PERFORMANCE REPORT

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FEDERAL AID PROJECT F-221-M-1

INLAND FISHERIES DIVISION MONITORING AND MANAGEMENT PROGRAM

2010 Survey Report

Proctor Reservoir

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July 31, 2011

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SURVEY AND MANAGEMENT SUMMARY

Fish populations in Proctor Reservoir were surveyed in 2008 – 2011 with electrofishing, gill nets, and low-frequency electrofishing. This report summarizes the results of the surveys and contains a management plan for the reservoir based on those findings.

- **Reservoir Description:** Proctor Reservoir is a 4,610-acre reservoir constructed on the Leon River 10 miles north of Comanche, Texas. It has a history of substantial water level fluctuations. The reservoir filled in spring of 2001 after dropping to 20 ft. below conservation level in fall 2000. Substantial flooding occurred in 2007. Water level has stayed within eight feet of conservation level since flood waters receded in late 2007. Habitat features at time of 2010-2011 sampling consisted primarily of dead brush and featureless shoreline. Boat and shoreline access were excellent.

- **Management History:** Important sport fish included largemouth bass, palmetto bass, white crappie, white bass, and channel catfish. Palmetto bass have been stocked almost every year since 1978 to maintain the population. Florida-strain largemouth bass were stocked in 2001, and a 16-inch minimum length limit was implemented in 2002 to help the drought-affected population recover.

- **Fish Community**
  - **Prey species:** Relative abundance of both gizzard shad and bluegill were very high. Additionally, size structure of both species suggested that forage for sport fishes was abundant.

  - **Catfishes:** Blue catfish were present in the reservoir but not in great numbers. The channel catfish population continued to have high relative abundance and was comprised of a wide size-range of fish. Approximately 85% of sampled channel catfish were legal-harvest length.

  - **Temperate basses:** The white bass population was in excellent condition in terms of relative abundance and size distribution. Relative abundance of palmetto bass was low, but a wide size range of fish was sampled. Angling opportunities are plentiful for both white bass and palmetto bass.

  - **Largemouth bass:** Relative abundance of largemouth bass increased from previous samples, but the population was mostly comprised of small individuals. Condition of largemouth bass was good and reflected ample forage availability.

  - **White crappie:** The white crappie population has not been sampled since the 2007 survey report. At that time, the population was in excellent shape, both in terms of numbers of fish and size distribution.

- **Management Strategies:** A 16-in minimum length limit was placed on largemouth bass in 2002 to protect mature fish while the population recovered from drought. Since that time, the population has recovered and the reservoir has not dropped below 10 ft under conservation elevation. Further investigation is required to determine whether to retain the current regulation or revert to the statewide regulation. Palmetto bass should continue being stocked annually to maintain the population.

INTRODUCTION

This document is a summary of fisheries data collected from Proctor Reservoir in 2008-2011. The purpose of this 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 are presented for comparison.

Reservoir Description

Proctor Reservoir is a 4,610-acre impoundment constructed in 1963 on the Leon River. It is located in Comanche County approximately 10 miles north of the town of Comanche. The reservoir is operated and controlled by the U.S. Army Corps of Engineers. Primary water uses included flood control, water supply, and recreation. Habitat during 2010-2011 sampling consisted mainly of dead brush. There was no substantial submerged aquatic vegetation in the reservoir. Water level has been highly variable; the last major decline was from 1999 to early 2001. During this time the water level dropped to 20 ft. below conservation level. Substantial flooding occurred in 2007 and the reservoir was approximately eight feet below conservation pool by 2011 (Figure 1). Proctor Reservoir was hypereutrophic based on Carlson's Trophic State Index for Chlorophyll-*a* (TSI Chl-*a*) with a mean TSI chl-*a* of 58.36 (Texas Commission on Environmental Quality). A minor fish kill occurred in summer 2009 and might have been attributed to pesticide runoff from a local pecan orchard. Controlled access consisted of seven public boat ramps and five fishing piers. Additionally, nearly the entire bank was accessible for angling. Other descriptive characteristics for Proctor Reservoir are shown in Table 1.

Management History

Previous management strategies and actions: Management strategies and actions from the previous survey report (Farooqi and Dumont 2007) included:

1. Continue stocking palmetto bass annually to create and maintain angling opportunities.

   Action: Palmetto bass fingerlings were stocked at 15/acre in 2007, 2008, 2009, and 2010. A reduced stocking of 7.5/acre occurred in 2011. The reservoir did not receive a full stocking in 2011 because of decreased hatchery production.

2. Evaluate the 16-inch minimum length limit on largemouth bass with biennial fall electrofishing surveys.

   Action: Electrofishing was used to sample the largemouth bass population in 2008 and 2010. These samples complemented surveys from 2004 and 2006 to provide information pertaining to largemouth bass size structure after the new regulation was implemented. Both PSD and PSD-P of the largemouth bass population have been variable since the regulation was implemented in 2002. Similarly, CPUE-14 has been variable as well.

Harvest regulation history: Sport fishes in Proctor Reservoir are currently managed under statewide regulations with the exception of largemouth bass. The minimum length limit for largemouth bass changed from 14 inches to 16 inches in 2002 (Table 2).

Stocking history: Palmetto bass were originally stocked in 1978 and have been stocked nearly every year since then to maintain the population. Florida-strain largemouth bass were first stocked in 1979. They were last stocked in 2001 to take advantage of the abundant habitat made available when the reservoir filled after nearly three years of drought. Threadfin shad were stocked in 1984 and blue catfish were introduced in 1991. The complete stocking history is shown in Table 3.

Vegetation/habitat management history: There has been no substantial vegetation or habitat management in Proctor Reservoir.

Water Transfer: Proctor Reservoir is primarily used for flood control, municipal water supply, and recreation. There is no direct water transfer to or from Proctor Reservoir excluding localized irrigation.

METHODS

Fishes were collected by electrofishing (1.02 hours at 11 5-minute stations and 1 6-minute station), gill netting (5 net nights at 5 stations), and low-frequency electrofishing (0.50 hours at 10 3-minute stations). Catch per unit effort (CPUE) for electrofishing and low-frequency electrofishing was recorded as the number of fish caught per hour (fish/h) of actual electrofishing and, for gill nets, as the number of fish per net night (fish/nn). A shoreline habitat survey was conducted in 2010 by assessing substrate and identifying habitat type at 82 randomly selected shoreline locations. Substrate was categorized using the Wentworth scale as soft (sand, silt, and clays), pebble (particle size < 2.5-in diameter), cobble (particle size 2.5-10-in diameter), or boulder (> 10-in diameter) (Wentworth 1922). An offshore habitat survey was conducted by identifying habitat type at 136 randomly selected locations in the reservoir. Each sampling point was categorized by each substrate or habitat type present (i.e. more than one substrate or habitat type could be assigned to each point). Confidence intervals were calculated for percent occurrence of each habitat type using the percentile method from 1,000 resamples, with replacement, of the empirical data. Genetic composition was measured from 47 largemouth bass. Confidence intervals for genetic analyses were calculated using the percentile method from 1,000 resamples, with replacement, of the empirical data. All survey sites were randomly selected and all surveys were conducted according to Fishery Assessment Procedures (TPWD, Inland Fisheries Division, unpublished manual revised 2011).

