

PERFORMANCE REPORT

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FEDERAL AID PROJECT F-30-R-33

STATEWIDE FRESHWATER FISHERIES MONITORING AND MANAGEMENT PROGRAM

2007 Survey Report

Sammon's Park Lake

Prepared by:

Michael S. Baird and John Tibbs
Inland Fisheries Division
District 2B, Waco, Texas



Carter Smith
Executive Director

Phil Durocher
Director, Inland Fisheries

July 31, 2008

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INTRODUCTION

This document is a summary of fisheries data collected from Sammon's Park Lake in 2007. 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. Fish Populations in Sammon's Park Lake were surveyed in summer 2007 using a boat electrofisher. This report summarizes the results of that survey and contains a management plan for the reservoir based on those findings.

Reservoir Description: Sammon's Park Lake is a 30-acre impoundment located within the Leon River drainage in Temple, Bell County, Texas. The reservoir was constructed in the early 1900's, and is currently operated by the City of Temple for recreational use. Maximum water depth is less than 5 meters, and the shoreline is mostly manicured lawn (i.e., golf course). Additional historical data are presented in Table 1.

Management history: Important sport fish include largemouth bass, catfish, and sunfishes. The management plan from the 1995 survey report included annual stockings of advanced fingerling channel catfish at 36 fish/acre, promoting Sammon's Park Lake's angling opportunities, and improving bank angler access (Sellers 1995).

Harvest regulation history: Sportfishes in Sammon's Park Lake are currently managed with statewide regulations, except there is no minimum length limit for channel and blue catfish, their daily bag limit is five in any combination, and fishing is by pole and line only (Table 2).

Stocking history: Channel catfish have been stocked at approximately 36 fish/acre annually since 1991 (with the exception of 2003). Blue catfish were stocked once in 2003 at the same rate. A single stocking of adult Largemouth bass ($n = 47$) occurred in 1998, as did a single stocking of rainbow trout ($n = 751$) in 1999. The complete stocking history is in Table 3.

METHODS

Fishes were collected by electrofishing (30 minutes at 3 10-min stations). Catch per unit effort (CPUE) for electrofishing was recorded as the number of fish caught per hour (fish/h) of actual electrofishing. Electrofishing sites were randomly selected and conducted according to the Fishery Assessment Procedures (TPWD, Inland Fisheries Division, unpublished manual revised 2002). Ages for largemouth bass were determined from otoliths and followed procedures for the category II age and growth sample.

Sampling statistics (CPUE for various length categories), structural indices [Proportional Stock Density (PSD), Relative Stock Density (RSD)], and condition indices [relative weight (Wr)] were calculated for target fishes according to Anderson and Neumann (1996). Relative standard error ($RSE = 100 \times SE$ of the estimate/estimate) was calculated for all CPUE statistics and SE was calculated for structural indices. Ages were determined using otoliths from 13 fish from 11.5 to 12.5 inches in total length.

RESULTS AND DISCUSSION

Habitat: Littoral zone habitat consisted primarily of overhanging trees, submerged timber, water willow *Justicia Americana*, American lotus *Nelumbo lutea* and cattail *Typha spp.* No habitat surveys have ever been conducted.

Prey species: The forage base is comprised of sunfishes (i.e., bluegill, redear, and green) in order of decreasing abundance. The catch per unit of effort (CPUE) for bluegill was very high (i.e., 534 fish per

hour), but few individuals over 6-inches in length were observed. Redear and green sunfish contributed to the forage base in much lower numbers. Threadfin and gizzard shad have never been collected in Sammon's Park Lake.

Catfishes: No catfishes were observed.

Largemouth bass: Largemouth bass were abundant and recruitment appears to be good. Legal sized fish ranged from 14 to 20 inches, and were present in low numbers. Condition was excellent with relative weights (Wr's) ranging from 95 to 115. Growth of largemouth bass in Sammon's Park Lake was also excellent, with average lengths of age two fish exceeding 12.13 inches (range 12.13 to 12.4 inches) (n = 10).

Crappie: Only one white crappie was collected.

Fisheries management plan for Sammon's Park Lake, Texas

Prepared – July 2008.

ISSUE 1: No channel catfish were observed during the summer 2007 electrofishing survey despite consistent, annual stockings of advanced fingerlings. These advanced channel catfish stockings are meant to be a put-grow-and-take fishery.

MANAGEMENT STRATEGIES

1. Continue stocking advanced fingerling channel catfish at 33/acre every two years
2. Stock 2" fingerlings or retired brood fish if they become available to increase the numbers of catfish in the lake and perhaps improve the chances of natural recruitment.

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, 2nd edition. American Fisheries Society, Bethesda, Maryland.

