

PERFORMANCE REPORT

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FEDERAL AID IN SPORT FISH RESTORATION ACT

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FEDERAL AID PROJECT F-221-M-1

STATEWIDE FRESHWATER FISHERIES MONITORING AND MANAGEMENT PROGRAM

2010 Survey Report

Fort Parker Reservoir

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SURVEY AND MANAGEMENT SUMMARY

Fish populations in Fort Parker Reservoir were surveyed in 2010 using an electrofisher and trap nets and in 2011 using gill nets. This report summarizes the results of the surveys and contains a management plan for the reservoir based on those findings.

- **Reservoir Description:** Fort Parker Reservoir is a 725-acre impoundment located within Fort Parker State Park in Limestone County, Texas. Mean and maximum water depths are 4 and 8 feet respectively, and the reservoir is moderately productive due to Navasota River inflows. Fish habitat at time of sampling consisted almost exclusively of natural shoreline, including rocky substrate, native emergent plants, and overhanging brush. Boat access to the reservoir is adequate, yet bank fishing remains limited due to large stands of cutgrass and other vegetation.
- **Management history:** Important sport fish include white bass, largemouth bass, white crappie, and catfish. Management strategies from the 2006 survey report included: working with park staff to develop an angler creel, evaluating the catfish population, stocking blue catfish, conducting a vegetation and habitat survey, and developing a plan to clear cutgrass and other limiting shoreline vegetation from fishable areas. The proposed creel was dropped due to low angler usage of the park. Blue catfish were stocked in 2008 and 2009 at 50/acre. Low frequency electrofishing was performed in 2009 and determined that the blue catfish population was healthy and recruiting well; further stocking requests for blue catfish were subsequently cancelled. Numerous conversations were conducted with park staff regarding the removal of cutgrass and other types of shoreline vegetation, yet to date, no vegetation clearing has been performed.
- **Fish Community**
 - **Prey species:** Threadfin shad were collected at rates nearly twice the historical average; gizzard shad were collected at rates well short of historical averages. Other forage species included bluegill, longear sunfish, warmouth, and green sunfish.
 - **Catfishes:** The blue catfish population continues to grow and catch rates were at an all time high. Channel catfish were also collected at near historic high catch rates. Body conditions were good to excellent for both species.
 - **White bass:** Although white bass were not collected during this survey, they are still present in the reservoir. White bass have remained popular among anglers in the Navasota River both above and below Fort Parker State Park.
 - **Largemouth bass:** Largemouth bass catch rates were at an all time high, and the population was balanced with good numbers of harvestable fish with excellent body condition.
 - **White crappie:** White crappie catch rates were at an all time high, and many fish were well above the legal size limit of 10 inches.
- **Management Strategies:** Continue managing Fort Parker Reservoir with existing regulations. Conduct general monitoring with electrofisher and trap nets in 2014 and gill nets in 2015.

INTRODUCTION

This document is a summary of fisheries data collected from Fort Parker Reservoir in 2010-2011. 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 are presented with the 2010-2011 data for comparison.

Reservoir Description

Fort Parker State Park Reservoir is a TPWD-owned, 725-acre reservoir located within Fort Parker State Park in Limestone County, Texas. The reservoir was constructed in 1935 by the Civilian Conservation Corps, and serves the dual purpose of flood control and municipal water supply for the town of Groesbeck, Texas (Table 1). The reservoir is in the Blackland Prairie Ecological Area and land use around the reservoir is primarily agricultural. Fort Parker State Park Reservoir has a shoreline length of approximately 19 miles, mean and maximum water depths are 4 and 8 feet respectively, and the reservoir is moderately productive due to Navasota River inflows. Fish habitat at time of sampling consisted almost exclusively of natural shoreline, including rocky substrate, native emergent plants, and overhanging brush (Table 4). Boat access consisted of one public boat ramp in Fort Parker State Park Reservoir, and another on the Navasota River just above the reservoir, which provided adequate boat access to anglers. Although the entire reservoir lies within the boundaries of the state park, much of the preferred bank access (areas near day-use and camp sites) remains limited due to large stands of cutgrass, cattail, and bulrush spp. Limited handicap-specific facilities were also available. Further information about Fort Parker State Park Reservoir and its facilities can be obtained by visiting the Texas Parks and Wildlife Department web page at www.tpwd.state.tx.us and navigating within the [fishing](#) link.

Management History

Previous management strategies and actions: Management strategies and actions from the previous survey report (Tibbs and Baird 2006) included:

1. Work with park manager to develop a creel design that can be efficiently administered by park staff in 2008/2009.
Action: After numerous conversations with park staff, it was decided that the number of anglers using the park were insufficient to provide reliable creel information.
2. Stock blue catfish fingerlings at 50/acre or advanced blue catfish fingerlings at 10/acre in 2007 and 2008.
Action: Blue catfish were stocked in 2008 and 2009 at 50/acre.
3. Evaluate the catfish population in the Navasota River and the main reservoir using experimental low-pulse DC sampling techniques.
Action: A low-pulse DC electrofishing survey was completed in July 2009. Hundreds of blue and channel catfish were observed in the 3 to 12-inch length class in 15 minutes of electrofishing. One trophy blue catfish was also observed. Based on this survey, future stocking requests for catfish were cancelled.
4. Request surplus or retired blue catfish brooders for stocking if available.
Action: Surplus blue catfish were requested when available, yet none were received due to low priority.
5. Conduct aquatic vegetation and shoreline habitat surveys in 2010.
Action: A complete habitat survey was performed in 2010.
6. Work with park staff to develop a plan to clear cutgrass and other limiting shoreline vegetation in selected areas to increase access to fishable water.
Action: Numerous conversations and on site planning trips were conducted with the park superintendant. Because no clearing has been performed, it is obvious that park staff believe it is unnecessary.