Sampling statistics (CPUE for various length categories), structural indices (Proportional Size Distribution [PSD]), and condition indices (relative weight [W_r]) were calculated for target fishes according to Anderson and Neumann (1996). Size structure index terminology was modified according to Guy et al. (2007). Index of vulnerability (IOV) was calculated for gizzard shad (DiCenzo et al. 1996). Standard error (SE) was calculated for IOV and PSD estimates and relative standard error (RSE) was calculated for all CPUE statistics. Source for water level data was the United States Geological Survey website (http://waterdata.usgs.gov/tx/nwis/uv?cb_00062=on&format=gif_default&period=7&site_no=08099400).

RESULTS AND DISCUSSION

Habitat: Shoreline habitat in Proctor Reservoir consisted primarily of dead brush (75% of sites). Substrate was predominantly soft (73% of sites). Percent occurrence of each habitat type and substrate is displayed in Figure 2. Offshore habitat consisted primarily of open water (71% of sites), dead brush (19% of sites), and standing timber (11% of sites). A complete listing of offshore habitat types and percent occurrence is shown in Figure 3.

Prey species: Electrofishing CPUE was 2,985.2/h for gizzard shad, and 753.4/h for bluegill. Gizzard shad IOV was 99 in 2010 and similar to estimates in 2008 (91) and 2006 (98). Gizzard shad CPUE in Proctor Reservoir has historically exceeded 500.0/h, but reached its greatest recorded value in 2010 (Figure 4). Bluegill CPUE was similar to CPUE in 2008 (707.0/h) but increased from 2006 (167.1/h). The bluegill population was dominated by individuals < 6 in and should provide excellent forage but likely provides little recreational value (Figure 5).

Blue catfish: Blue catfish gill net samples have been characterized by few fish in Proctor Reservoir since the species was introduced in 1991. Between 1992 and 2007, 17 fish were sampled in 28 gill net nights (0.61/nn). In 2011, two fish were sampled (0.40/nn). A low-frequency electrofishing sample was conducted in 2011 and four fish were collected. Blue catfish sampled in 2010 and 2011 ranged from 6 – 25 in.

Channel catfish: Gill net CPUE was 5.2/nn in 2011 (Figure 6). Relative abundance decreased from 2007 (11.4/nn) and was similar to 2003 (4.2/nn). Relative abundance of legal-length fish (≥ 12 in) was similar in 2011 (4.4/nn) and 2007 (5.8/nn). Population size structure, as measured by PSD, shifted

toward longer fish in 2011 (PSD = 58) compared to 2007 (PSD = 21) and 2003 (PSD = 17). High relative abundance and increased PSD suggest that good angling opportunities exist for channel catfish.

White bass: Relative abundance of white bass was nearly identical in 2011 (21.0/nn) and 2007 (20.8/nn) and increased from 2003 (6.6/nn) (Figure 7). Legal-length fish (≥ 10 in) constituted 72% of the sample in 2011 and fish up to 15 in were sampled. These data, coupled with increased forage availability, suggest that the white bass population will continue to thrive.

Palmetto bass: Sample size of palmetto bass was substantially lower in 2011 (22 fish; 4.4/nn) compared to 2007 (193 fish; 38.6/nn) (Figure 8). Size range of sampled fish in 2011 was 8 – 22 in. Despite low catch rate in 2011, the population should continue to support a popular fishery if annual stockings persist and the forage base retains its current abundance.

Largemouth bass: Total electrofishing CPUE was 204.6/h in 2010. This was increased from 2008 (123.0/h) and 2006 (71.1/h) surveys. However, electrofishing CPUE of stock-length bass (≥ 8 in) was 56.1/h in 2010 and decreased from 2008 (104.0/h). Similarly, sub-stock CPUE was greater in 2010 (151.0/h) than 2008 (19.0/h) and 2006 (7.5/h). Legal harvest-size fish (≥ 16 in) comprised only 2% of the sample in 2010 compared to 12% in 2008 and 2006 (Figure 9). Estimates of CPUE-14, PSD, and PSD-P from 1986 – 2010 suggest that size structure of the population has remained variable since implementation of the 16-in minimum length limit on September 1, 2002 (Figure 10). Relative weights of largemouth bass in 2008 and 2010 were ≥ 85 for all inch groups. Florida allele percentage has stabilized between 55-60% since 2002 after increasing since 1995 (Figure 11). Pure Florida strain, pure northern strain, and F1 hybrids were all sampled in 2010 (Table 4).

White crappie: White crappie have not been sampled since the last report for Proctor Reservoir in 2007. Historic data suggest that the white crappie population was stable and supported a popular fishery. The trap net catch rate of white crappie was 42.5/nn in 2006, increased from 2002 (32.9/nn) and 1998 (11.0/nn) measurements (Farooqi and Dumont 2007).

Fisheries management plan for Proctor Reservoir, Texas

Prepared – July 2011

ISSUE 1: A 16-in minimum length limit was placed on largemouth bass in 2002 to promote post-drought re-establishment of the largemouth bass population. Further investigation is warranted to determine whether to retain the current regulation or revert to the statewide regulation.

MANAGEMENT STRATEGY

1. Examine largemouth bass population metrics pre- and post-regulation change to determine whether the current regulation should be retained.
2. Continue biennial electrofishing to monitor the largemouth bass population.

ISSUE 2: Palmetto bass provide a popular fishery in Proctor Reservoir but require annual stockings to maintain the population.

MANAGEMENT STRATEGY

1. Continue to stock palmetto bass fingerlings at 15/acre annually.

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, 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:

Biennial electrofishing would allow thorough evaluation of the largemouth bass population. A four-year rotation on gill nets and trap nets should be adequate to monitor channel catfish, white bass, palmetto bass, and white crappie populations. Low-frequency electrofishing will be used in 2014 to further assess the blue catfish population. The sampling schedule is in Table 5.

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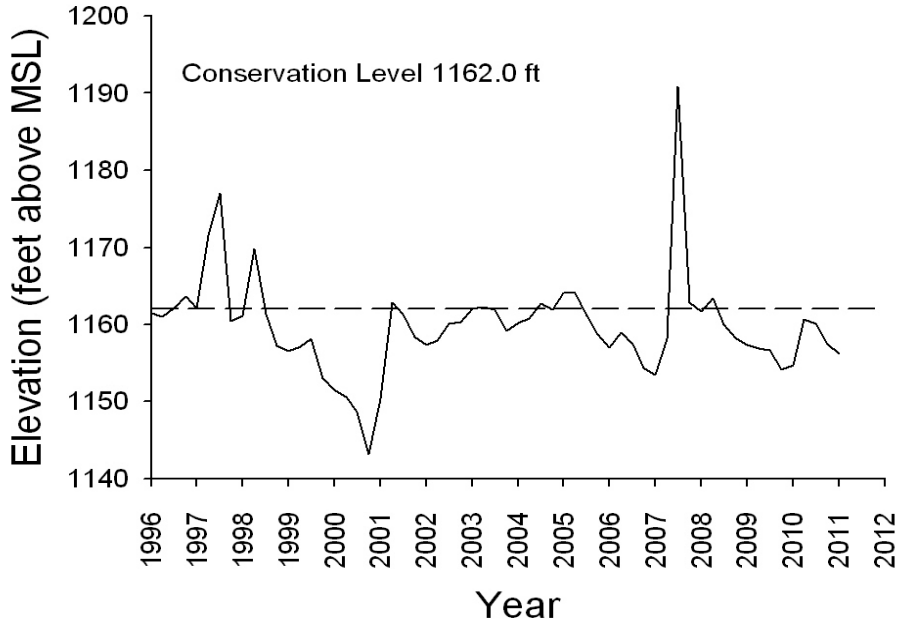


Figure 1. Quarterly water level elevations in feet above mean sea level (MSL) recorded for Proctor Reservoir, Texas, 1996-2011.

