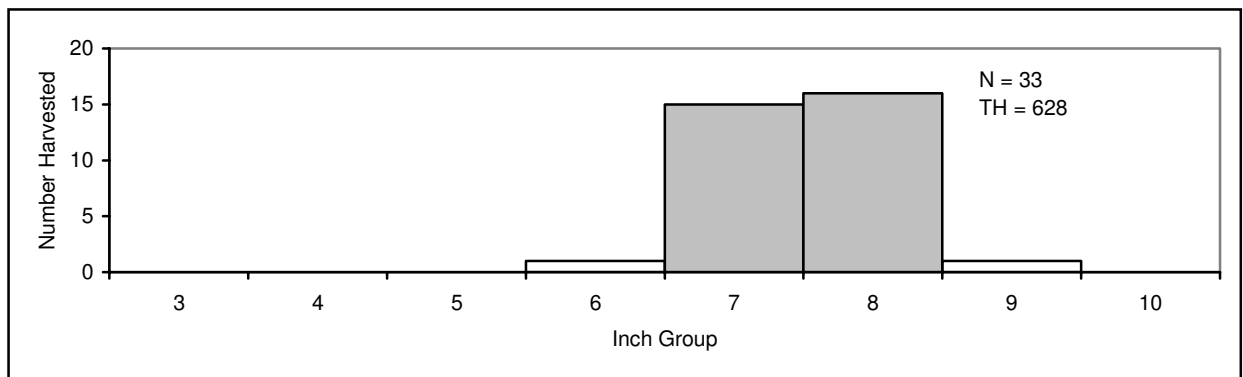


## Bluegill

June 2006 – May 2007



June 2007 – May 2008



June 2008 – May 2009

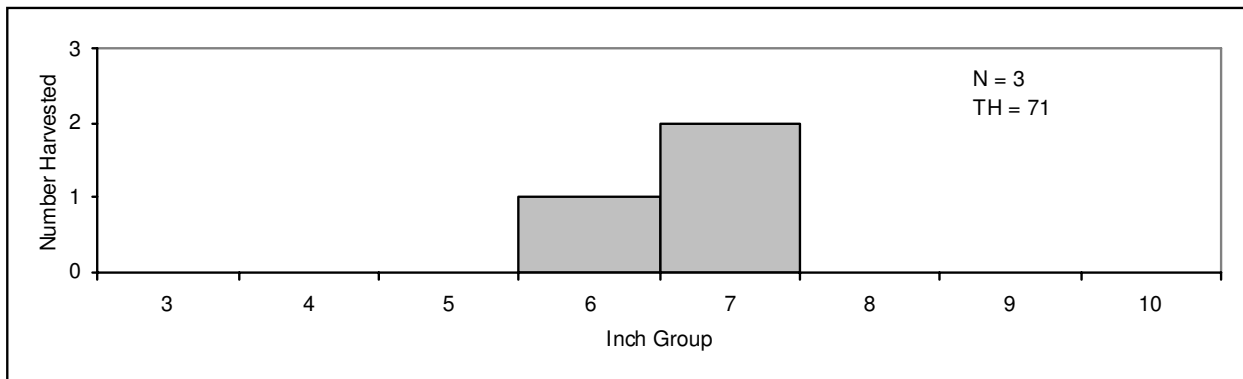
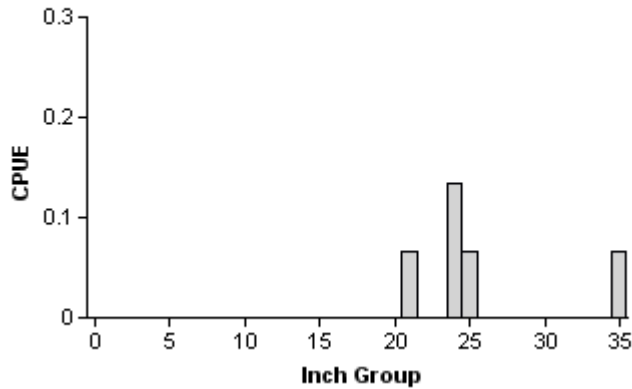


Figure 7. Length frequency of harvested bluegill observed during creel surveys at O. H. Ivie Reservoir, Texas, June 2006 through May 2007, June 2007 through May 2008, and June 2008 through May 2009, all anglers combined. N is the number of harvested bluegill observed during creel surveys and TH is the total estimated harvest for the creel period.

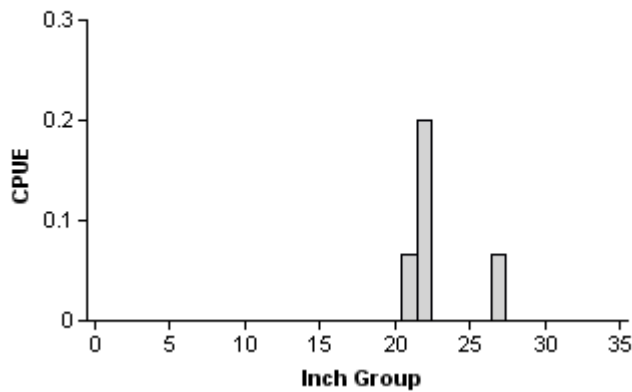
## Blue Catfish

2002



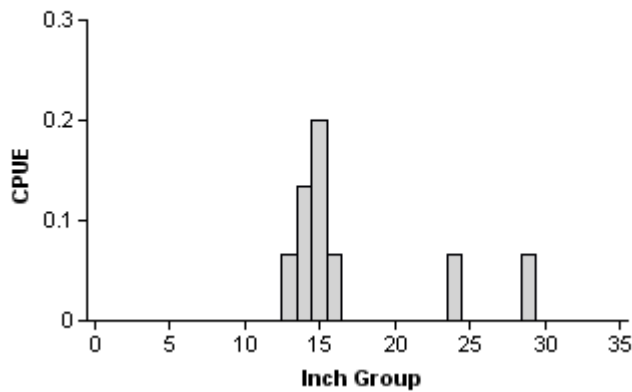
Effort = 15.0  
Total CPUE = 0.3 (56; 5)  
Stock CPUE = 0.3 (56; 5)  
PSD = 100 (0.0)

2006



Effort = 15.0  
Total CPUE = 0.3 (48; 5)  
Stock CPUE = 0.3 (48; 5)  
PSD = 100 (0.0)

2010



Effort = 15.0  
Total CPUE = 0.6 (36; 9)  
Stock CPUE = 0.6 (36; 9)  
PSD = 22 (15.6)

Figure 8. Number of blue catfish caught per net night (CPUE) and population indices (RSE and N for CPUE and SE for size structure are in parentheses) for spring gill net surveys, O. H. Ivie Reservoir, Texas, 2002, 2006, and 2010.