Sellers, K. K.. 1995. Statewide freshwater fisheries monitoring and management program survey report for Sammon's Park Lake, 1996. Texas Parks and Wildlife Department, Federal Aid Report F-30-R, Austin.

Table 1. Characteristics of Sammon's Park Lake, Texas.

Characteristic	Description
Controlling authority	City of Temple
Counties	Bell
Reservoir type	Off-stream
Conductivity	280 umhos/cm

Table 2. Harvest regulations for Sammon's Park Lake.

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

^a Fishing is by pole and line only

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

Species	Year	Number	Life Stage	Mean TL (in)
Blue catfish	2003	1,080	AFGL	9.4
	Total	1,080		
Channel catfish	1991	546	AFGL	5.2
	1992	900	AFGL	7.1
	1993	1,079	AFGL	8.2
	1994	1,086	AFGL	7.4
	1995	1,569	AFGL	8.0
	1996	1,161	AFGL	8.1
	1997	1,106	AFGL	6.6
	1998	1,082	AFGL	9.5
	1999	1,108	AFGL	8.8
	2000	1,080	AFGL	9.0
	2001	1,080	AFGL	9.4
	2002	1,083	AFGL	9.4
	2004	1,080	AFGL	9.0
	2005	1,080	AFGL	9.9
	2006	1,092	AFGL	9.6
2007	1,080	AFGL	9.1	
	Total	17,212		
Largemouth bass	1998	47	ADL	9.9
	Total	47		
Rainbow trout	1999	751	ADL	9.3
	Total	751		

Bluegill

2007

Effort : 0.7
Total CPUE : 534.0 (34; 356)
Stock CPUE : 247.5 (35; 165)
PSD : 3 (1.4)

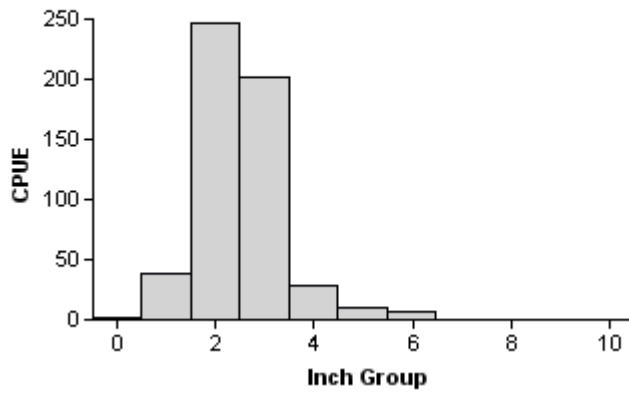


Figure 1. Number of bluegill caught per hour (CPUE) and population indices (RSE and N for CPUE and SE for size structure are in parentheses) for the summer 2007 electrofishing survey, Sammons Park Lake, Texas.

Green sunfish

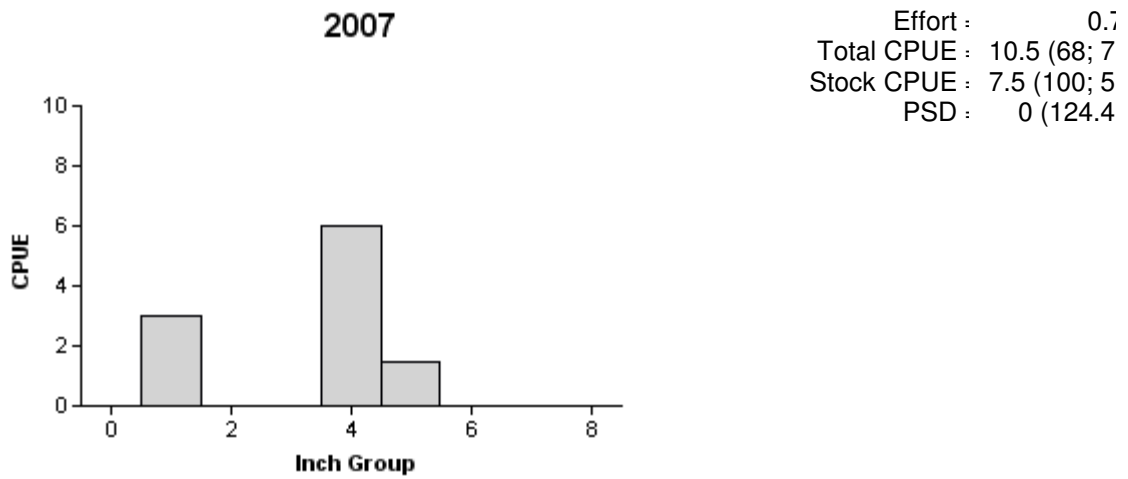


Figure 2. Number of green sunfish caught per hour (CPUE) and population indices (RSE and N for CPUE and SE for size structure are in parentheses) for the summer 2007 electrofishing survey, Sammons Park Lake, Texas.