Table 1. Characteristics of Proctor Reservoir, Texas.

Characteristic	Description
Year constructed	1963
Controlling authority	U.S. Army Corps of Engineers
County	Comanche
Shoreline Development Index	4.73
Watershed area	819,639 acres
Reservoir-to-Watershed percentage	0.57%

Table 2. Harvest regulations for Proctor 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, palmetto	5	18 - No Limit
Bass, largemouth	5	16 - No Limit
Crappie: white and black crappie, their hybrids and subspecies	25 (in any combination)	10 - No Limit

Table 3. Stocking history in Proctor Reservoir, Texas from 1970 – 2010. Size categories are: FGL = 1-3 in and ADL = adult fish.

Species	Year	Number	Size
Threadfin shad	1984	1,000	ADL
Blue catfish	1991	46,417	FGL
Palmetto bass	1978	22,850	FGL
	1980	47,440	FGL
	1983	46,773	FGL
	1984	91,090	FGL
	1986	92,000	FGL
	1987	138,462	FGL
	1988	93,044	FGL
	1989	101,700	FGL
	1991	70,080	FGL
	1992	72,322	FGL
	1994	142,526	FGL
	1995	143,261	FGL
	1996	70,218	FGL
	1997	72,100	FGL
	1998	80,496	FGL
	1999	34,656	FGL
	2000	34,980	FGL
	2002	34,630	FGL
	2004	67,985	FGL
	2005	67,524	FGL
	2006	66,925	FGL
	2007	62,776	FGL
	2008	67,447	FGL
	2009	66,247	FGL
	2010	67,305	FGL
	Total	1,854,837	
Largemouth bass	1970	100,000	FGL
Florida largemouth bass	1979	100,215	FGL
	1993	230,621	FGL
	1994	232,436	FGL
	2001	232,002	FGL
	Total	795,274	
Green x redear sunfish	1971	5,000	FGL

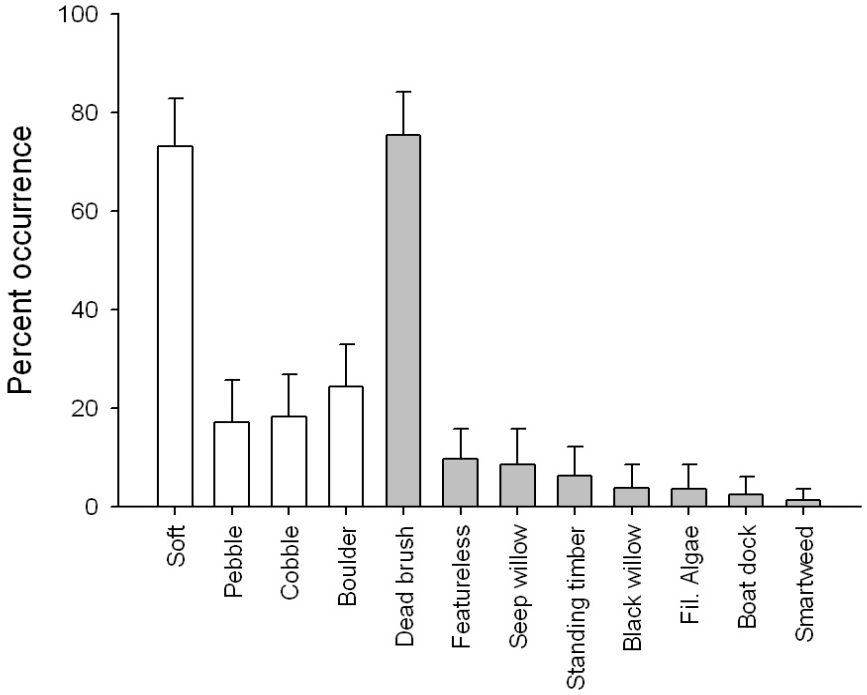


Figure 2. Percent occurrence of substrate (open bars) and habitat type (filled bars) at 82 randomly selected shoreline locations in Proctor Reservoir, Texas, 2010. Error bars represent 95% confidence intervals calculated from 1,000 resamples of the empirical data.

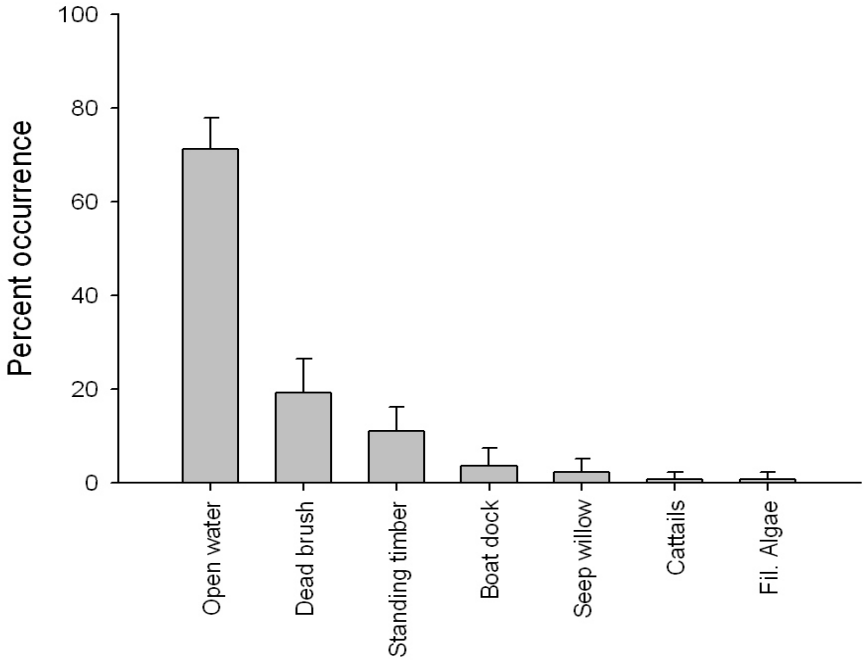
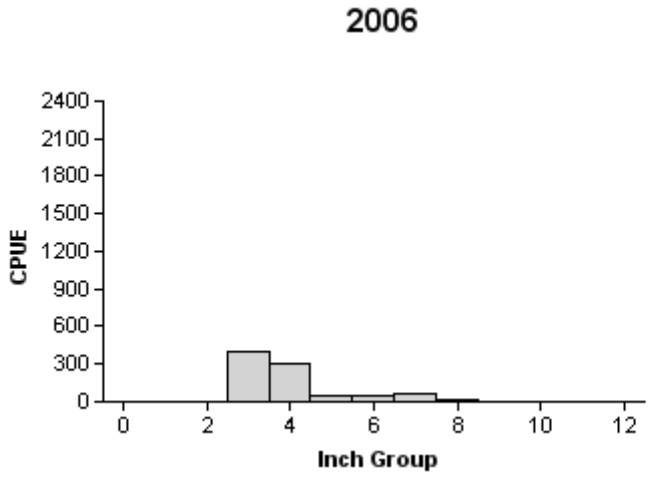
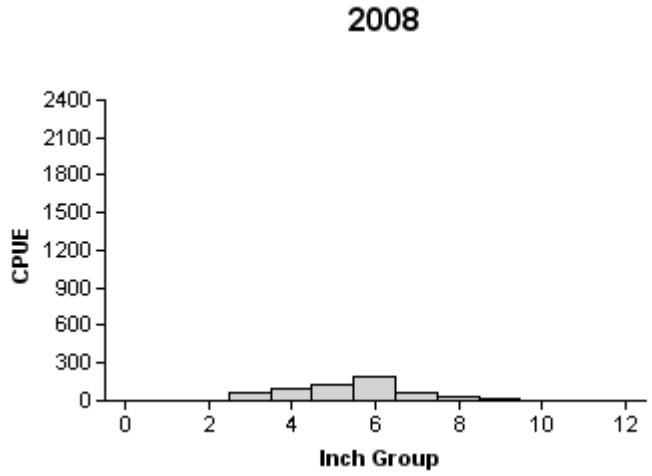