## Channel Catfish

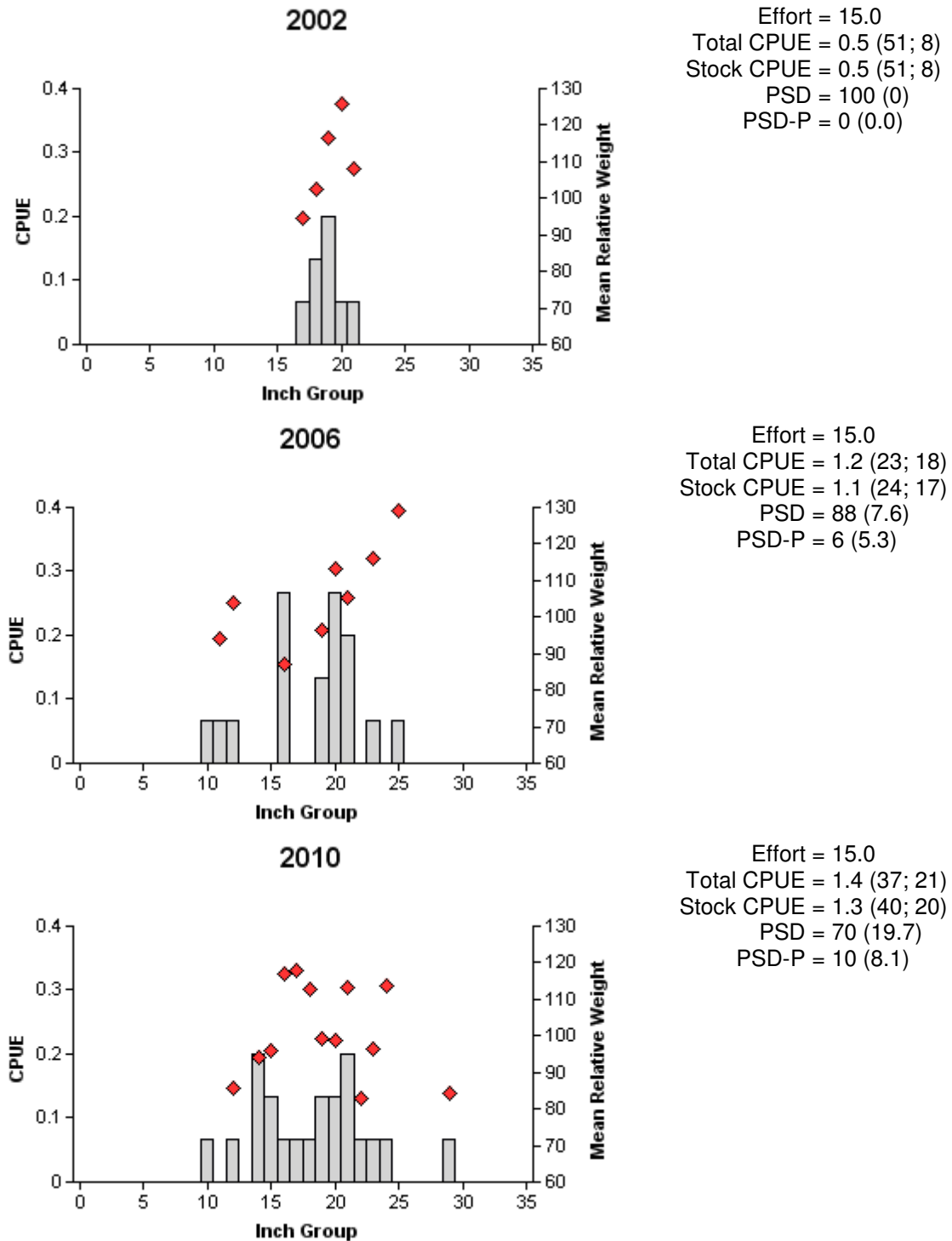


Figure 9. Number of channel catfish caught per net night (CPUE, bars), mean relative weight (diamonds), and population indices (RSE and N for CPUE and SE for size structure are in parentheses) for spring gill net surveys, O. H. Ivie Reservoir, Texas, 2002, 2006, and 2010.

## Channel Catfish

Table 9. Creel survey statistics for channel catfish at O. H. Ivie Reservoir from June 2006 through May 2007, June 2007 through May 2008, June 2008 through May 2009, and June 2009 through May 2010, 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			
	2006/2007	2007/2008	2008/2009	2009/2010
Directed effort (h)	7,612.05 (42)	1,175.79 (54)	2,833.78 (36)	571.06 (77)
Directed effort/acre	0.73 (42)	0.08 (54)	0.22 (36)	0.05 (77)
Total catch per hour	0.52 (76)	0.39 (41)	0.23 (77)	0.44 (56)
Total harvest	4,290.98 (59)	1306.31 (76)	543.75 (105)	272.06 (209)
Harvest/acre	0.41 (59)	0.09 (76)	0.40 (105)	0.03 (209)
Percent legal released	5.6	8.3	20.5	7.3

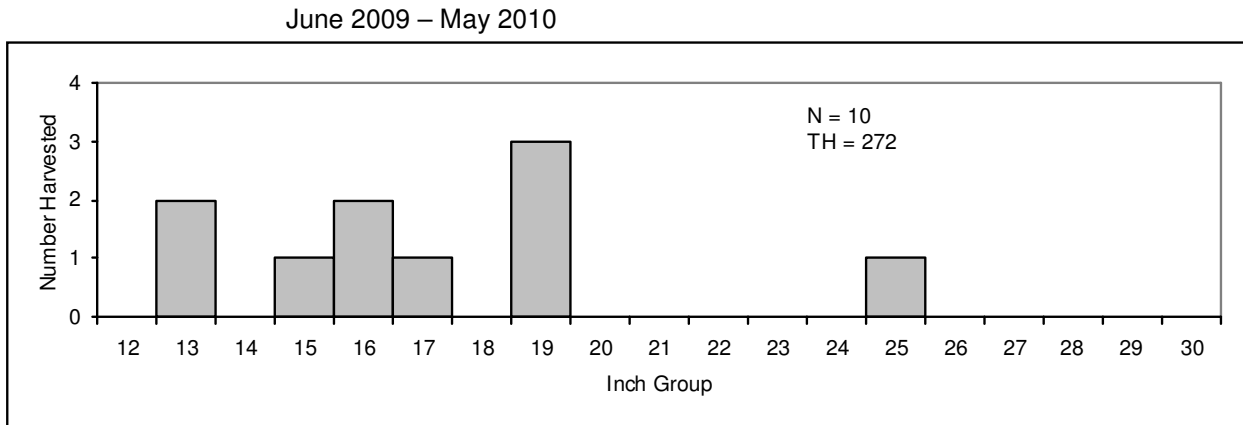
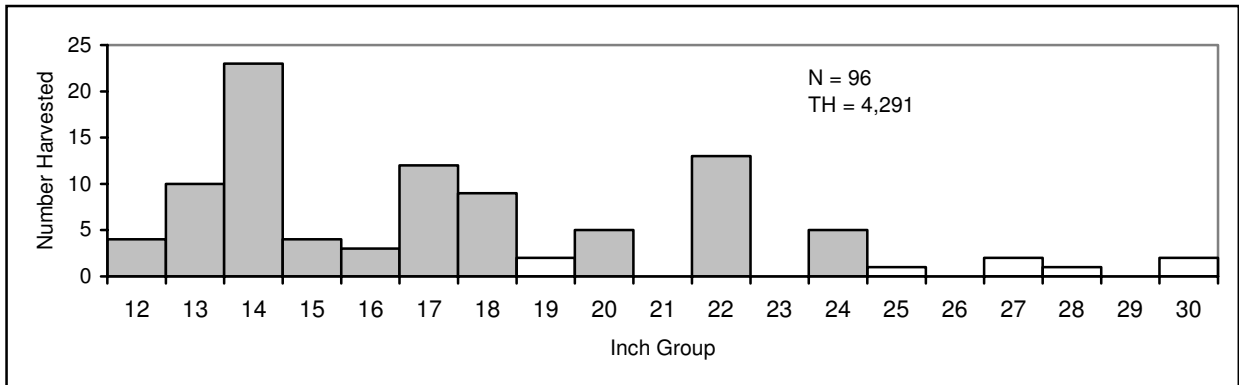


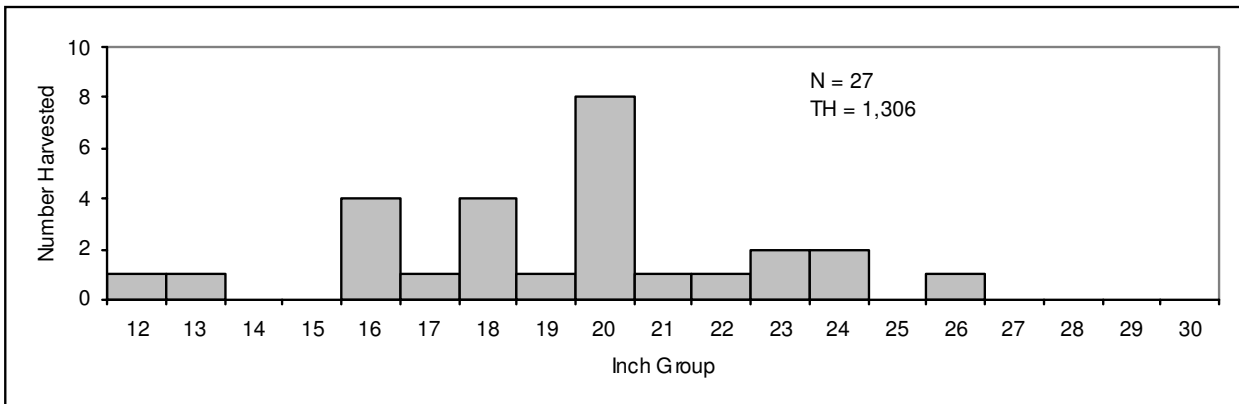
Figure 10. Length frequency of harvested channel catfish observed during creel surveys at O. H. Ivie Reservoir, Texas, June 2009 through May 2010, all anglers combined. N is the number of harvested channel catfish observed during creel surveys and TH is the total estimated harvest for the creel period.

## Channel Catfish

June 2006 – May 2007



June 2007 – May 2008



June 2008 – May 2009

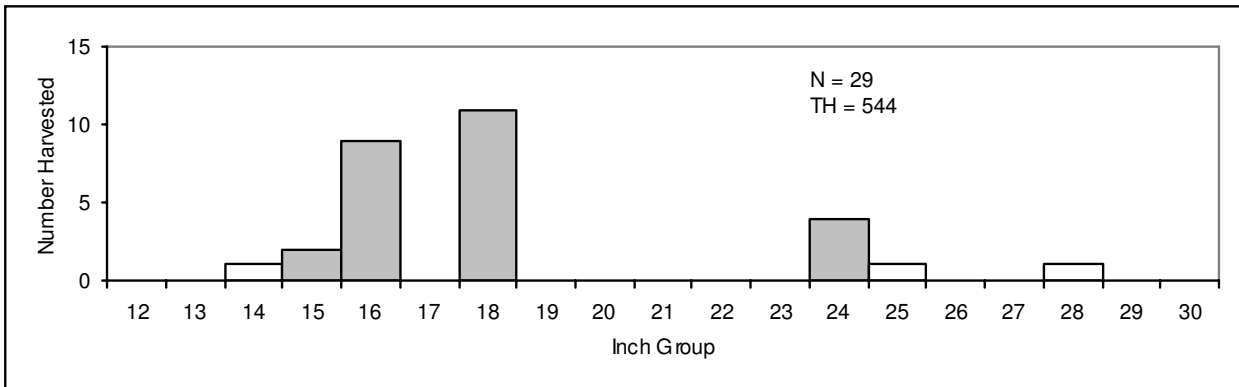
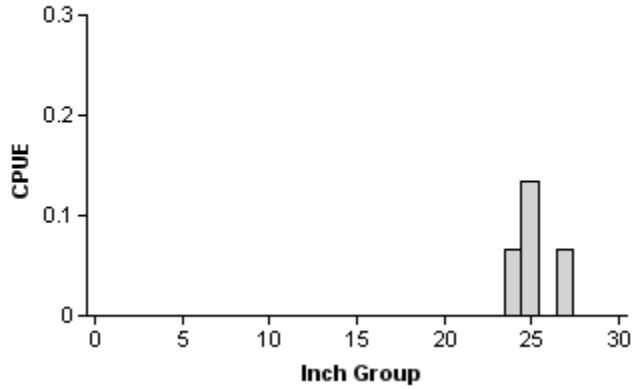


Figure 11. Length frequency of harvested channel catfish observed during creel surveys at O. H. Ivie Reservoir, Texas, June 2006 through May 2007, June 2007 through May 2008, and June 2008 through May 2009, all anglers combined. N is the number of harvested channel catfish observed during creel surveys and TH is the total estimated harvest for the creel period.