Harvest regulation history: Sportfishes in Fort Parker Reservoir are currently managed with statewide regulations (Table 2).

Stocking history: Blue catfish were stocked at a rate of 50-fish/acre in both 2008 and 2009. Largemouth bass and channel catfish were stocked in 2004. The complete stocking history is in Table 3.

Vegetation/habitat history: Shoreline habitat at Fort Parker consisted mainly of common species such as cattail, bulrush, and cutgrass, with some buttonbush, black willow, and water willow. American lotus is problematic in pelagic areas and dominates three-fourths of the upper reservoir due to extremely shallow water caused from sedimentation; over 500 acres of American lotus was estimated in 2005. The fact that the reservoir serves as a drinking water source for the town of Groesbeck complicates the potential for chemical treatment. Mechanical options have been used in small areas (i.e., around fishing piers) by park staff with little to no success. Currently, no noxious vegetation exists in Fort Parker, so the extent of the American lotus coverage is not monitored annually.

Water Transfer: Fort Parker State Park Reservoir is used primarily for municipal water supply, flood control, and recreation. The town of Groesbeck has rights to all but ½-acre foot of the water in the reservoir and the state park has rights to the ½-acre foot. The town of Groesbeck utilizes a siphon tube at the dam to pump make-up water from Fort Parker State Park Reservoir into their drinking water supply reservoir as needed. Interestingly, Groesbeck's water rights supersede those of the town of Mexia for Mexia Reservoir, yet there are currently no plans to utilize those water rights. The state park's water rights are used mainly for irrigation purposes within the park.

Reservoir capacity: Fort Parker State Park Reservoir loses volume annually to sedimentation by erosion within its watershed. Studies of Mexia and Limestone Reservoirs, upstream and downstream of Fort Parker, have also shown significant losses in volume since impoundment. Although the loss of Fort Parker Reservoir capacity is unknown at this time, dredging operations initiated by the town of Groesbeck in 1994 were begun to remove 930 acre feet of deposited silt in and adjacent to the Navasota River channel within the reservoir. Those efforts were abandoned in 2002 with limited success. Watershed-wide plans are being discussed and planned for other reservoirs throughout the state with similar issues.

METHODS

Fishes were collected with electrofisher (1 hour at 12, 5-min stations), gill nets (5 net nights at 5 stations), and trap nets (5 net nights at 5 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). A vegetative habitat survey was conducted by boat during summer 2010 and a structural habitat survey was conducted in winter 2010 using satellite imagery according to the Habitat Assessment Procedures (TPWD, Inland Fisheries Division, unpublished manual revised 2009).

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). Index of vulnerability (IOV) was calculated for gizzard shad (DiCenzo et al. 1996). Relative standard error ($RSE = 100 \times SE$ of the estimate/estimate) was calculated for all CPUE statistics and for creel statistics and SE was calculated for structural indices and IOV. Age and growth data were not collected in 2010 and 2011.

RESULTS AND DISCUSSION

Habitat: Littoral zone habitat was surveyed during winter, 2010, and consisted primarily of natural shoreline (Table 4). Vegetation coverage was calculated from satellite photographs and ground-truthed in summer, 2010. American lotus coverage was estimated at 500 acres. Littoral vegetation coverage (cattail, bulrush, and cutgrass combined) was estimated at 15.25 acres.

Creel: No creels were conducted during this survey period.

Prey species: Threadfin and gizzard shad were collected by electrofisher at 231/h and 252/h respectively in 2010, and these catch rates were well short of the historical average for gizzard shad and nearly double the historical average for threadfin shad. The Index of vulnerability (IOV) for gizzard shad was poor and only 45% of gizzard shad were available to existing predators as forage. Other important forage species collected were bluegill (209/h), longear sunfish (25/h), and warmouth (5/h). Panfish seldom reach preferred size classes in Fort Parker State Park Reservoir, and few anglers actively seek them. (Figures 1 and 2; Appendices A and B).

Catfishes: Blue catfish were collected from gill nets at 2.4/nn in 2011; this catch rate equates to 12 collected individuals, and is higher than any previous Fort Parker blue catfish survey on record. The Proportional size distribution (PSD) for blue catfish is defined as the percentage of 12-inch and longer individuals which are also 20-inches and longer. Proportional size distribution values dropped in 2011 as no individuals over 18 inches were sampled. Previous samples had high PSD values, but only represented a few individuals since blue catfish had just recently immigrated into the reservoir from upstream Mexia Reservoir. Body condition, expressed as relative weight (W_r), was good across all size classes. (Figure 3; Appendices A and B).