Figure 3. Percent occurrence of habitat type at 136 randomly selected offshore locations in Proctor Reservoir, Texas, 2010. Error bars represent 95% confidence intervals calculated from 1,000 resamples of the empirical data.

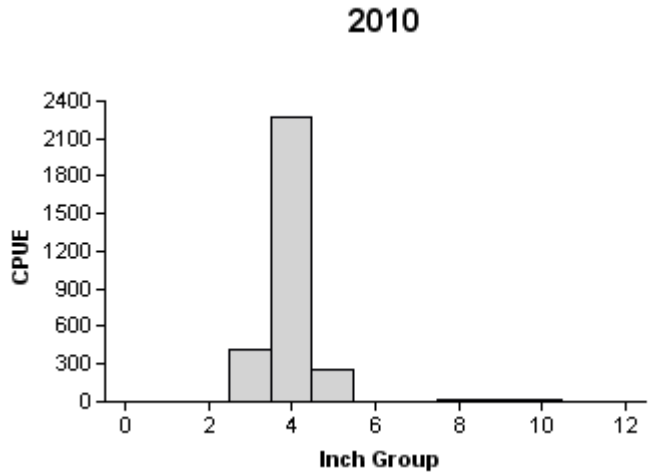
Gizzard Shad



Effort = 1.17
Total CPUE = 879.4 (16; 1026)
IOV = 98 (1)



Effort = 1.00
Total CPUE = 600.0 (16; 600)
IOV = 91 (2)



Effort = 1.02
Total CPUE = 2,985.2 (7; 3,035)
IOV = 99 (1)

Figure 4. Number of gizzard shad caught per hour (CPUE) and population indices (RSE and N for CPUE and SE for size structure are in parentheses) for fall electrofishing surveys, Proctor Reservoir, Texas, 2006, 2008, and 2010.

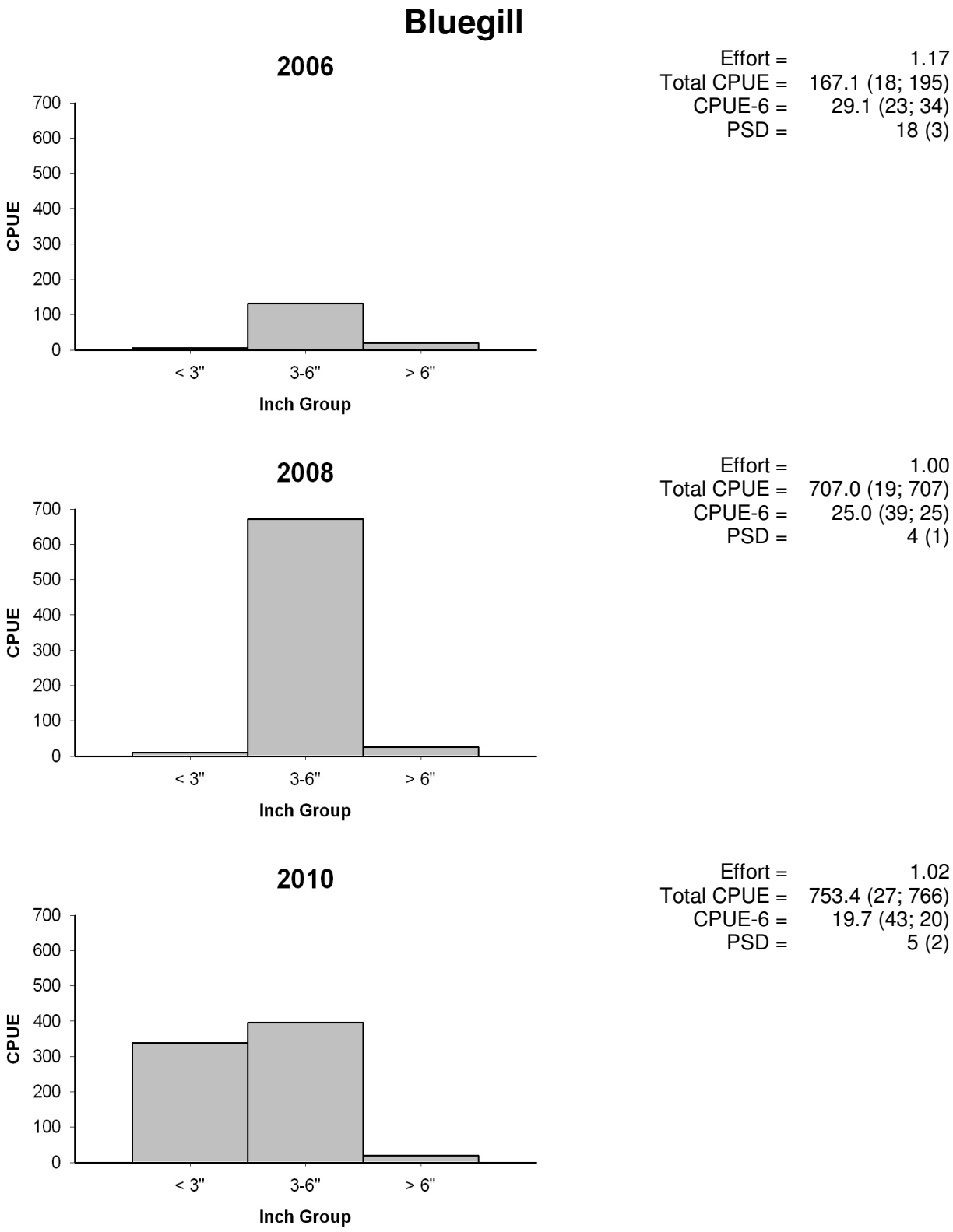
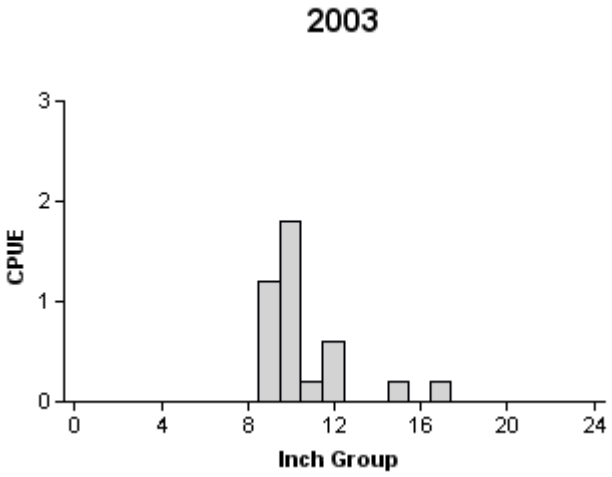
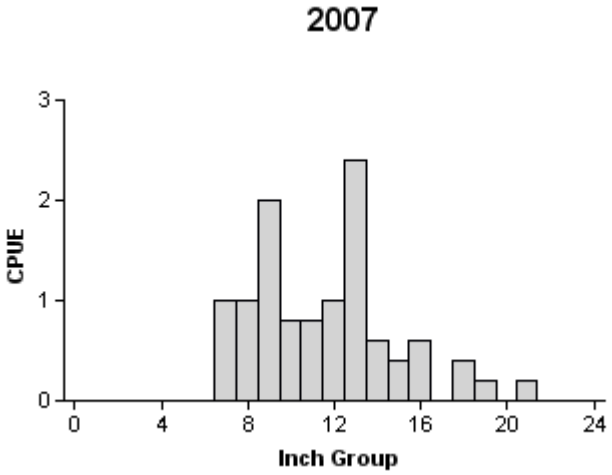