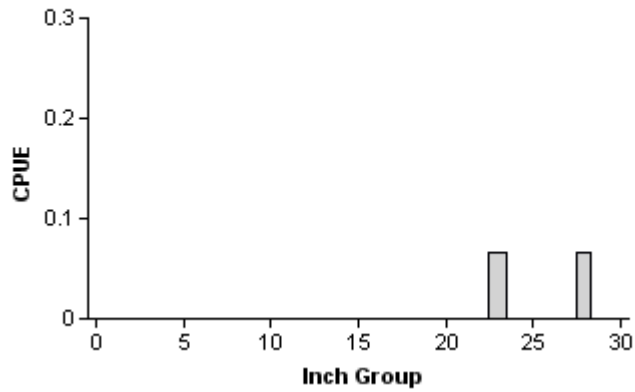
## Flathead Catfish

**2002**



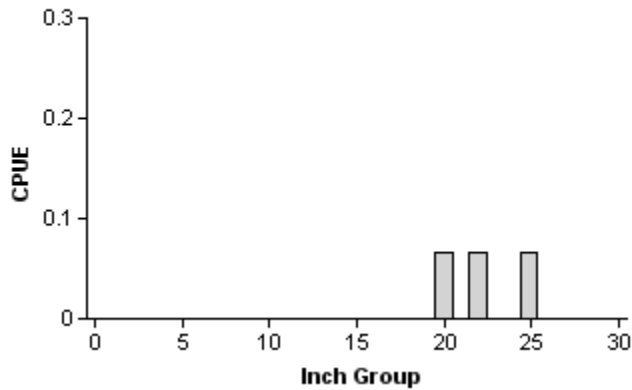
Effort = 15.0  
 Total CPUE = 0.3 (57; 4)  
 Stock CPUE = 0.3 (57; 4)  
 PSD = 100 (0)  
 PSD-P = 0 (0)

**2006**



Effort = 15.0  
 Total CPUE = 0.1 (100; 2)  
 Stock CPUE = 0.1 (100; 2)  
 PSD = 100 (0)  
 PSD-P = 50 (0)

**2010**



Effort = 15.0  
 Total CPUE = 0.2 (53; 3)  
 Stock CPUE = 0.2 (53; 3)  
 PSD = 100 (0)  
 PSD-P = 0 (0)

Figure 12. Number of flathead catfish caught per net night (CPUE) and population indices (RSE and N for CPUE and SE for size structure are in parentheses) for spring gill net surveys, O. H. Ivie Reservoir, Texas, 2002, 2006, and 2010.

## White Bass

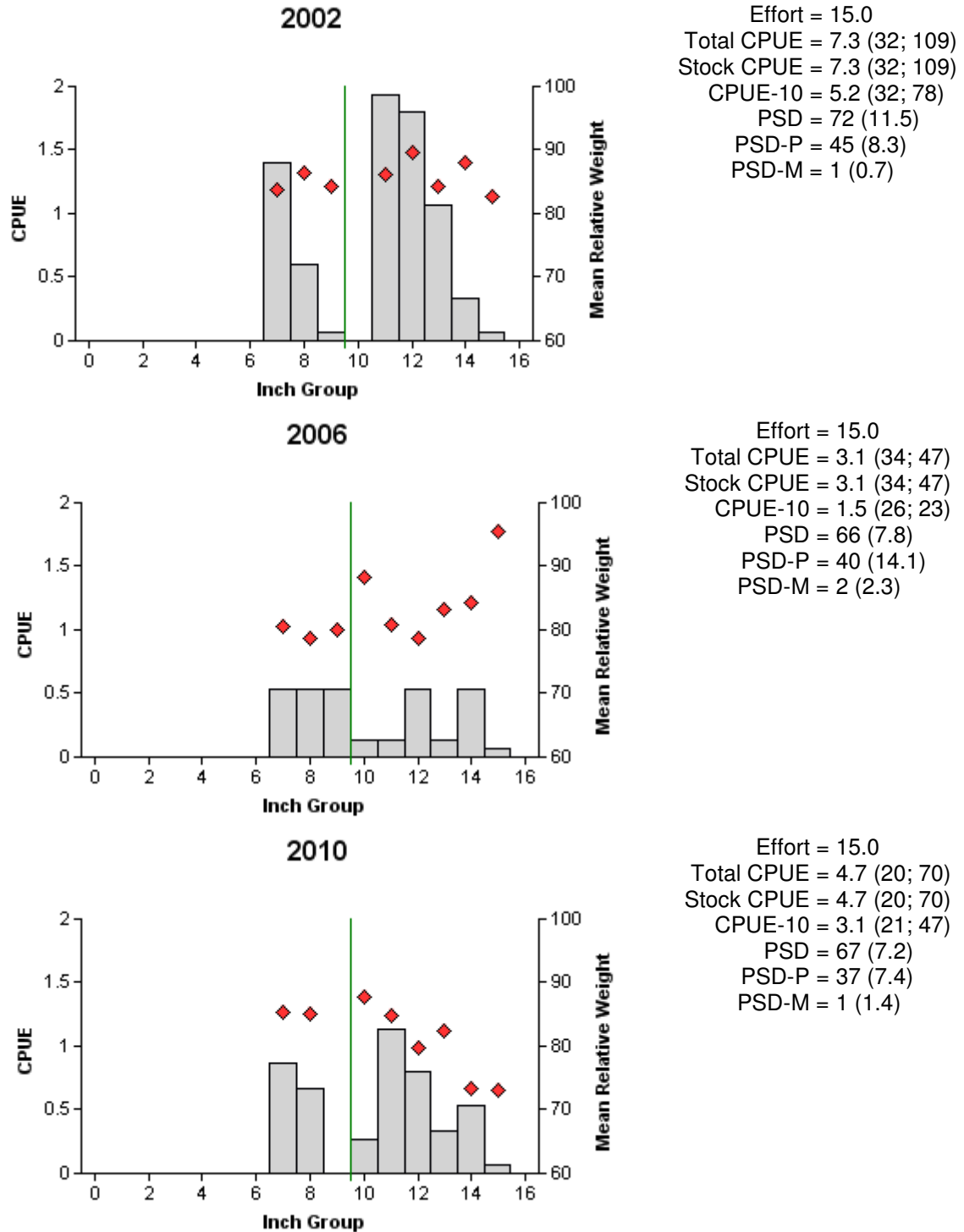


Figure 13. Number of white bass caught per net night (CPUE, bars), mean relative weight (diamonds), and population indices (RSE and N for CPUE and SE for size structure are in parentheses) for spring gill net surveys, O. H. Ivie Reservoir, Texas, 2002, 2006, and 2010. Vertical line represents the minimum length limit.

## White Bass

Table 10. Creel survey statistics for white bass at O. H. Ivie Reservoir from June 2006 through May 2007, June 2007 through May 2008, June 2008 through May 2009, and June 2009 through May 2010, 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			
	2006/2007	2007/2008	2008/2009	2009/2010
Directed effort (h)	2,626.52 (43)	9,591.34 (24)	3,439.09 (32)	4,898.44 (31)
Directed effort/acre	0.25 (43)	0.66 (24)	0.27 (32)	0.42 (31)
Total catch per hour	1.37 (67)	1.20 (54)	2.17 (36)	1.02 (87)
Total harvest	5,194.70 (49)	7,268.81 (45)	4,527.47 (36)	10,748.38 (65)
Harvest/acre	0.49 (49)	0.50 (45)	0.36 (36)	1.02 (65)
Percent legal released	27.2	20.4	61.6	8.3