Channel catfish were collected from gill nets at 4.4/nn in 2011; this catch rate equates to 22 collected individuals, and is second highest on record for Fort Parker channel catfish. The PSD for channel catfish is defined as the percentage of 11-inch and longer individuals which are also 16-inches and longer. Proportional size distribution values have been high for the past three surveys, ranging from 86 to 100. Two channel catfish over 24 inches were collected. Body condition improves with increasing size classes. (Figure 4; Appendices A and B).

White bass: White bass were not collected from gill nets in 2011. A low-density population of white bass typically exists in Fort Parker and the species has provided good fishing opportunities both above and below the reservoir during the springtime runs (Appendices A and B).

Largemouth bass: Largemouth bass were collected by electrofisher at 42/h in 2010; this catch rate equates to 42 collected individuals, was similar to the previous two surveys. The proportional size distribution (PSD) for largemouth bass is defined as the proportion of 8-inch and longer individuals which are also 12-inches and longer within the population. Proportional size distribution was excellent, illustrating a balanced population with good recruitment, growth, and mortality. The proportion of individuals 14-inches and larger was 47, indicating good numbers of harvestable bass for anglers. Body condition was also excellent; with relative weights (W_r) averaging over 100 for most size classes. Largemouth bass genetics were last analyzed in 2006 and showed minimal Florida influence (Figure 5; Table 5; Appendices A and B).

White crappie: White crappie were collected from trap nets at 195/nn in 2010; this catch rate equates to 975 individuals and is the highest on record for white crappie in the reservoir. The Proportional size distribution (PSD) has remained good since the last survey. The PSD-10 was 16, and many fish exceeded the memorable size category of 12 inches or more. Body conditions, expressed as relative weight (W_r), were excellent and increased with size up to 110. (Figure 6; Appendices A and B).

Fisheries management plan for Fort Parker Reservoir, Texas

Prepared – July 2011.

ISSUE 1: 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 park staff to post appropriate signage at access points around the reservoir.
2. Contact and educate park staff about invasive species, and provide them with posters, literature, etc... so that they can in turn educate park users.
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.

ISSUE 2: Fort Parker State Park Reservoir was constructed in 1935 by the Civilian Conservation Corps to cover an area of approximately 750 acres and hold 3,100 acre-feet of water. The reservoir loses volume annually to sedimentation by erosion within its watershed. Studies of Mexia and Limestone Reservoirs, upstream and downstream of Fort Parker, have also shown significant losses in volume since impoundment. Although the loss of Fort Parker Reservoir capacity is unknown at this time, dredging operations initiated by the town of Groesbeck in 1994 were begun to remove 930 acre-feet of deposited silt in and adjacent to the Navasota River channel within the reservoir. Those efforts were abandoned in 2002 with limited success. This relatively rapid loss of fisheries habitat is the single most important issue facing Fort Parker's fishery.

MANAGEMENT STRATEGIES

1. Share information on Fort Parker with the TPWD watershed coordinator, Gary Garrett, along with TPWD partnerships such as the Southeastern Aquatic Resources Partnership (SARP), and Reservoir Fish Habitat Partnership (NFHP).
2. Propose funding from SARP and RFHP to perform best management practice (BMP) work within this watershed, based on its relative small size, and the fact that it's one of at least four major reservoirs within the Blackland Prairie Ecological Region severely affected by erosion and sedimentation (Aquilla, Mexia, and Limestone).

SAMPLING SCHEDULE JUSTIFICATION:

The proposed sampling schedule includes electrofisher and trap net sampling in 2014 and gill net sampling in 2015 (Table 6).

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- 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, 2nd edition. American Fisheries Society, Bethesda, Maryland.
- Tibbs, J. and M. Baird. 2006. Statewide freshwater fisheries monitoring and management program survey report for Fort Parker Reservoir, 2006. Texas Parks and Wildlife Department, Federal Aid Report F-30-R, Austin.
- Tibbs, J. and M. Baird. 2004. Statewide freshwater fisheries monitoring and management program survey report for Limestone Reservoir, 2004. 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.

Table 1. Characteristics of Fort Parker Reservoir, Texas.

Characteristic	Description
Year Constructed	1935
Controlling authority	Texas Parks and Wildlife Department
Counties	Limestone
Reservoir type	Main Stream
Shoreline Development Index (SDI)	4.80
Conductivity	310 umhos/cm

Table 2. Harvest regulations for Fort Parker Reservoir.

Species	Bag Limit	Minimum-Maximum Length (inches)
Catfish: channel and blue catfish, their hybrids and subspecies	5 (in any combination)	No Limit
Catfish, Flathead	5	18 - No Limit
Bass, White	25	10 - No Limit
Bass: largemouth and spotted	5	14 – No Limit
Crappie: white and black crappie, their hybrids and subspecies	25 (in any combination)	10 - No Limit

Table 3. Stocking history of Fort Parker State Park, Texas. Life stages are fry (FRY), fingerlings (FGL), advanced fingerlings (AFGL), adults (ADL) and unknown (UNK). Life stages for each species are defined as having a mean length that falls within the given length range. For each year and life stage the species mean total length (Mean TL; in) is given. For years where there were multiple stocking events for a particular species and life stage the mean TL is an average for all stocking events combined.