Figure 5. Number of bluegill caught per hour (CPUE) and population indices (RSE and N for CPUE and SE for size structure are in parentheses) for fall electrofishing surveys, Proctor Reservoir, Texas, 2006, 2008, and 2010.

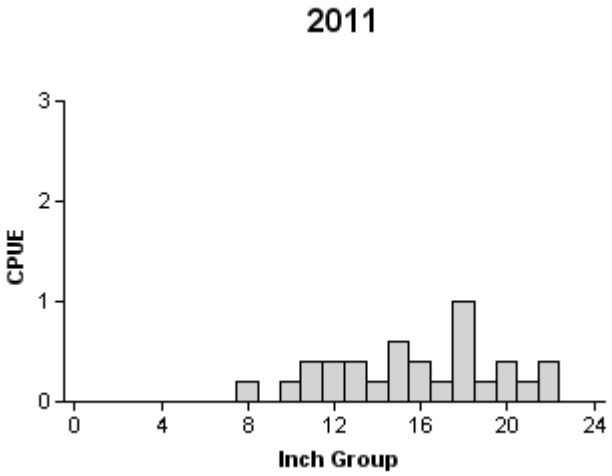
Channel catfish



Effort = 5.0
Total CPUE = 4.2 (33; 21)
CPUE-12 = 1.0 (32; 5)
PSD = 17 (18.2)



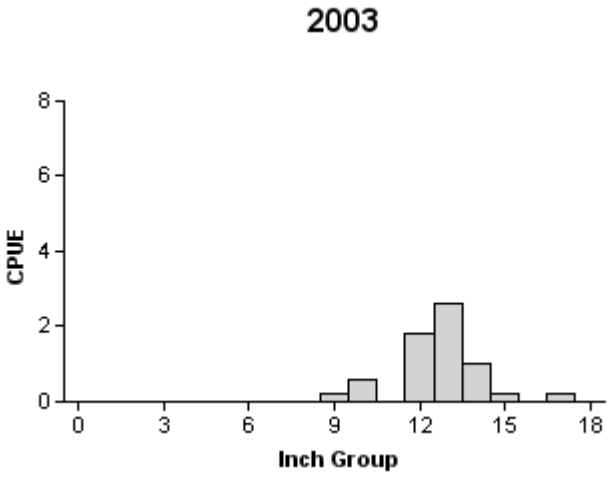
Effort = 5.0
Total CPUE = 11.4 (32; 57)
CPUE-12 = 5.8 (26; 29)
PSD = 21 (5.2)



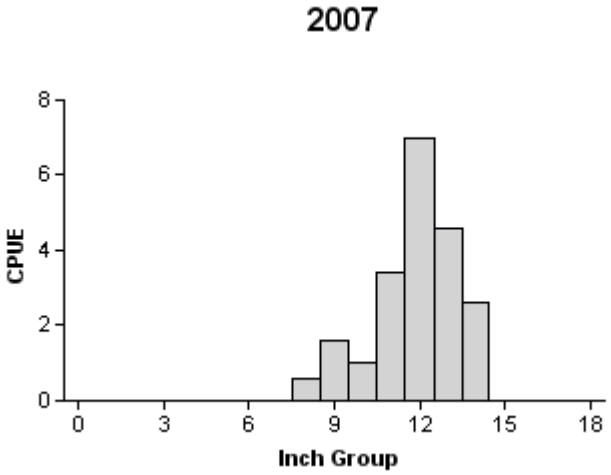
Effort = 5.0
Total CPUE = 5.2 (39; 26)
CPUE-12 = 4.4 (43; 22)
PSD = 58 (7.3)

Figure 6. Number of channel 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, Proctor Reservoir, Texas, 2003, 2007, and 2011.

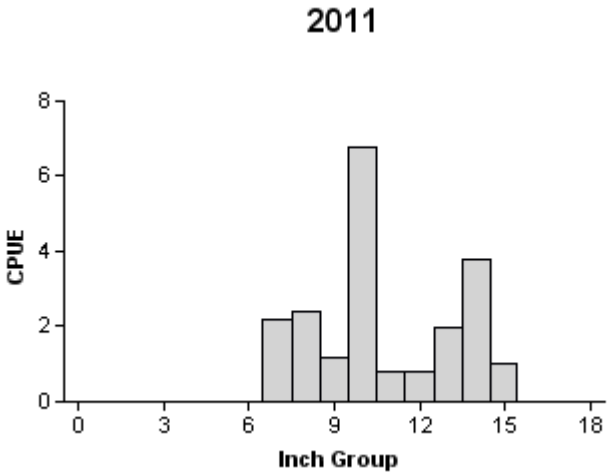
White bass



Effort = 5.0
Total CPUE = 6.6 (50; 33)
CPUE-10 = 6.4 (49; 32)



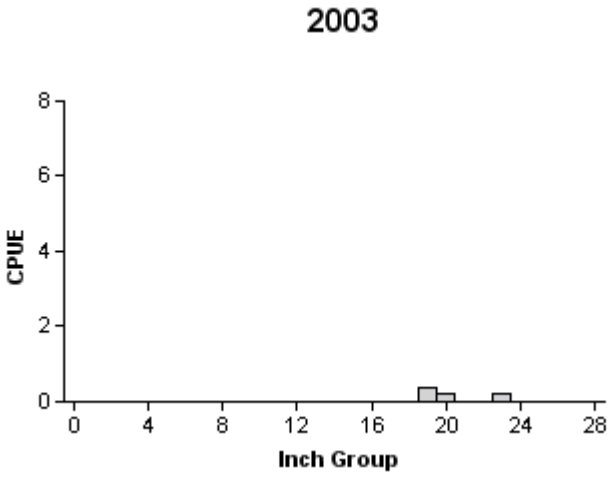
Effort = 5.0
Total CPUE = 20.8 (31; 104)
CPUE-10 = 18.6 (32; 93)