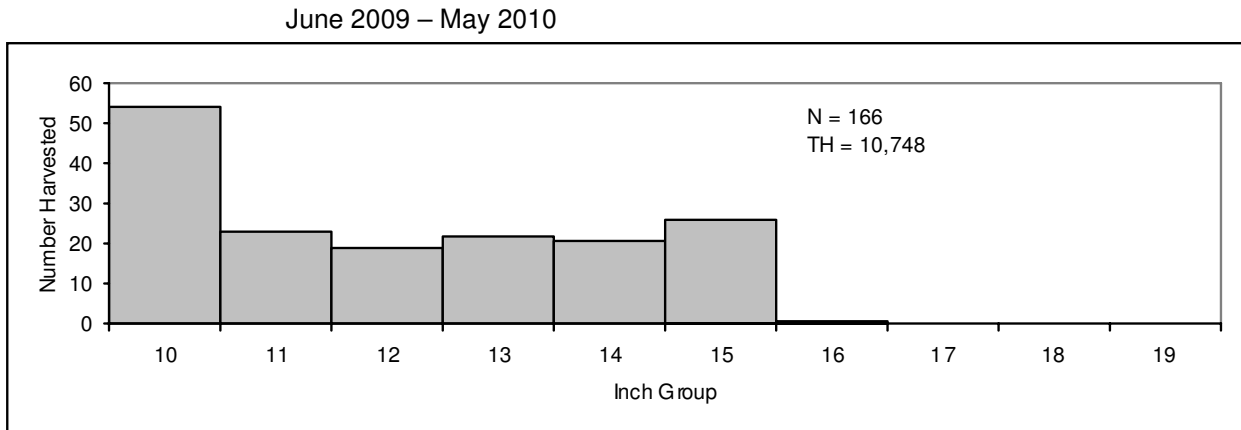
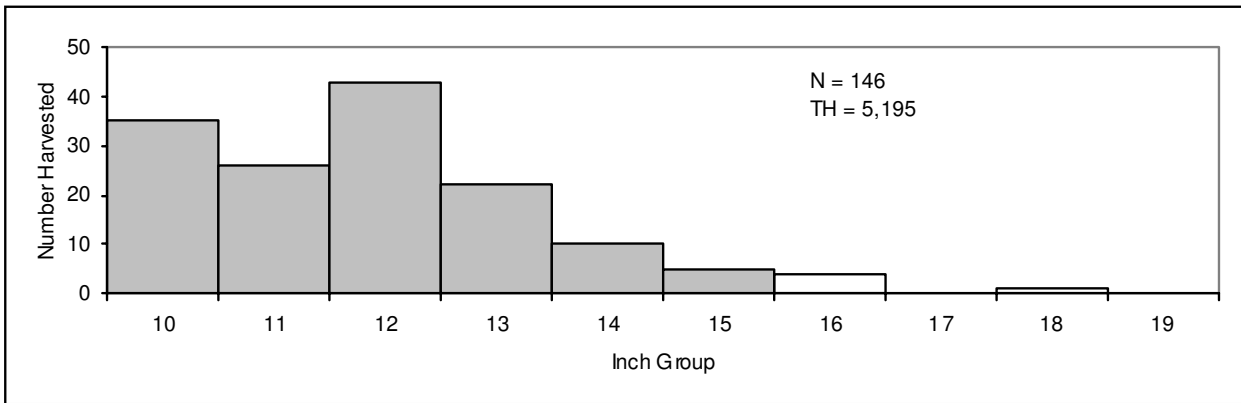


Figure 14. Length frequency of harvested white bass observed during creel surveys at O. H. Ivie Reservoir, Texas, June 2009 through May 2010, all anglers combined. N is the number of harvested white bass observed during creel surveys, and TH is the total estimated harvest for the creel period and TH is the total estimated harvest for the creel period.

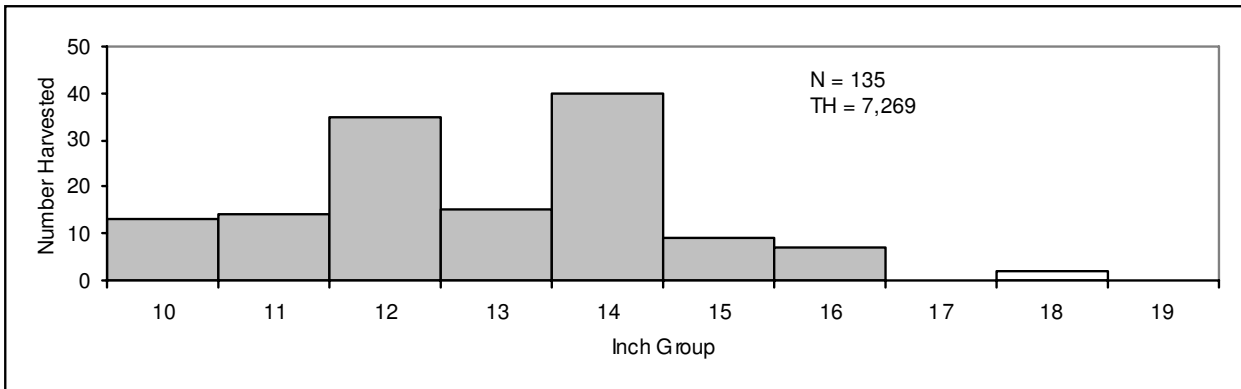


## White Bass

June 2006 – May 2007



June 2007 – May 2008



June 2008 – May 2009

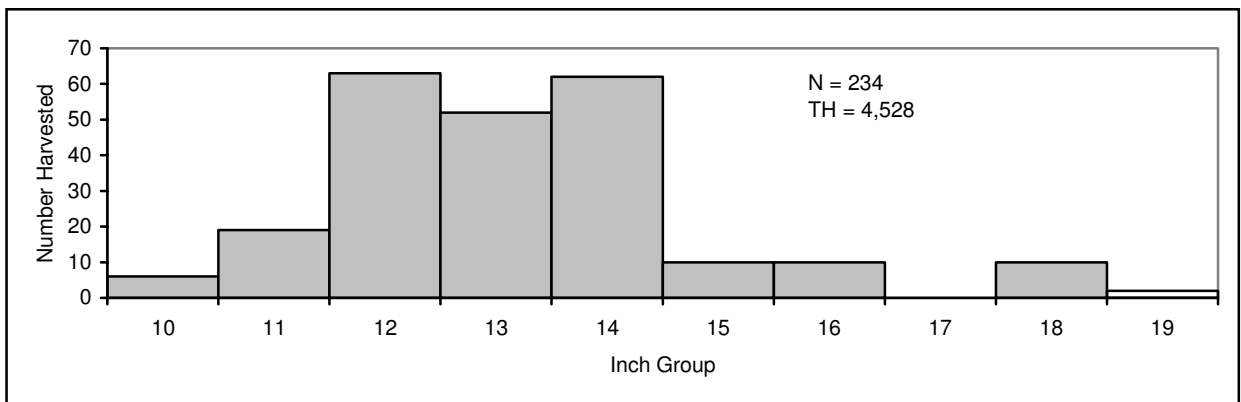


Figure 15. Length frequency of harvested white bass observed during creel surveys at O. H. Ivie Reservoir, Texas, June 2006 through May 2007, June 2007 through May 2008, and June 2008 through May 2009, all anglers combined. N is the number of harvested white bass observed during creel surveys and TH is the total estimated harvest for the creel period.