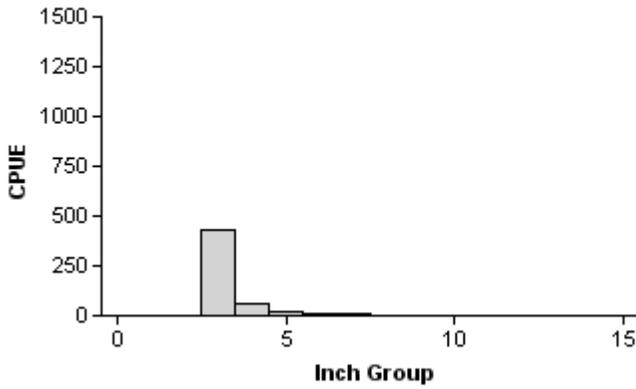
Species	Year	Number	Life Stage	Mean TL (in)
Blue catfish	2003	7,089	AFGL	9.6
	2008	36,138	FGL	2.0
	2009	36,250	FGL	2.0
	Total	79,477		
Channel catfish	1966	8,000	AFGL	7.9
	1982	35,000	AFGL	7.9
	1991	283	AFGL	5.2
	2004	4,597	AFGL	8.9
	Total	47,880		
Coppernose bluegill	1982	30,000	UNK	UNK
	Total	30,000		
Florida Largemouth bass	1982	34,900	FRY	1.0
	Total	34,900		
Largemouth bass	1966	3,000	UNK	UNK
	1970	2,000	UNK	UNK
	1974	33,000	UNK	UNK
	1975	35,000	UNK	UNK
	2004	93,331	FGL	1.6
	Total	166,331		

Table 4. Survey of littoral zone and physical habitat types, Fort Parker State Park Reservoir, Texas, 2010. Linear shoreline distance (miles) and percent of linear shoreline distance was recorded for each habitat type greater than one percent; otherwise noted as trace. Percent of total shoreline distance is blank for boat docks/piers because they were dually coded with adjacent habitat; a count is given instead. Survey was conducted using 2010 NAIP, 1-meter resolution satellite imagery.

Shoreline habitat type	Shoreline Distance	
	Miles	Percent of total
Natural shoreline	12.3	98.0
Bulkhead	0.2	2.0
Piers and Boat Docks		N=2

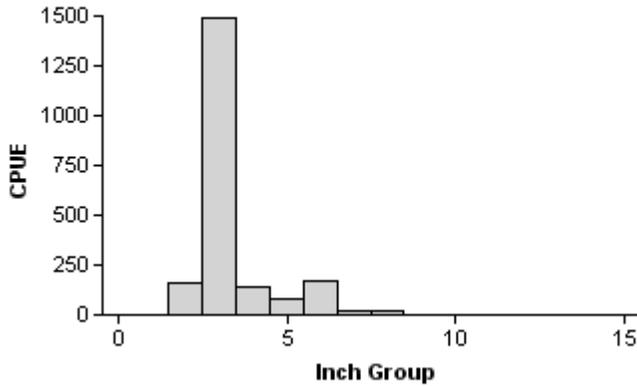
Gizzard Shad

2002



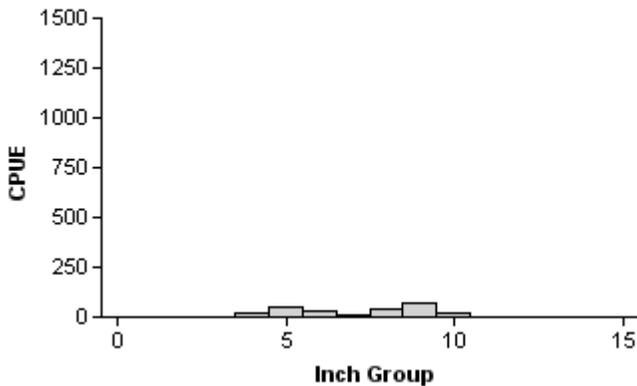
Effort = 1.0
 Total CPUE = 544.0 (39; 544)
 Stock CPUE = 20.0 (28; 20)
 IOV = 99 (0.7)

2006



Effort = 1.0
 Total CPUE = 2,114.0 (24; 2114)
 Stock CPUE = 2114
 IOV = 68.0 (24; 68)
 98 (0.7)

2010



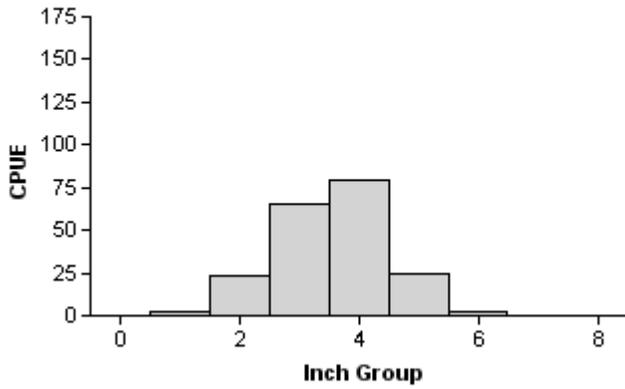
Effort = 1.0
 Total CPUE = 252.0 (22; 252)
 Stock CPUE = 145.0 (24; 145)
 IOV = 45 (3.3)

Figure 1. 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, Fort Parker Reservoir, Texas, 2002, 2006, and 2010.