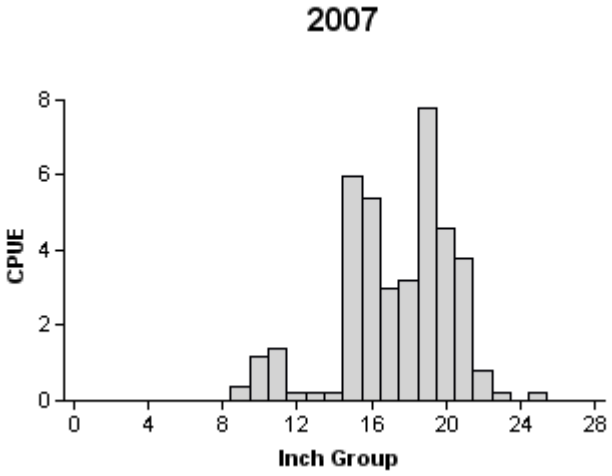
Effort = 5.0
Total CPUE = 21.0 (41; 105)
CPUE-10 = 15.2 (39; 76)

Figure 7. Number of white bass 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, Proctor Reservoir, Texas, 2003, 2007, and 2011.

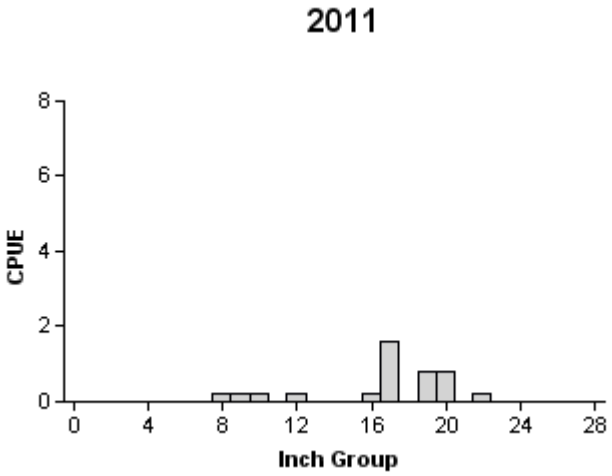
Palmetto bass



Effort = 5.0
Total CPUE = 0.8 (47; 4)
CPUE-18 = 0.8 (47; 4)



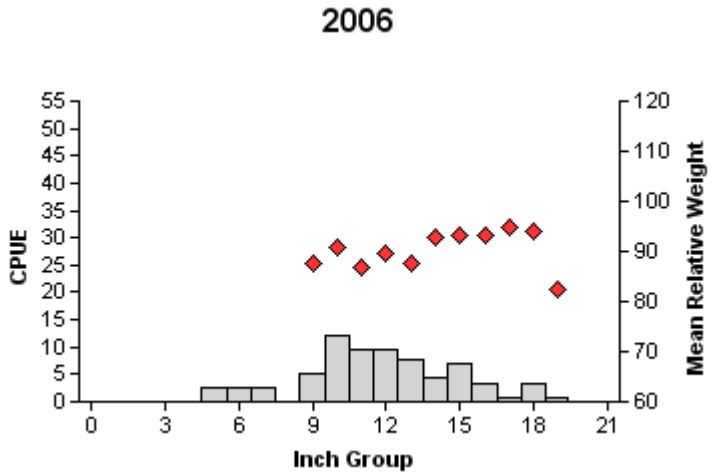
Effort = 5.0
Total CPUE = 38.6 (16; 193)
CPUE-18 = 20.6 (28; 103)



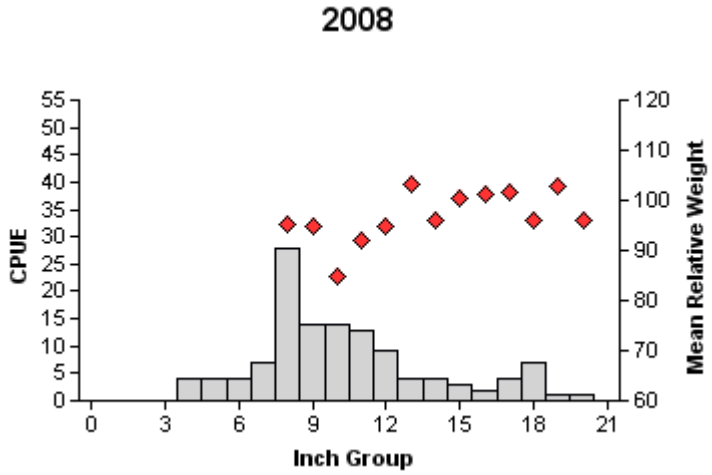
Effort = 5.0
Total CPUE = 4.4 (39; 22)
CPUE-18 = 1.8 (41; 9)

Figure 8. Number of palmetto bass 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, Proctor Reservoir, Texas, 2003, 2007, and 2011.

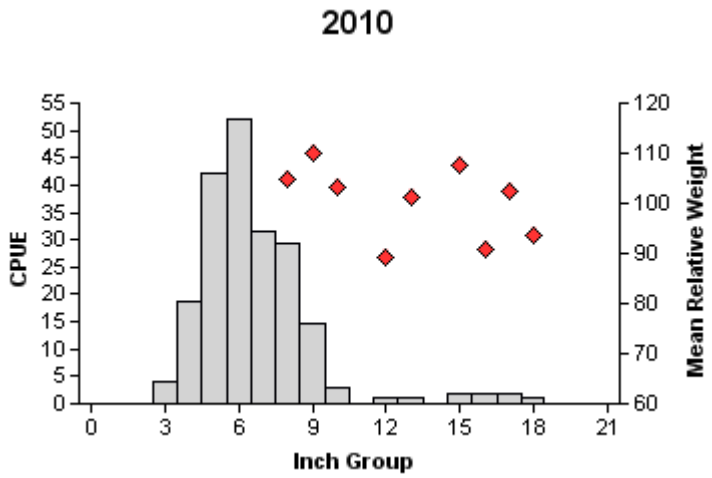
Largemouth Bass



Effort =	1.17
Total CPUE =	71.1 (25; 83)
Stock CPUE =	63.4 (24; 74)
CPUE-16 =	8.6 (43; 10)
PSD =	58 (7)
PSD-P =	24 (8)



Effort =	1.00
Total CPUE =	123.0 (19; 123)
Stock CPUE =	104.0 (20; 104)
CPUE-16 =	15.0 (26; 15)
PSD =	34 (3)
PSD-P =	17 (3)



Effort =	1.02
Total CPUE =	204.6 (16; 208)
Stock CPUE =	56.1 (27; 57)
CPUE-16 =	4.9 (69; 5)
PSD =	16 (8)
PSD-P =	12 (7)

Figure 9. 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, Proctor Reservoir, Texas, 2006, 2008, and 2010.