## Largemouth Bass

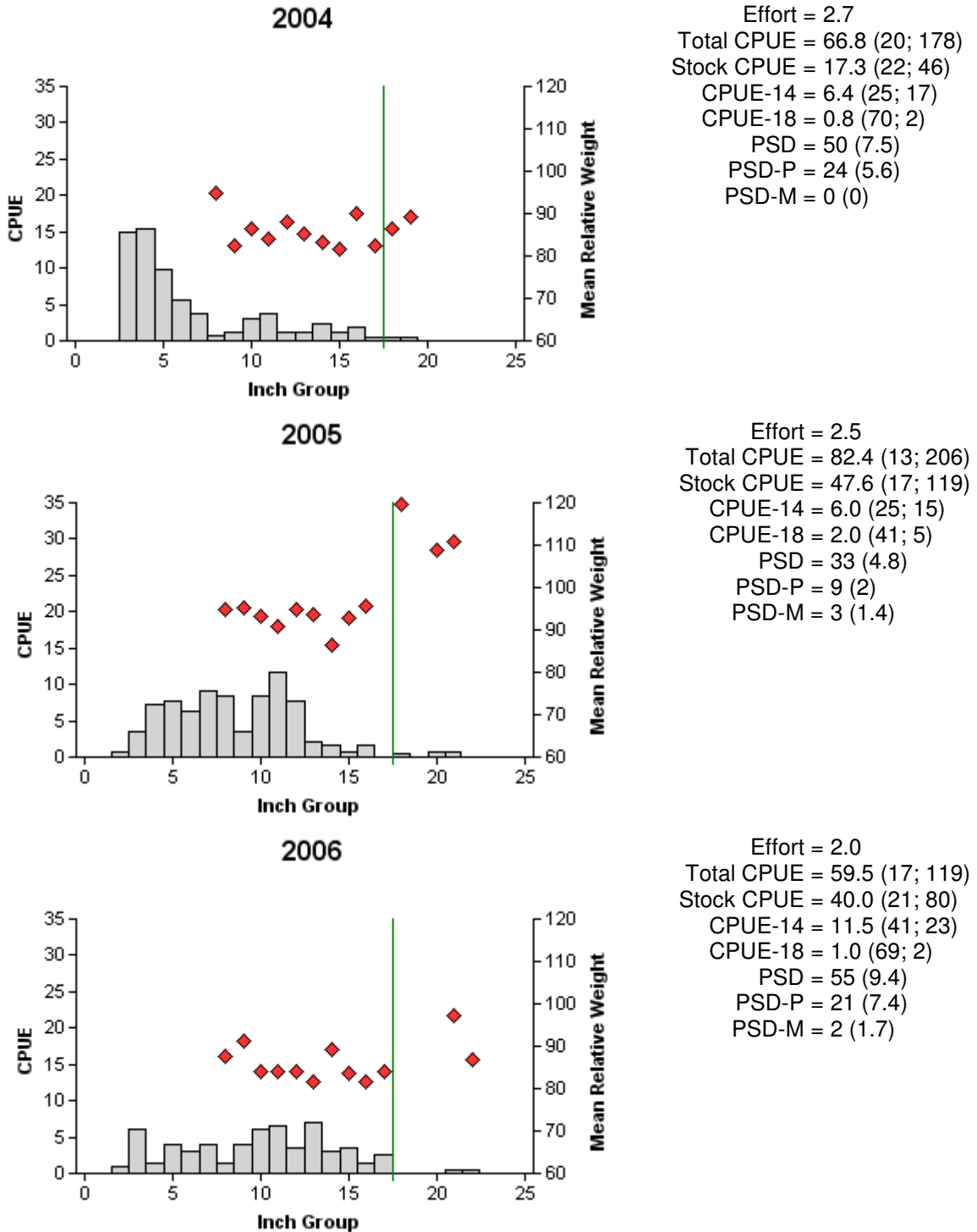
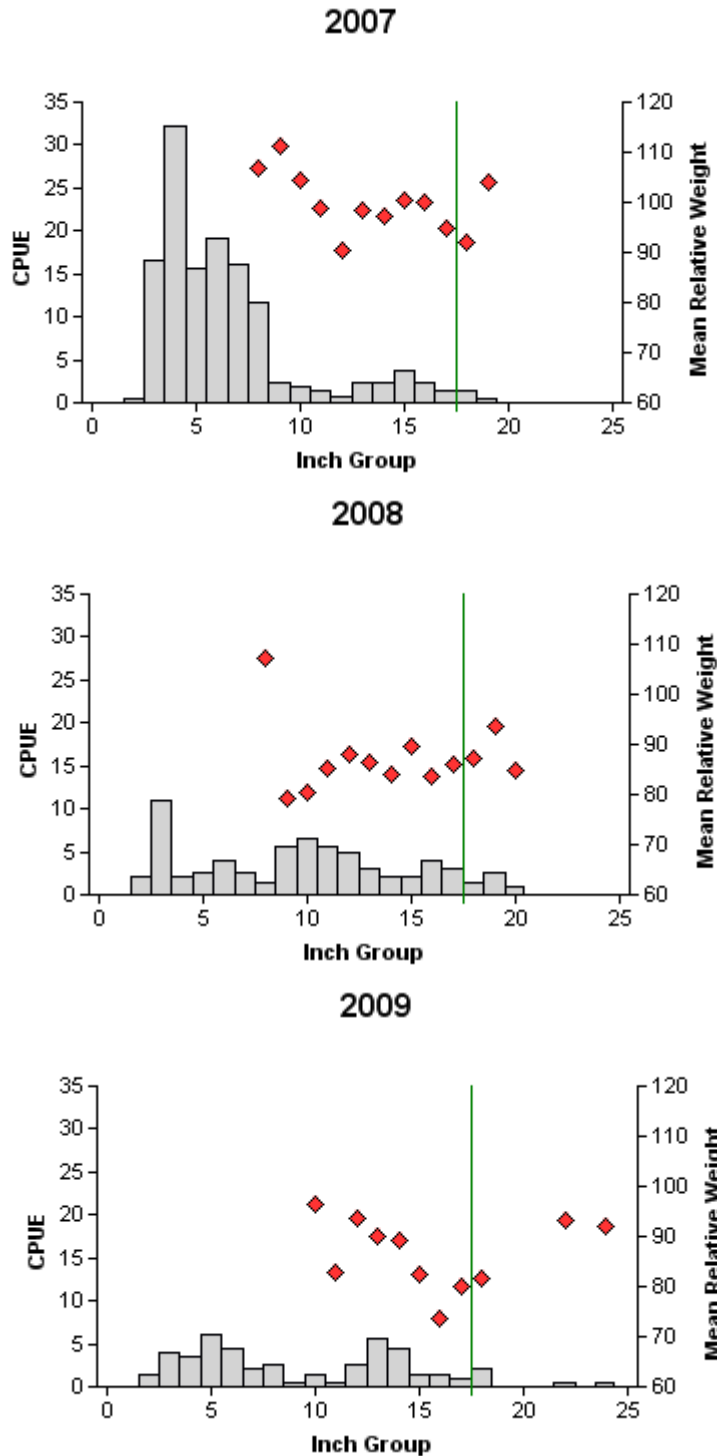


Figure 16. Number of largemouth bass caught per hour (CPUE, bars), mean relative weight (diamonds), and population indices (RSE and N for CPUE and SE for size structure are in parentheses) for fall electrofishing surveys, O. H. Ivie Reservoir, Texas, 2004, 2005, and 2006. Vertical line represents the length limit demarcation.

## Largemouth Bass



Effort = 2.7  
 Total CPUE = 132.0 (18; 352)  
 Stock CPUE = 31.9 (20; 85)  
 CPUE-14 = 11.6 (23; 31)  
 CPUE-18 = 1.9 (42; 5)  
 PSD = 46 (6.4)  
 PSD-P = 29 (6)  
 PSD-M = 0 (0)

Effort = 2.0  
 Total CPUE = 67.0 (14; 134)  
 Stock CPUE = 43.0 (15; 86)  
 CPUE-14 = 16.0 (21; 32)  
 CPUE-18 = 5.5 (32; 11)  
 PSD = 56 (4.9)  
 PSD-P = 33 (4.8)  
 PSD-M = 2 (1.5)

Effort = 2.0  
 Total CPUE = 46.0 (17; 92)  
 Stock CPUE = 24.5 (20; 49)  
 CPUE-14 = 11.5 (26; 23)  
 CPUE-18 = 3.0 (55; 6)  
 PSD = 80 (4.4)  
 PSD-P = 29 (7.2)  
 PSD-M = 4 (2.7)

Figure 17. 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, O. H. Ivie Reservoir, Texas, 2007, 2008, and 2009. Vertical line represents the length limit demarcation.

## Largemouth Bass

Table 11. Average length at capture for largemouth bass (sexes combined) ages 1 – 3 collected in electrofishing surveys, O. H. Ivie Reservoir, Texas, 2001, 2005, and 2009. Lengths are followed by the relative standard error and sample size (RSE; N).

Year	Length (inches) at capture for age		
	1	2	3
2001	9.7 (2.1; 24)	12.9 (2.0; 14)	14.4 (2.2; 11)
2005	11.3 (1.3; 69)	Low sample size	Low sample size
2009	11.1 (2.7; 31)	13.5 (2.3; 60)	15.9 (2.8; 17)

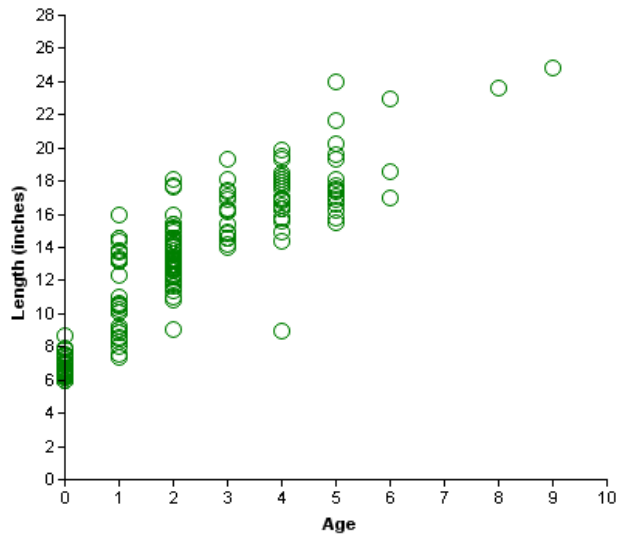


Figure 18. Length at age for largemouth bass collected by electrofishing at O. H. Ivie Reservoir, Texas, October 2009. N = 201.

Table 12. Mean relative weight and sample size (N) for largemouth bass in size-classes (inches) collected from fall electrofishing surveys, O. H. Ivie Reservoir, Texas, 1999, 2000, and 2005 through 2009.