Redear sunfish

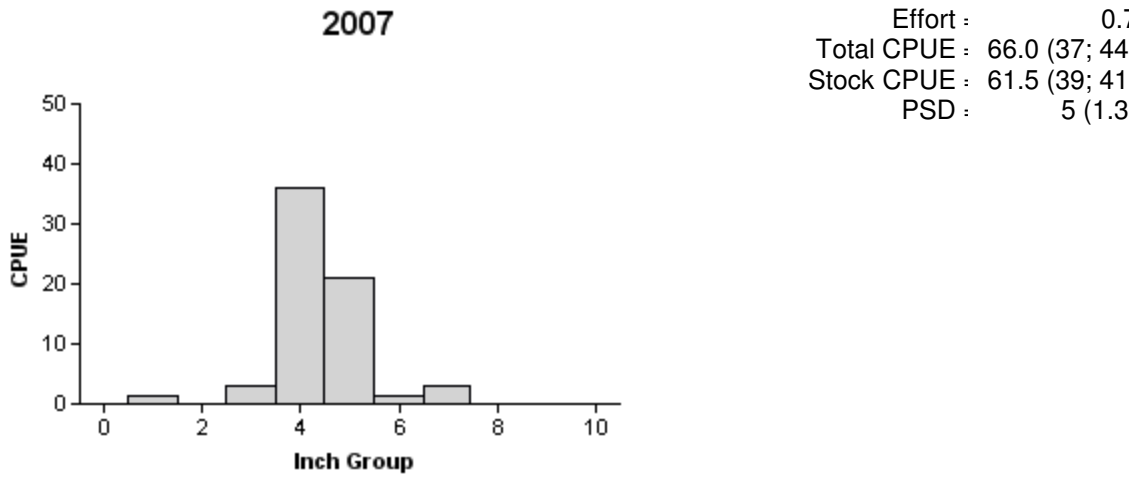


Figure 3. Number of redear sunfish caught per hour (CPUE) and population indices (RSE and N for CPUE and SE for size structure are in parentheses) for the summer 2007 electrofishing survey, Sammons Park Lake, Texas.

Largemouth bass

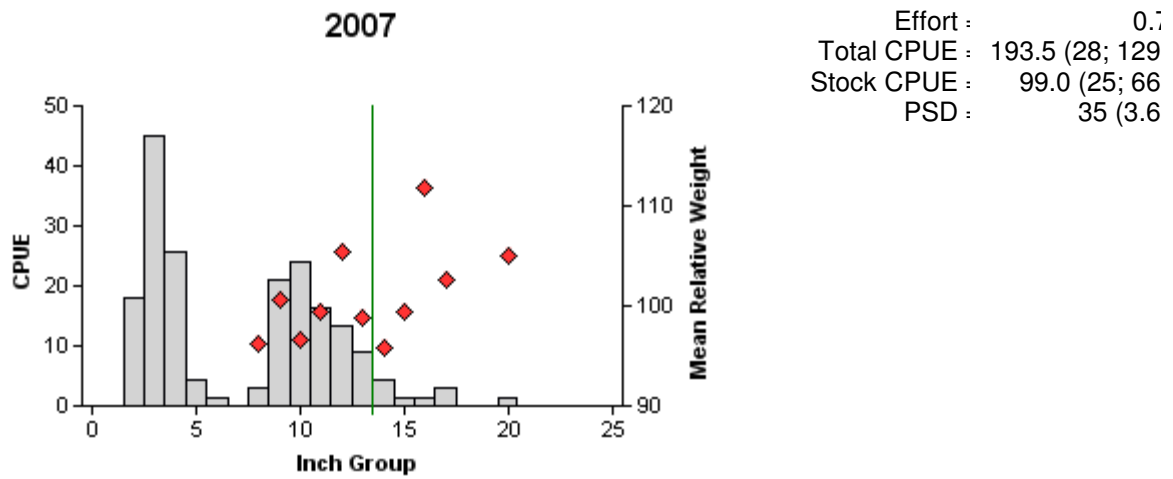


Figure 4. Number of largemouth bass caught per hour (CPUE) and population indices (RSE and N for CPUE and SE for size structure are in parentheses) for the summer 2007 electrofishing survey, Sammons Park Lake, Texas.

APPENDIX A

Number (N) and catch rate (CPUE) of all target species collected from all gear types from Sammon's Park Lake, Texas, 2007.

Species	Gill Netting		Trap Netting		Electrofishing	
	N	CPUE	N	CPUE	N	CPUE
Common carp					2	4.0
Green sunfish					7	14.0
Bluegill					356	712.0
Redear sunfish					44	88.0
Largemouth bass					123	246.0
White crappie					1	2.0