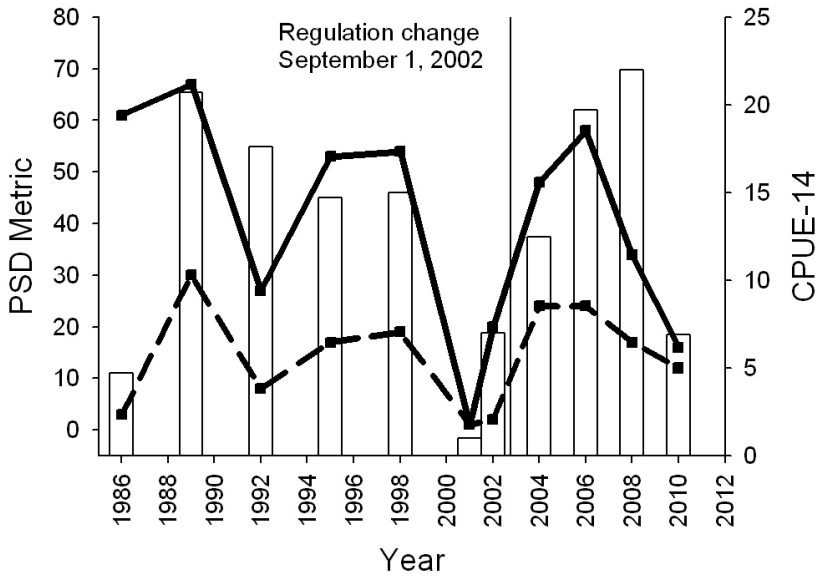


Figure 10. Estimates of PSD (solid line), PSD-P (dashed line), and CPUE-14 (vertical bars) for the largemouth bass population in Proctor Reservoir, Texas from 1986 – 2010.

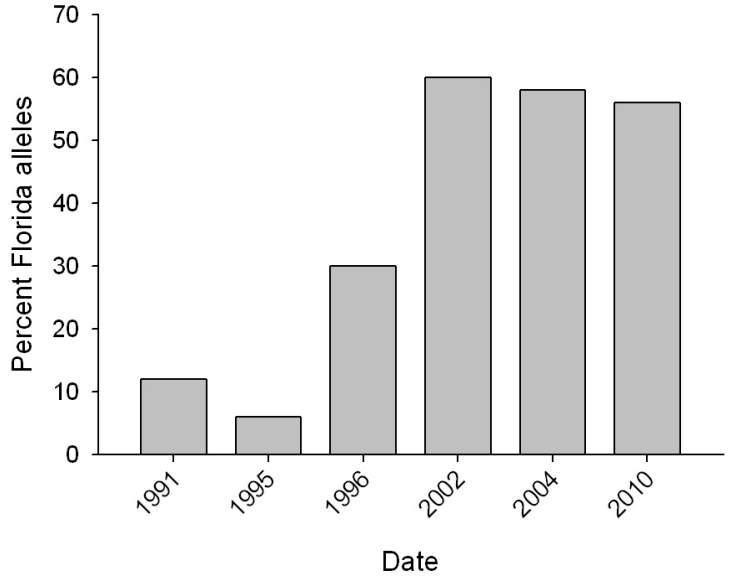


Figure 11. Mean percent Florida alleles of largemouth bass sampled from Proctor Reservoir, Texas, 1991-2010.

Table 4. Genetic composition of largemouth bass in Proctor Reservoir, Texas, 2010.

	Percent observed	Lower 95% CI	Upper 95% CI
Florida alleles	56%	49%	63%
Northern genotype	2%	0%	6%
Florida genotype	4%	0%	11%
F1 genotype	19%	9%	32%

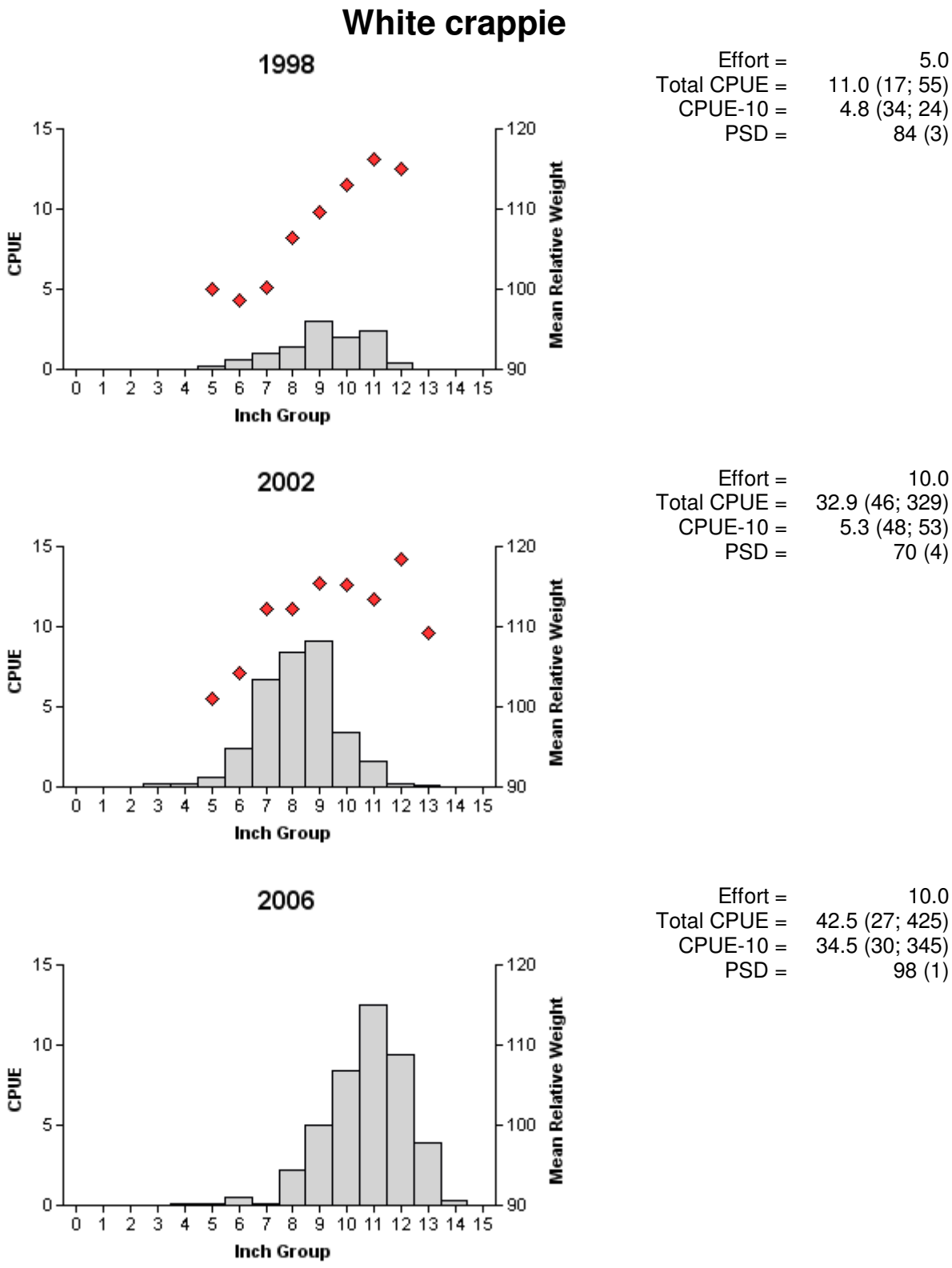


Figure 12. Number of white crappie caught per net night (CPUE, bars), mean relative weight (diamonds), and population indices (RSE and N for CPUE and SE for size structure are in parentheses) for fall trap net surveys, Proctor Reservoir, Texas, 1998, 2002, and 2006.