Year	Mean relative weight and number (N) in size-classes (inches)		
	8.0 – 11.9	12.0 – 14.9	15.0 – 20.0
1999	83.2 (N = 22)	75.8 (N = 26)	77.7 (N = 21)
2000	88.8 (N = 28)	86.1 (N = 26)	84.5 (N = 22)
2005	89.7 (N = 76)	92.0 (N = 28)	99.0 (N = 7)
2006	86.8 (N = 36)	85.0 (N = 27)	82.7 (N = 15)
2007	105.6 (N = 46)	95.0 (N = 14)	98.4 (N = 25)
2008	87.8 (N = 38)	86.0 (N = 20)	87.7 (N = 28)
2009	89.5 (N = 4)	91.0 (N = 25)	79.5 (N = 12)

## Largemouth Bass

Table 13. Creel survey statistics for largemouth bass at O. H. Ivie Reservoir from June 2006 through May 2007, June 2007 through May 2008, June 2008 through May 2009, and June 2009 through May 2010, 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			
	2006/2007	2007/2008	2008/2009	2009/2010
Directed effort (h)	185,799.30 (33)	59,270.13 (26)	68,292.83 (14)	85,643.95 (18)
Tournament effort (h)	113,844 (61.3%)	14,505 (24.5%)	39,533 (57.9)	36,817 (43.0%)
Non-tournament effort (h)	71,955 (38.7%)	44,765 (75.5%)	28,760 (42.1)	48,827 (57.0%)
Directed effort/acre	17.83 (33)	4.09 (26)	5.39 (14)	8.09 (18)
Total catch per hour	0.66 (9)	0.24 (22)	0.51 (12)	0.33 (12)
Total harvest	17,959.03 (38)	3,223.42 (37)	4,995.73 (28)	5,379.95 (54)
Harvest/acre	1.72 (38)	0.22 (37)	0.39 (28)	0.51 (54)
Percent legal released	89.2	78.9	86.6	79.8

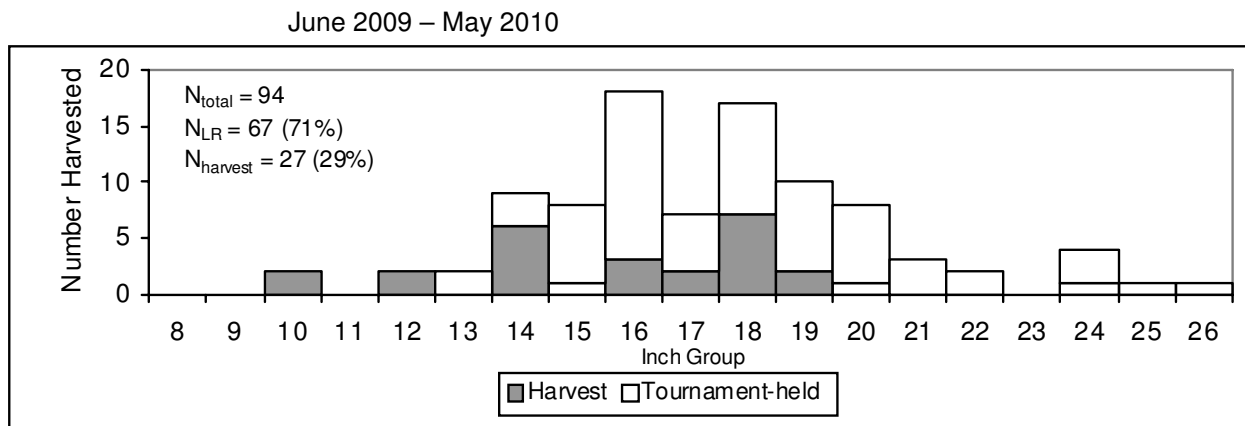


Figure 19. Length frequency of harvested largemouth bass observed during creel surveys at O. H. Ivie Reservoir, Texas, June 2009 through May 2010, all anglers combined.  $N_{total}$  is the total number of largemouth bass observed during the angler creel survey.  $N_{LR}$  is the number of largemouth bass observed during creel surveys in possession by tournament anglers and later released.  $N_{harvest}$  is the number of harvested largemouth bass observed during creel surveys.

## Largemouth Bass

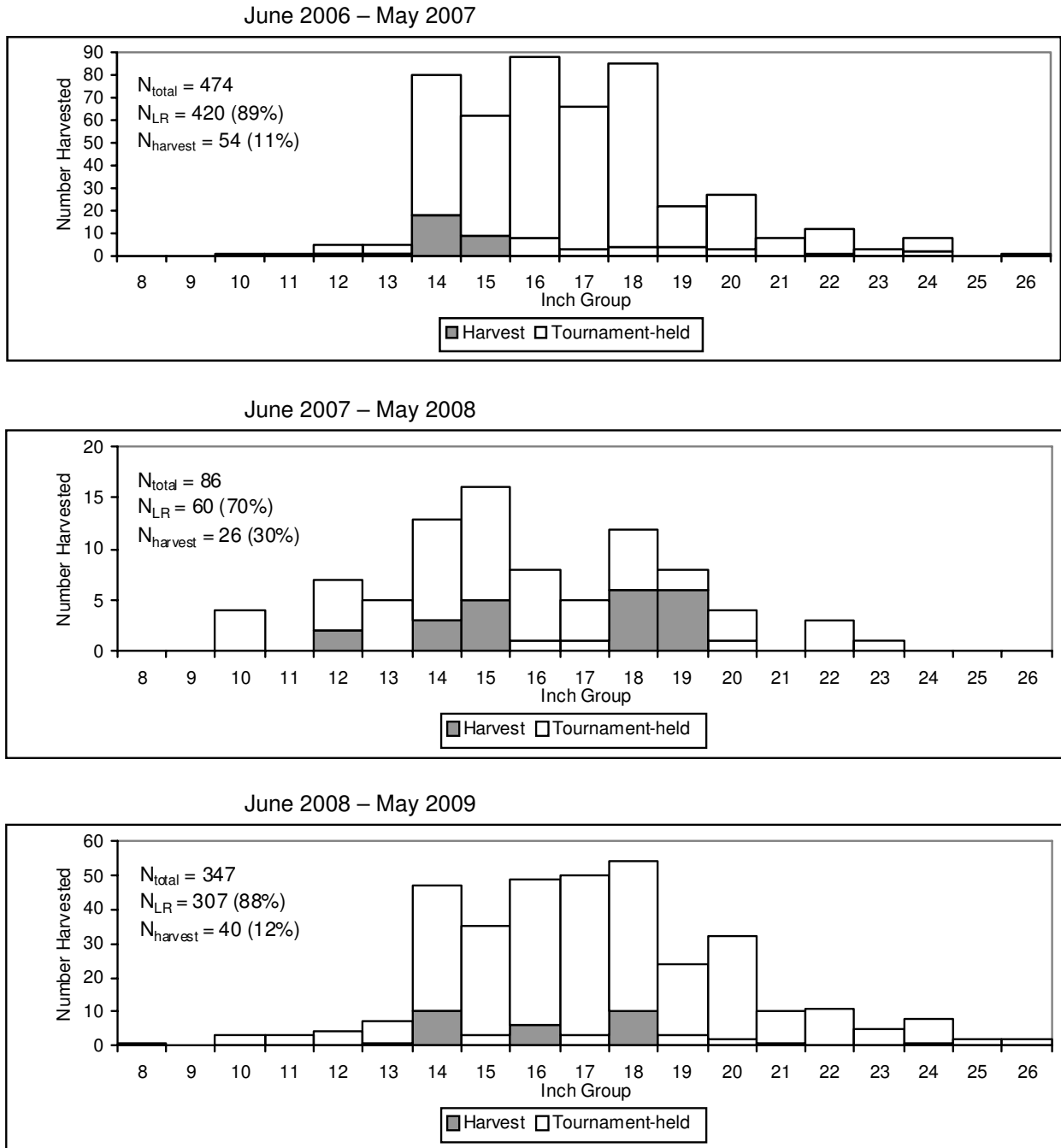


Figure 20. Length frequency of harvested largemouth bass observed during creel surveys at O. H. Ivie Reservoir, Texas, June 2006 through May 2007, June 2007 through May 2008, and June 2008 through May 2009, all anglers combined.  $N_{\text{total}}$  is the total number of largemouth bass observed during the angler creel survey.  $N_{\text{LR}}$  is the number of largemouth bass observed during creel surveys in possession by tournament anglers and later released.  $N_{\text{harvest}}$  is the number of harvested largemouth bass observed during creel surveys.