Bluegill

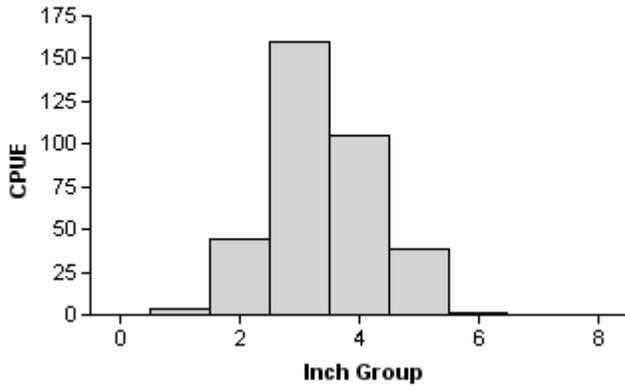
2002

Effort = 1.0
 Total CPUE = 196.0 (41; 196)
 Stock CPUE = 171.0 (44; 171)
 PSD = 1 (1.3)



2006

Effort = 1.0
 Total CPUE = 352.0 (26; 352)
 Stock CPUE = 304.0 (25; 304)
 PSD = 0 (0.3)



2010

Effort = 1.0
 Total CPUE = 209.0 (21; 209)
 Stock CPUE = 181.0 (22; 181)
 PSD = 7 (2.3)

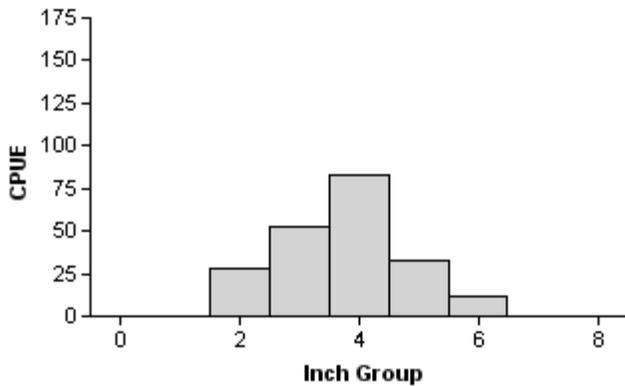


Figure 2. Number of bluegill caught per hour (CPUE) and population indices (RSE and N for CPUE and SE for size structure are in parentheses) for fall electrofishing surveys, Fort Parker Reservoir, Texas, 2002, 2006, and 2010.

Blue Catfish

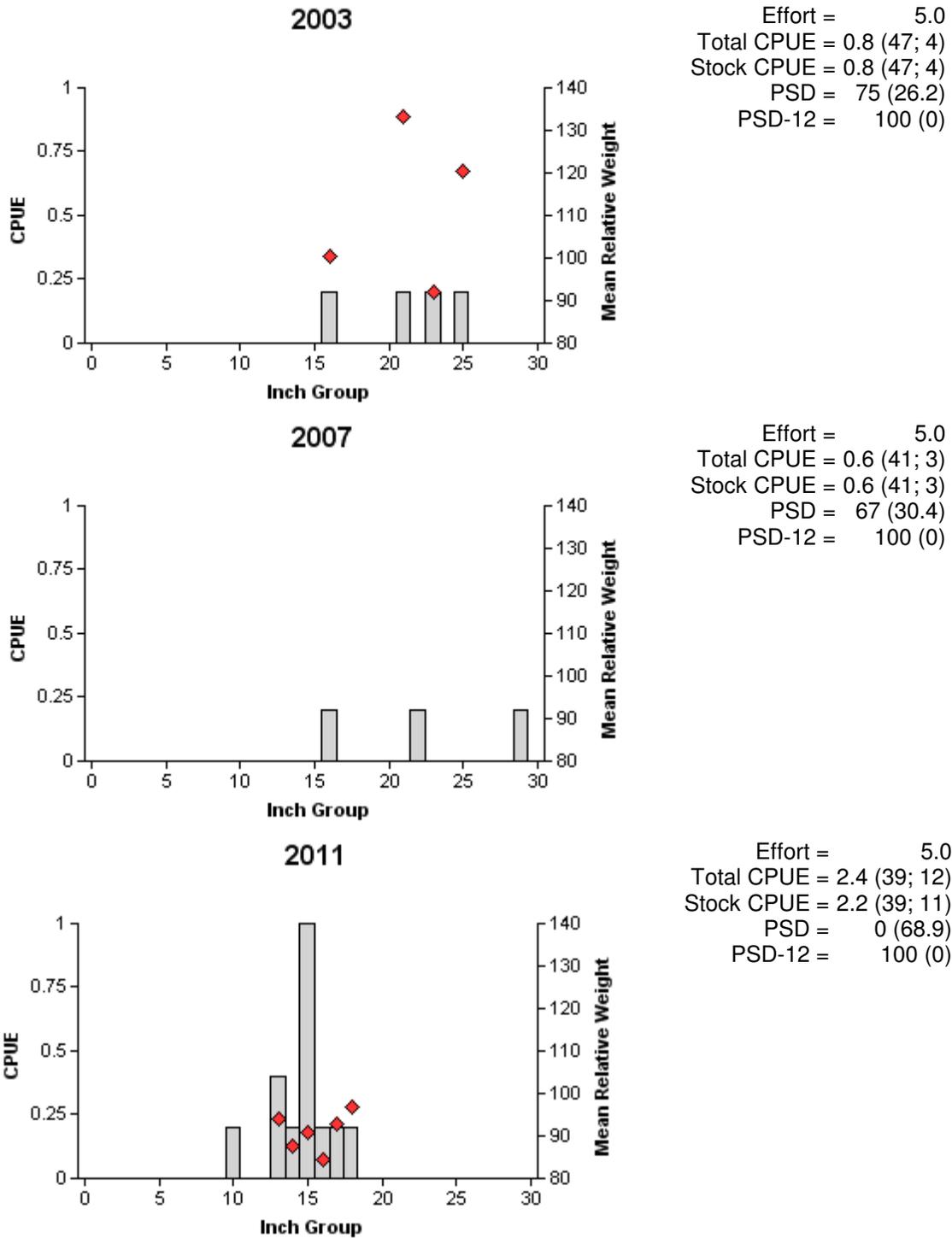
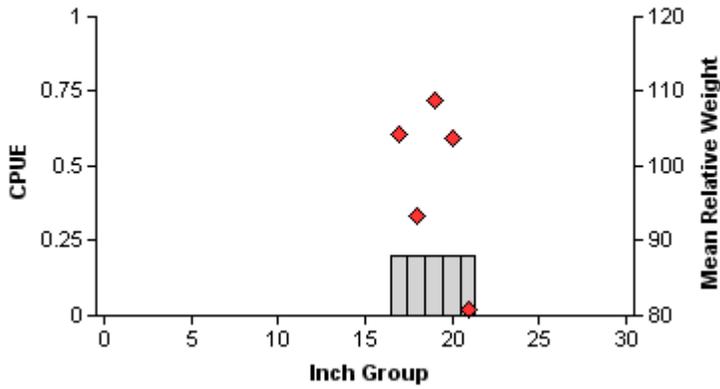