Table 5. Proposed sampling schedule for Proctor Reservoir, Texas. Low-frequency electrofishing is conducted in summer, electrofishing and trap net surveys are conducted in fall, and gill net surveys are conducted in spring. Standard surveys are denoted by S and additional surveys are denoted with A.

Survey year	Electrofisher	Trap net	Gill net	Low-frequency electrofisher	Vegetation survey	Access survey	Report
Summer 2011 – Spring 2012							
Summer 2012 – Spring 2013	A						
Summer 2013 – Spring 2014							
Summer 2014 – Spring 2015	S	S	S	A	S	S	S

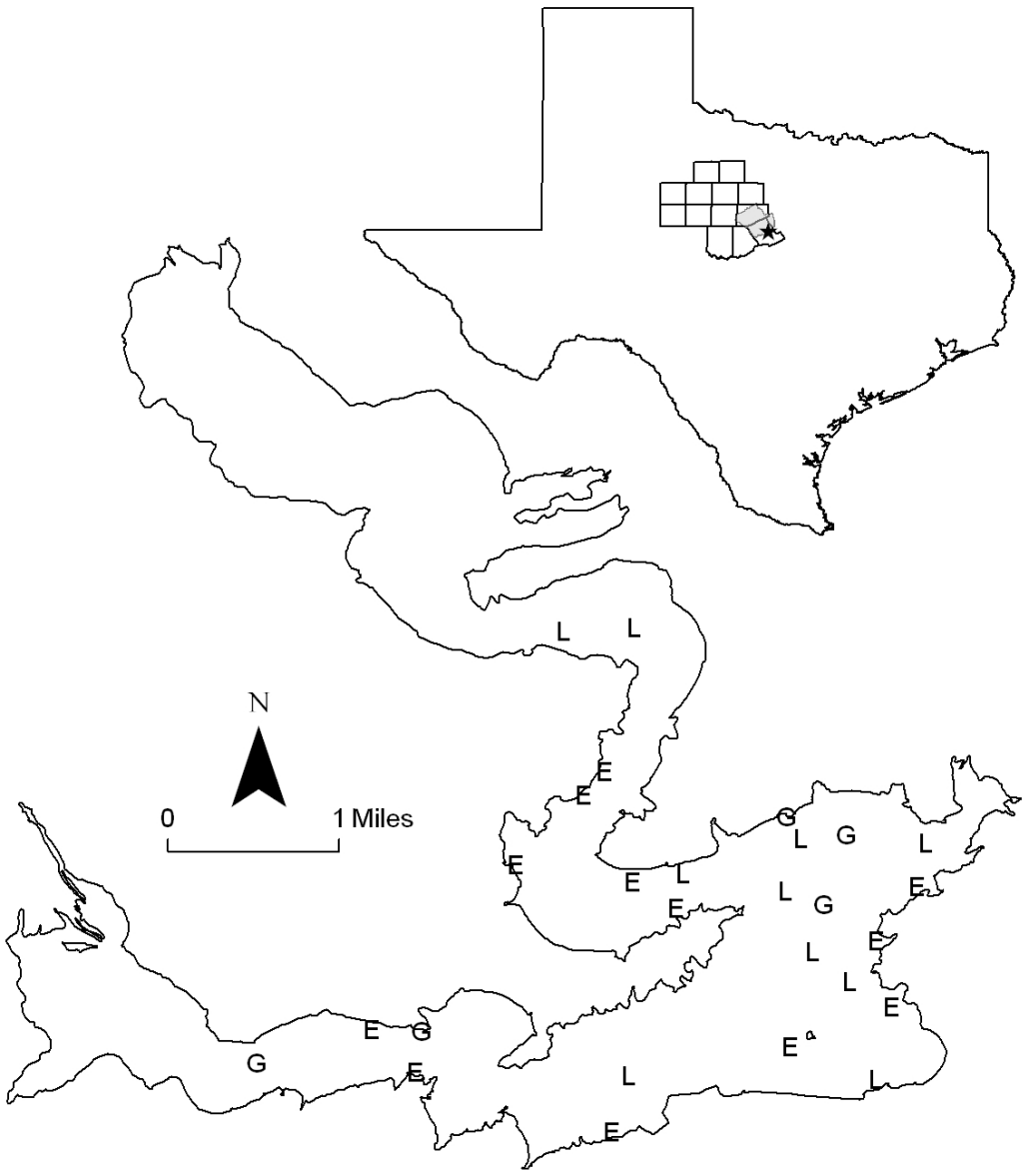
APPENDIX A

Number (N) and catch rate (CPUE) of all target species collected from all gear types from Proctor Reservoir, Texas, 2010-2011.

Species	Electrofisher		Gill nets		Low frequency electrofisher	
	N	CPUE	N	CPUE	N	CPUE
Gizzard shad	3,035	2,985.3				
Threadfin shad	142	139.7				
Blue catfish			2	0.4	4	8.0
Channel catfish			26	5.2		
White bass			105	21.0		
Palmetto bass			22	4.4		
Green sunfish	11	10.8				
Bluegill	766	753.4				
Longear sunfish	173	170.2				
Largemouth bass	208	204.6				

APPENDIX B

Location of standard sampling sites, Proctor Reservoir, Texas, 2010-2011. Locations of electrofishing sites (E), gill netting sites (G), and low-frequency electrofishing sites (L) are indicated on the map. Water level was within 5 ft of conservation level at time of sampling.



APPENDIX C

Type, location, size, capacity, American Disability Act (ADA) accessibility, and needed improvements of boat ramps (BR), fishing piers (FP), and jetties (J) at Proctor Reservoir, Texas, 2010. Latitude and Longitude are reported as decimal degrees.

Facility Type	Location	Latitude	Longitude	Fee	# of BR Lanes	BR Parking Capacity	ADA Accessible (FP or J)	Needed Improvements
BR	Copperas East	31.97003	-98.49956	Y	2	20	NA	
FP	Copperas East	31.96919	-98.50203	Y	NA	NA	Y	
BR	Copperas West	31.97375	-98.50571	Y	2	20	NA	
FP	Copperas West	31.97403	-98.50707	Y	NA	NA	Y	
BR	Sowell Creek North	31.99155	-98.46024	Y	2	20	NA	
FP	Sowell Creek North	31.99127	-98.46186	Y	NA	NA	N	
BR	Sowell Creek South	31.97241	-98.46847	Y	1	30	NA	
FP	Sowell Creek South	31.97782	-98.46384	Y	NA	NA	Y	
BR	Spillway	31.96916	-98.48876	Y	2	15	NA	
FP	Promontory Park	31.97929	-98.48874	Y	NA	NA	Y	
BR	Promontory East	31.98787	-98.48265	Y	2	20	NA	
BR	Promontory West	31.97825	-98.49659	Y	2	15	NA	

APPENDIX D

Contour map of Proctor Reservoir, Texas. Available for download at:
http://www.tpwd.state.tx.us/publications/pwdpubs/media/pwd_mp_t3200_0439p.pdf