## White Crappie

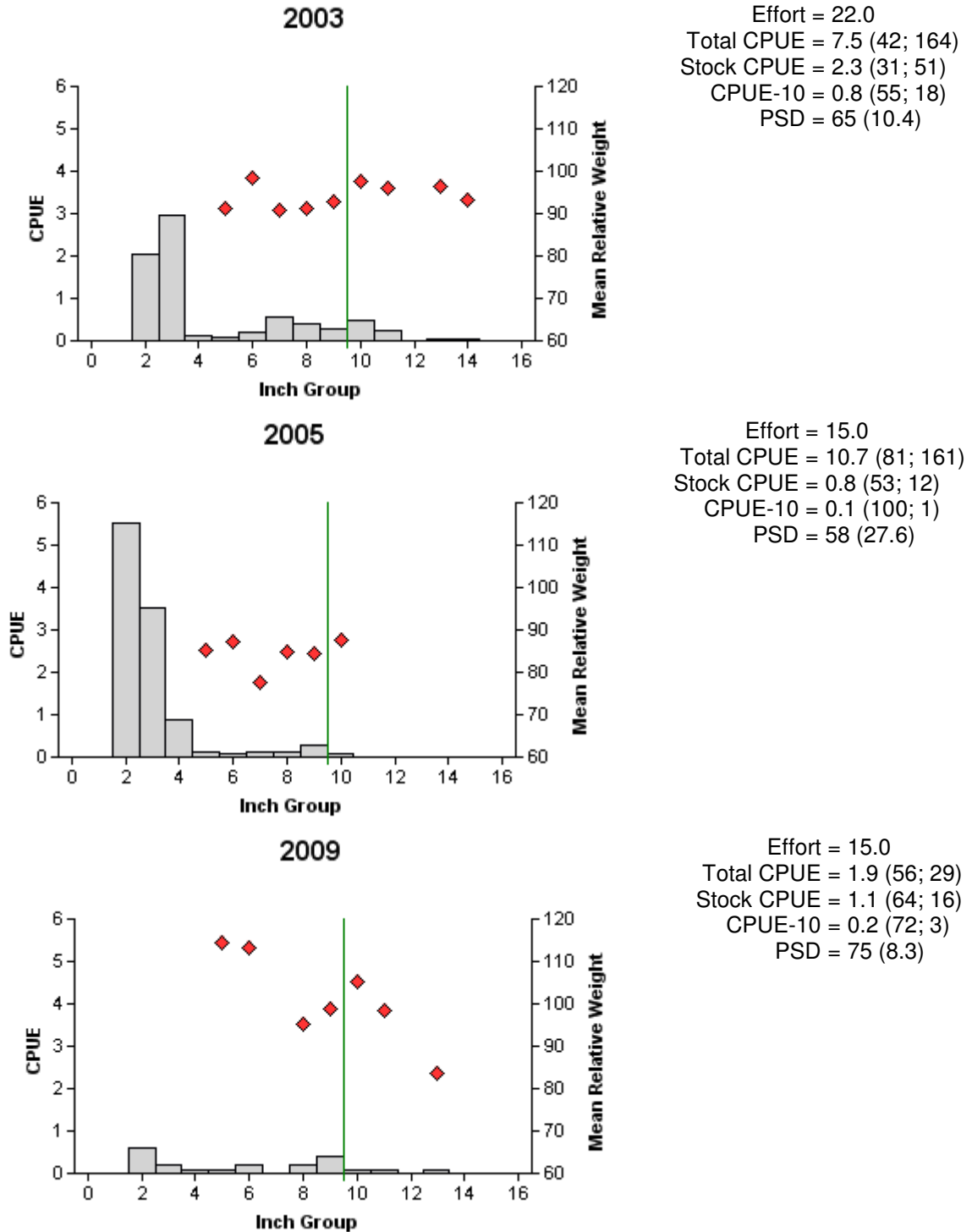


Figure 21. Number of white crappie caught per net night (CPUE, bars), mean relative weight (diamonds), and population indices (RSE and N for CPUE and SE for size structure are in parentheses) for fall trap netting surveys, O. H. Ivie Reservoir, Texas, 2003, 2005, and 2009. Vertical line represents the minimum length limit.

## White Crappie

Table 14. Creel survey statistics for white crappie at O. H. Ivie Reservoir from June 2006 through May 2007, June 2007 through May 2008, June 2008 through May 2009, and June 2009 through May 2010, 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			
	2006/2007	2007/2008	2008/2009	2009/2010
Directed effort (h)	7,802.11 (37)	7,737.66 (27)	5,053.83 (27)	3,766.74 (45)
Directed effort/acre	0.75 (37)	0.53 (27)	0.39 (27)	0.36 (45)
Total catch per hour	0.14 (65)	0.30 (61)	0.35 (43)	0.64 (46)
Total harvest	467.32 (137)	1,880.12 (67)	667.64 (72)	2,874.47 (76)
Harvest/acre	0.05 (137)	0.13 (67)	0.05 (72)	0.27 (76)
Percent legal released	56.9	20.4	34.9	1.7

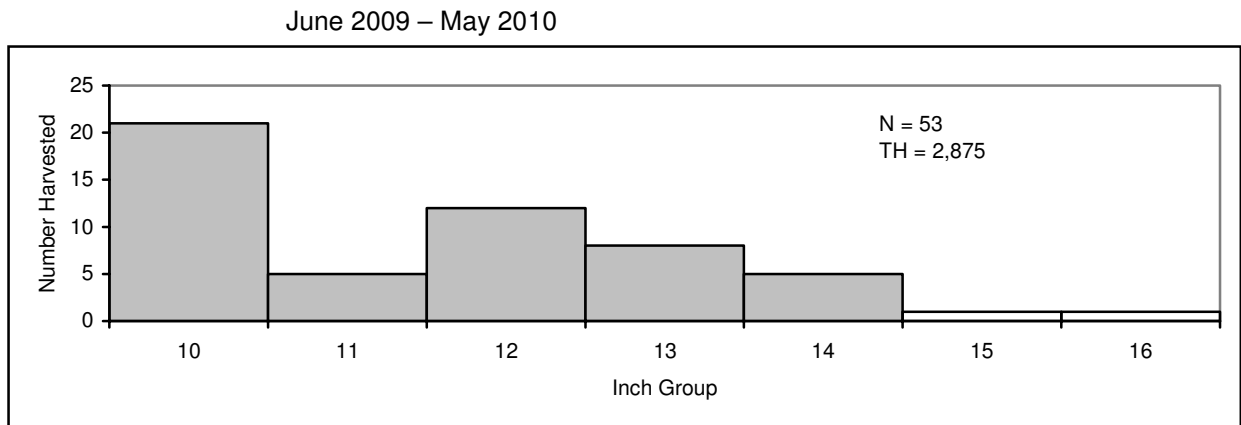
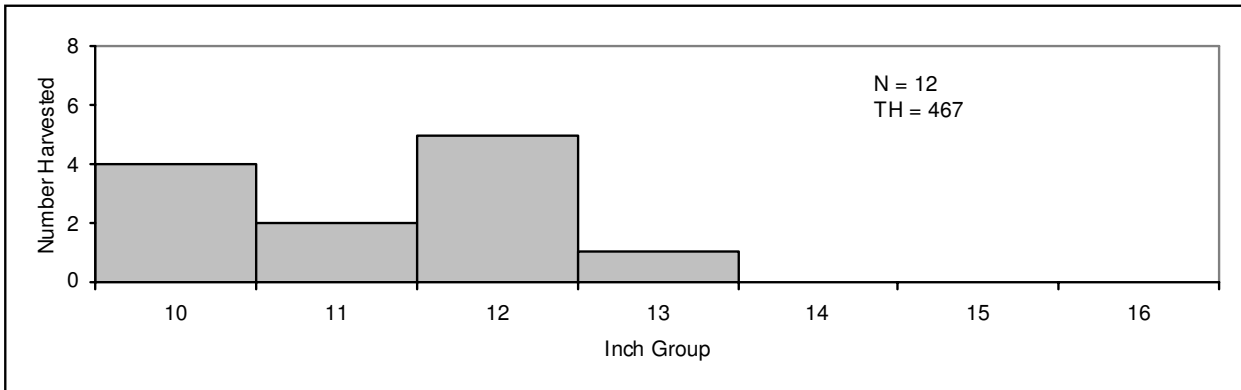


Figure 22. Length frequency of harvested white crappie observed during creel surveys at O. H. Ivie Reservoir, Texas, June 2009 through May 2010, all anglers combined. N is the number of harvested white crappie observed during creel surveys and TH is the total estimated harvest for the creel period.

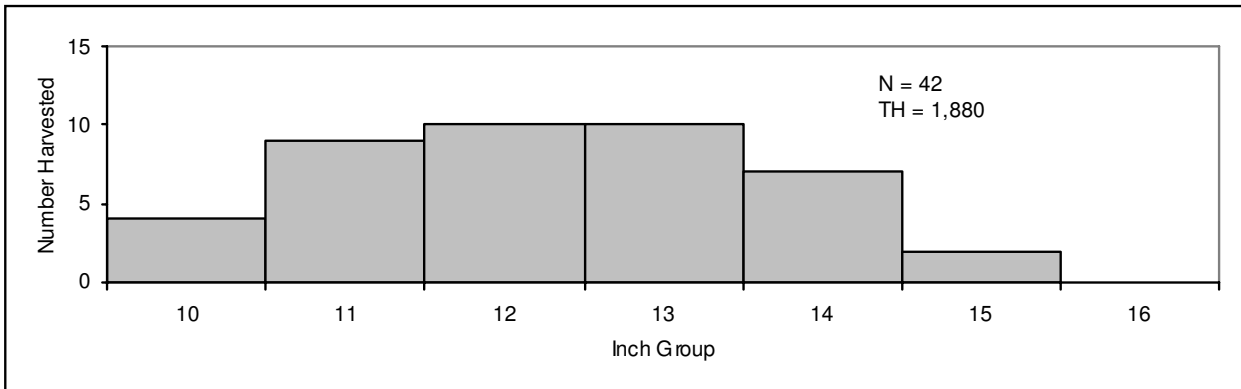


## White Crappie

June 2006 – May 2007



June 2007 – May 2008



June 2008 – May 2009

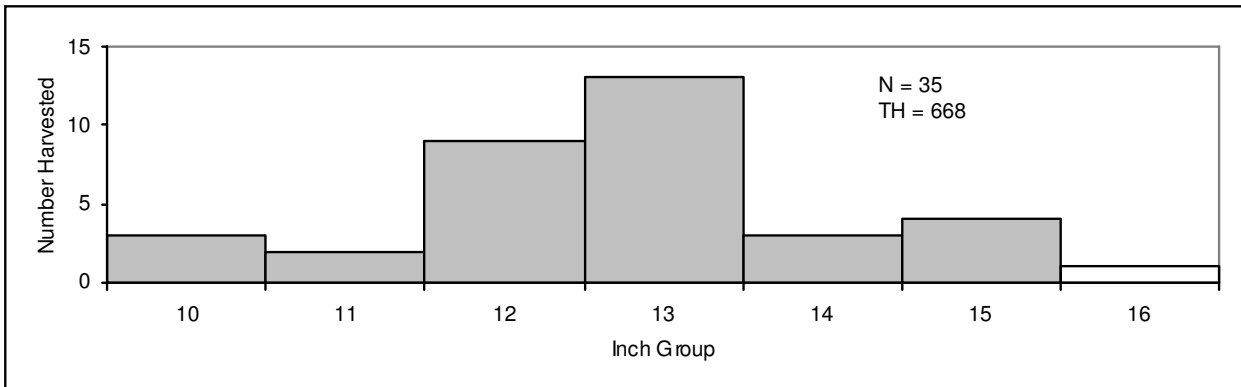


Figure 23. Length frequency of harvested white crappie observed during creel surveys at O. H. Ivie Reservoir, Texas, June 2006 through May 2007, June 2007 through May 2008, and June 2008 through May 2009, all anglers combined. N is the number of harvested white crappie observed during creel surveys and TH is the total estimated harvest for the creel period.