Figure 3. Number of blue catfish caught per net night (CPUE) and population indices (RSE and N for CPUE and SE for size structure are in parentheses) for spring gill net surveys, Fort Parker Reservoir, Texas, 2003, 2007, and 2011.

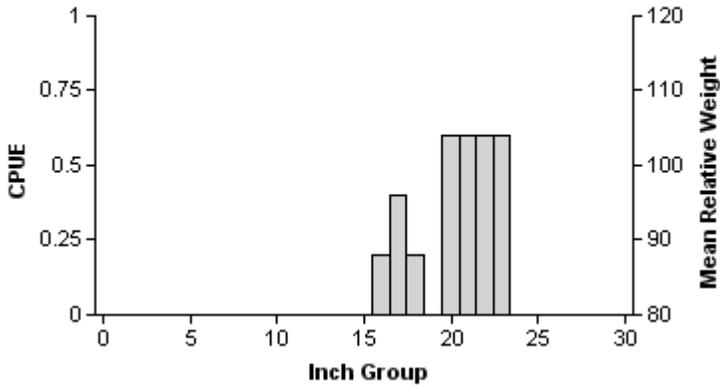
Channel Catfish

2003



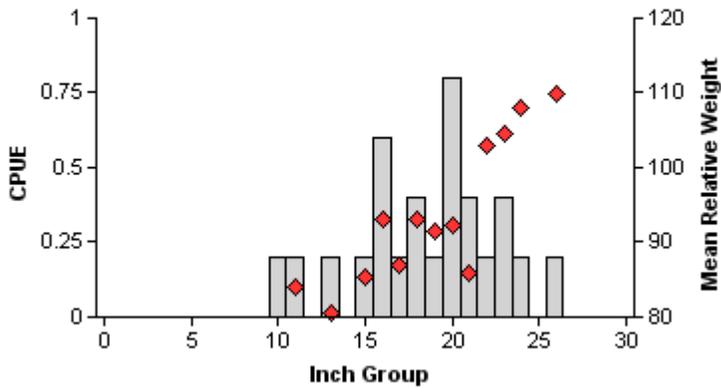
Effort = 5.0
 Total CPUE = 1.0 (45; 5)
 Stock CPUE = 1.0 (45; 5)
 PSD = 100 (0)
 PSD-12 = 100 (0)

2007



Effort = 5.0
 Total CPUE = 3.2(12;16)
 Stock CPUE = 3.2(12;16)
 PSD = 100 (0)
 PSD-12 = 100 (0)

2011



Effort = 5.0
 Total CPUE = 4.4 (27; 22)
 Stock CPUE = 4.2 (28; 21)
 PSD = 86 (7.9)
 PSD-12 = 95 (4.1)

Figure 4. 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, Fort Parker Reservoir, Texas, 2003, 2007, and 2011.

Largemouth Bass

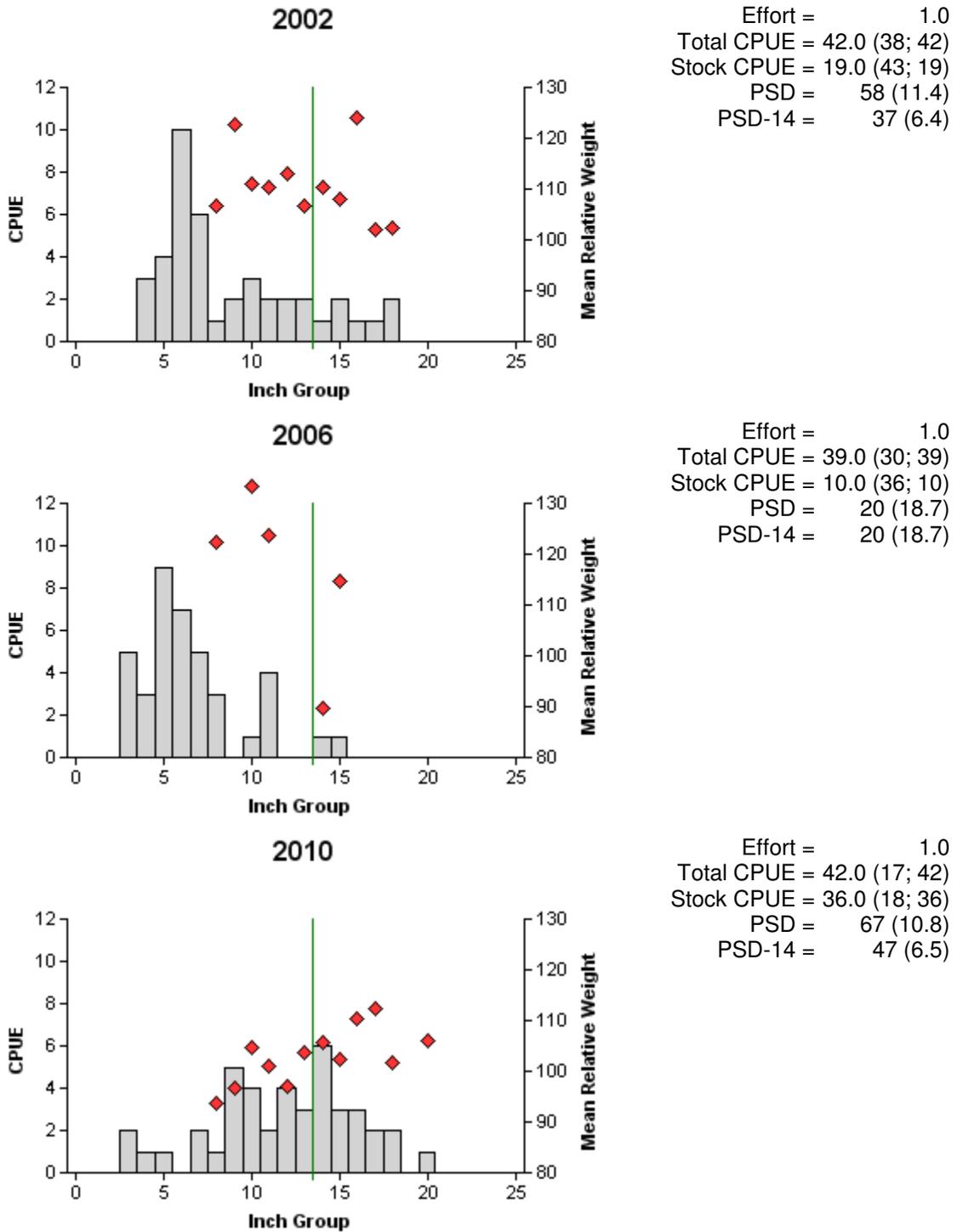


Figure 5. Number of largemouth bass caught per hour (CPUE) and population indices (RSE and N for CPUE and SE for size structure are in parentheses) for fall electrofishing surveys, Fort Parker Reservoir, Texas, 2002, 2006, and 2010.

Table 5. Results of genetic analysis of largemouth bass collected by fall electrofishing, Fort Parker State Park Reservoir, Texas, 2000, 2002, and 2006. Analysis conducted in 2004 or earlier are based on Allozyme testing, while later analysis are based on Microsatellite DNA testing. Genetics information was not collected during the 2010 electrofishing season. FLMB = Florida largemouth bass, NLMB = Northern largemouth bass, Hybrid = bass with both FLMB and NLMB alleles.

Year	Sample size	Genotype			% FLMB alleles	% Northern alleles
		%FLMB	%Hybrid	%NLMB		
2000	9	0	33	66	14	86
2002	23	4	39	57	15	85
2006	30	0	60	40	14	86