Table 15. Proposed sampling schedule for O. H. Ivie, Texas. Gill netting surveys are conducted in the spring, and electrofishing and trap netting surveys are conducted in the fall. Standard survey denoted by S and additional survey denoted by A.

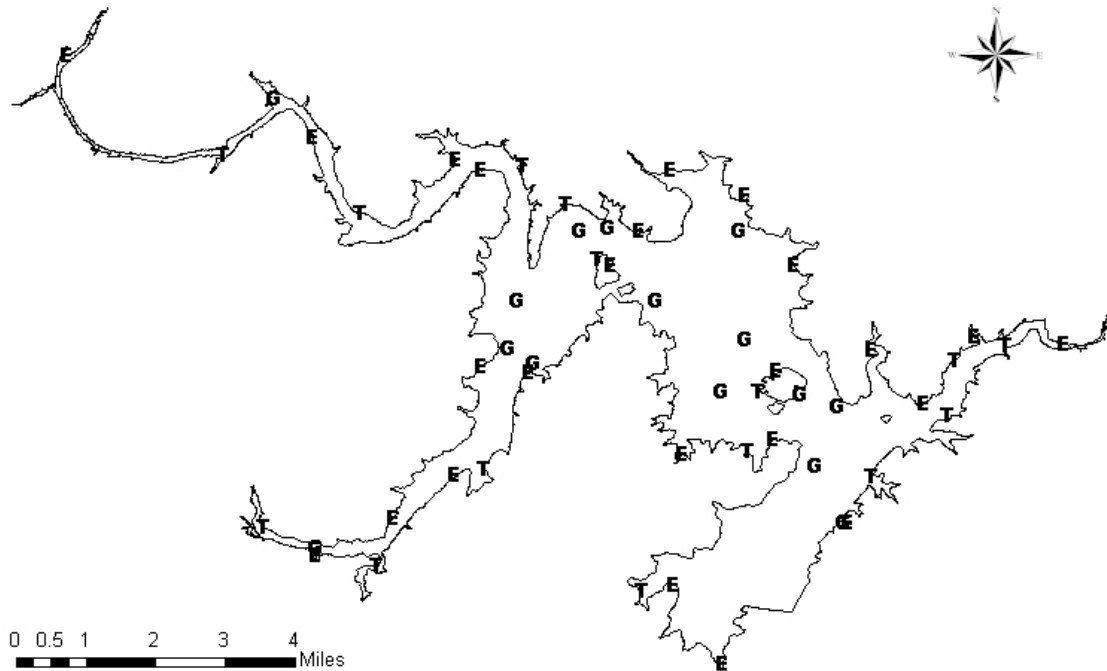
Survey Year	Electrofisher	Trap Net	Gill Net	Creel Survey	Report
Fall 2010-Spring 2011	A			S	
Fall 2011-Spring 2012	A	A		S	
Fall 2012-Spring 2013	A			S	
Fall 2013-Spring 2014	S	S	S	S	S

### APPENDIX A

Number (N) and catch rate (CPUE) of all species collected by all gear types from O. H. Ivie Reservoir, Texas, 2009-2010.

Species	Gill Netting		Trap Netting		Electrofishing	
	N	CPUE	N	CPUE	N	CPUE
Longnose gar	29	1.93				
Gizzard shad	400	26.7	2	0.13	329	164.5
Threadfin shad					31	15.5
Common carp	75	4.9				
River carpsucker	28	1.9	1	0.07		
Smallmouth buffalo	13	0.9				
Gray redhorse	1	0.07				
Blue catfish	9	0.6				
Channel catfish	21	1.4				
Flathead catfish	3	0.2				
White bass	70	4.7				
Warmouth	1	0.07			17	8.5
Bluegill	1	0.07	241	16.07	127	63.5
Longear sunfish			12	0.8	10	5.0
Redear sunfish			2	0.13		
Smallmouth bass					1	0.5
Largemouth bass	17	1.1			92	46.0
Black crappie			3	0.2		
White crappie	12	0.8	29	1.93		
Freshwater drum	18	1.2				

## APPENDIX B



Location of sampling sites, O. H. Ivie Reservoir, Texas, 2009-2010. Trap net, gill net, and electrofishing stations are indicated by T, G, and E, respectively. Water level was approximately 21 feet below conservation pool at time of sampling and reservoir area was 10,675 acres.

## APPENDIX C

## Permian Basin Oilmans Bass Invitational Tournament Results, 2002-2010

<b>2002</b>	<b>Total # of Fish</b>	<b>Total Weight</b>	<b>Total # Teams Weighing Fish</b>	<b>Avg. Weight per Fish</b>		<b>Big Bass</b>	<b>1</b>	<b>2</b>	<b>3</b>
<b>Friday</b>	322	834.99	125	2.59			10.30	9.00	8.26
<b>Saturday</b>	208	532.7	85	2.56			10.54	9.30	8.38
<b>Combined</b>	530	1367.69	210	2.58					

<b>2003</b>	<b>Total # of Fish</b>	<b>Total Weight</b>	<b>Total # Teams Weighing Fish</b>	<b>Avg. Weight per Fish</b>		<b>Big Bass</b>	<b>1</b>	<b>2</b>	<b>3</b>
<b>Friday</b>	307	720.8	136	2.35			8.38	7.64	6.92
<b>Saturday</b>	309	824.16	112	2.67			8.98	8.42	8.28
<b>Combined</b>	616	1544.96	248	2.51					

<b>2004</b>	<b>Total # of Fish</b>	<b>Total Weight</b>	<b>Total # Teams Weighing Fish</b>	<b>Avg. Weight per Fish</b>		<b>Big Bass</b>	<b>1</b>	<b>2</b>	<b>3</b>
<b>Friday</b>	229	536.42	108	2.34			8.50	8.42	8.20
<b>Saturday</b>	187	429.85	81	2.30			7.16	6.42	6.40
<b>Combined</b>	416	966.27	189	2.32					

<b>2005</b>	<b>Total # of Fish</b>	<b>Total Weight</b>	<b>Total # Teams Weighing Fish</b>	<b>Avg. Weight per Fish</b>		<b>Big Bass</b>	<b>1</b>	<b>2</b>	<b>3</b>
<b>Friday</b>							7.72	6.23	6.17
<b>Saturday</b>							8.48	6.12	5.17
<b>Combined</b>	418	786	152	1.88					

<b>2006</b>	<b>Total # of Fish</b>	<b>Total Weight</b>	<b>Total # Teams Weighing Fish</b>	<b>Avg. Weight per Fish</b>		<b>Big Bass</b>	<b>1</b>	<b>2</b>	<b>3</b>
<b>Friday</b>	430	974	179	2.27			9.46	8.66	7.88
<b>Saturday</b>	216	541	80	2.50			8.41	8.29	7.66
<b>Combined</b>	645	1514	179	2.35					

**Appendix C  
(Cont.)**

<b>2007</b>	<b>Total # of Fish</b>	<b>Total Weight</b>	<b>Total # Teams Weighing Fish</b>	<b>Avg. Weight per Fish</b>		<b>Big Bass</b>	<b>1</b>	<b>2</b>	<b>3</b>
<b>Friday</b>	409	1079	162	2.64			11.19	10.36	9.10
<b>Saturday</b>	198	510	78	2.58			9.05	8.33	8.01
<b>Combined</b>	607	1589	240	2.62					

<b>2008</b>	<b>Total # of Fish</b>	<b>Total Weight</b>	<b>Total # Teams Weighing Fish</b>	<b>Avg. Weight per Fish</b>		<b>Big Bass</b>	<b>1</b>	<b>2</b>	<b>3</b>
<b>Friday</b>	362	1017	156	2.81			9.95	9.68	9.22
<b>Saturday</b>	259	766	102	2.96			9.73	8.66	8.31
<b>Combined</b>	621	1782	258	2.87					

<b>2009</b>	<b>Total # of Fish</b>	<b>Total Weight</b>	<b>Total # Teams Weighing Fish</b>	<b>Avg. Weight per Fish</b>		<b>Big Bass</b>	<b>1</b>	<b>2</b>	<b>3</b>
<b>Friday</b>	477	1413	170	2.96			11.46	11.30	9.85
<b>Saturday</b>	436	1400	142	3.21			10.47	9.27	8.75
<b>Combined</b>	913	2813	312	3.08					

<b>2010</b>	<b>Total # of Fish</b>	<b>Total Weight</b>	<b>Total # Teams Weighing Fish</b>	<b>Avg. Weight per Fish</b>		<b>Big Bass</b>	<b>1</b>	<b>2</b>	<b>3</b>
<b>Friday</b>	562	1734.42	186	3.09			13.34	12.42	11.83
<b>Saturday</b>	396	1343.59	116	3.39			13.83	12.38	11.08
<b>Combined</b>	958	3078.01	302	3.21					