White Crappie

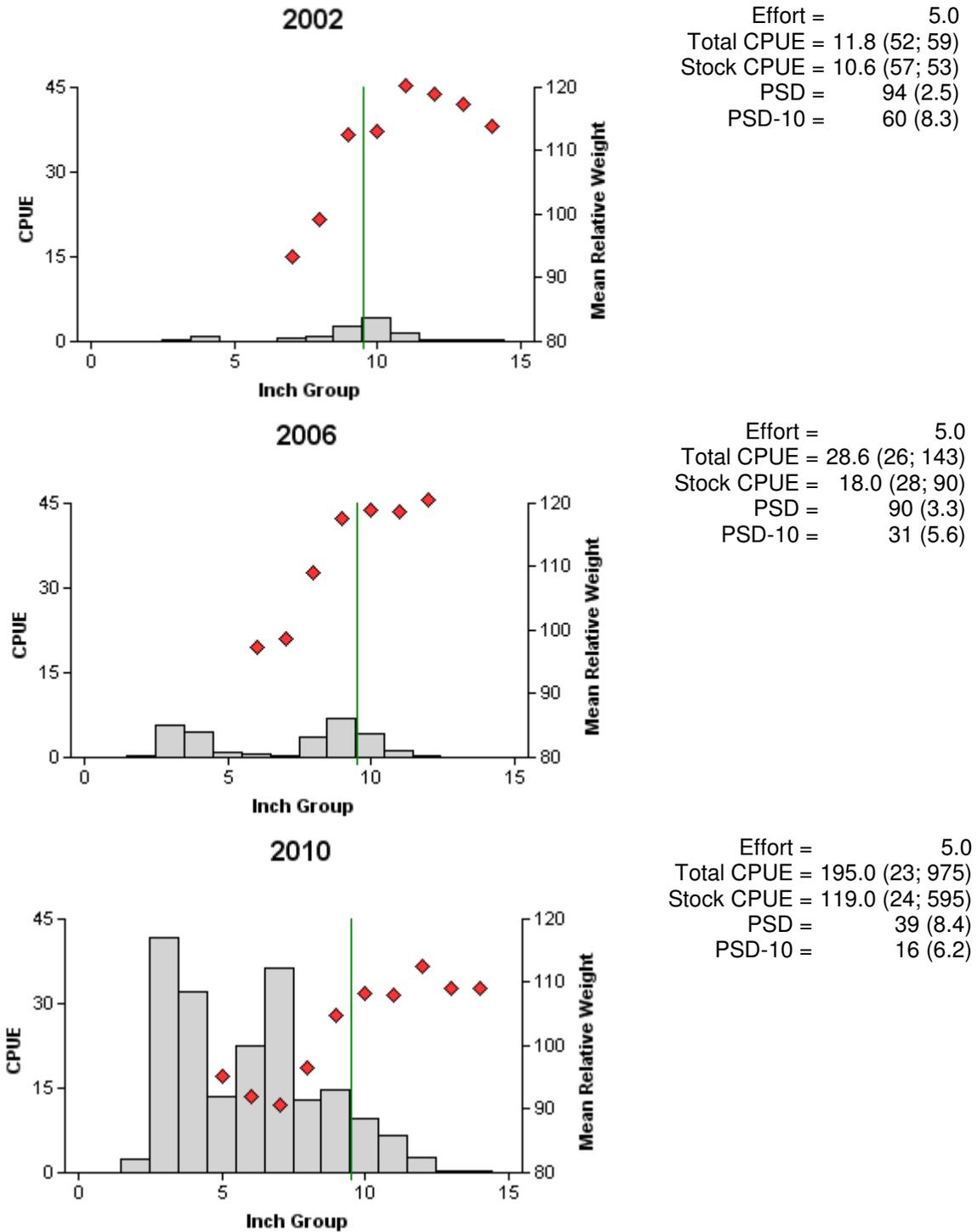


Figure 6. Number of white crappie caught per net night (CPUE) and population indices (RSE and N for CPUE and SE for size structure are in parentheses) for fall trap net surveys, Fort Parker Reservoir, Texas, 2002, 2006, and 2010.

Table 6. Proposed sampling schedule for Fort Parker, 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) of all target species collected from all gear types from Fort Parker Reservoir, Texas, 2010-2011.

Species	Gill Netting		Trap Netting		Electrofishing	
	N	CPUE	N	CPUE	N	CPUE
Gizzard shad					252	252.0
Threadfin shad					231	231.0
Blue catfish	12	2.4				
Channel catfish	22	4.4				
Yellow bullhead	1	0.2				
White bass						
Warmouth					5	5.0
Bluegill					209	209.0
Longear sunfish					25	25.0
Green sunfish					3	3.0
Largemouth bass					42	42.0
White crappie			975	195.0		

APPENDIX B

Catch rates (CPUE) of targeted species by gear type for standard surveys on Fort Parker Reservoir, Texas, 1994 to present. All stations were randomly selected. Electrofishing stations were shocked with a 5.0 Smith-Root GPP (Gas Powered Pulsator) until 2010, when a 7.5 Smith-Root GPP began being used. Species averages are in bold.

Gear	Species	1994	1997	2002	2003	2006	2007	2010	2011	Avg.
Electrofisher										
	Largemouth bass	22	2	42		39		42		29.4
	Gizzard shad	636	267	544		2114		252		762.6
	Threadfin shad	32	34	94		243		231		126.8
	Bluegill sunfish	177	57	196		352		209		198.2
	Longear sunfish					55		25		37.0
	Green sunfish					4		3		4.0
	Redear sunfish					1				
	Warmouth					4		5		4.5
Gill nets										
	Blue catfish	0	1		0.8		0.6		2.4	0.9
	Channel catfish	6	3.6		1		3.2		4.4	3.6
	White bass	4.4	0.2		1.4		0.4		0	1.3
Trap nets										
	White crappie	32.4	350	11.8		28.6		195		123.6

APPENDIX C



Location of sampling sites, Fort Parker Reservoir, Texas, 2010-2011. Standard electrofishing, trap netting, and gill netting stations are indicated by circles, squares, and triangles respectively. Water level was near full pool at time of sampling.