CEDAR CREEK RESERVOIR

MANAGEMENT REPORT

2007

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Introduction

Cedar Creek Reservoir (CCR), a 4,200-acre Tennessee Valley Authority impoundment, is the largest of four TVA reservoirs in the Franklin County area. It has 225 acres of standing timber and large flats with creek channels winding through them. CCR contains an average fishery for memorable sized largemouth bass and an excellent fishery for preferred and memorable sized white crappie.

This reservoir was sampled during spring 2007 using the guidelines of the Alabama Reservoir Management Program Manual (ADCNR 1999). The purpose of this program is to develop reservoir specific management guidelines designed to improve sportfish population structure and fishing quality. CCR was previously sampled during spring 1990 (Floyd et al. 1995), and again during fall 1998 and spring 1999 (Floyd et al. 1999). To describe angler attitudes and obtain catch statistics, a creel survey was conducted during spring 2007. No previous creel data has been obtained from CCR, therefore, it was important to conduct a creel survey to obtain a better understanding of the bass and crappie fisheries.

Methods

Fall trap netting was conducted on October 30 and 31, 2006 and followed guidelines as set forth in the Reservoir Management Program Manual. Target species were black crappie and white crappie. In addition to trap netting, fall electrofishing for crappie took place on November 1 and 2, 2006. Spring electrofishing was conducted on March 28, 2007 (crappie only) and again from April 16-18, 2007. The electrofishing protocol was the same as in 1999 (Floyd et al. 1999). Target species included black bass and crappie. Lengths and weights were taken from target species. Otoliths were removed from all crappie and spotted bass, and from 10 largemouth bass per 25mm length group greater than 150mm.

Fish that had otoliths removed were also sexed. Otoliths were aged at the District One Fisheries office. The ADWFF computer program (Slipke 2004) was used to assign ages to all un-aged fish and to analyze length and age data. The time it took to reach specified lengths were predicted by fitting von Bertalanffy growth curves to the mean length-at-age data.

A weekend creel survey was conducted from March 4 through May 12, 2007, totaling eleven survey days. Each survey day lasted 8 hours, beginning 7 hours prior to sunset. Catch, harvest, and effort data were collected from interviews with anglers upon completion of their fishing trip. All harvested bass and crappie were measured and recorded in their respective 25mm and 10mm length groups.

The Bass Anglers Information Team (B.A.I.T.) program provides tournament catch information on all participating reservoirs. These data compliment the Alabama Reservoir Management Program data. The 2005 and 2006 B.A.I.T. data were utilized in this report.

Some of the tables and figures in this report might not be referenced in the text. Appendix A includes all the tables and figures, and Appendix B includes the creel survey report.

Results and Discussion

The largemouth bass sample consisted of 233 fish, 161 of which were stock size and larger. The Proportional Stock Density (PSD) value of 47 remained unchanged from 1999 and falls at the low end of the 47-68 range suggested by Alabama reservoir data, but falls below the range of 50-70 suggested by Anderson and Weithman (1978) for reservoirs where shad are the dominant prey species. Relative Stock Density (RSD) values were lower than the 1999 values for all RSD categories except RSD-Q, which increased from 23 to 28 (Table 3). Despite this improvement, the RSD-Q value fell below the statewide

mean, as did the value for RSD-P. The values for stock and memorable size categories nearly equaled the 75th percentile for Alabama reservoirs (Figure 3). The CPUE for largemouth bass (RSD S-T) was 32.2 and the CPUE for RSD P-M was 6.0, both values falling midway between the 25th percentile and the Alabama statewide mean. Catch rates for categories RSD-S, Q, and P increased from 1999, while catch rates for categories RSD-P and T dropped from 1999 (Table 3).

Relative weights for RSD S-P size categories were below or equal to the 25th percentile mark of statewide reservoir data; however, the value for memorable size exceeded the 25th percentile for statewide data.

The time to reach lengths of 12, 15, and 20 inches as calculated by von Bertalanffy growth curves were 2.49, 3.78, and 8.38 years respectively (Table 10). The Alabama averages for these same lengths were 2.47, 3.79, and 7.45 years, respectively, indicating average growth for largemouth bass 15 inches and under, but slower than average growth to reach 20 inches.

Annual mortality calculations for largemouth bass ages 2-12 was 33.0% ($P < 0.0001$, $r^2 = 0.8291$, Figure 4). Additional catch curve regression calculations for largemouth bass ages 3-12 estimate an annual mortality rate of 26% ($P < 0.0006$, $r^2 = 0.7919$). Both estimates are low and indicate that this fishery has a low angler exploitation rate.

Spotted bass are less common in CCR than the largemouth bass. The CPUE of 24.8 fish per hour is roughly half that of the largemouth bass catch rate of 46.6 fish per hour (Table 3). The spotted bass sample consisted of 124 total fish, 53 of which were substock size and the remaining 71 were stock (63) and quality sized (8). No RSD P-T were captured. The 1999 sample was also void of spotted bass in categories RSD P-T (Floyd et al. 1999). All categories revealed an increase in catch rates compared to 1999 (Table 3).

Values for substock and stock size categories exceeded the 75th percentile value for Alabama reservoirs; however, the RSD-Q value was below the 25th percentile (Figure 6). The CPUE (RSD S-T) for spotted bass was 14.2, which is below the mean for Alabama reservoirs.

Relative weight values for spotted bass fell in the lower quartile for Alabama reservoirs. The spotted bass PSD value of 11 was far below the value of 47 computed for largemouth bass, but higher than the 1999 spotted bass value of 3 (Table 3).

An estimate for total annual mortality could not be calculated due to the low number of year classes represented.

The B.A.I.T. report indicates that one participating tournament was held on CCR during 2006 (Abernethy 2007), and two were held during 2005 (Haffner 2006). Based on these data, angler catch rates and pounds per angler nearly tripled from 2005 to 2006. Average size of bass remained virtually unchanged from 2005 (1.44 pounds) to 2006 (1.41 pounds). Time to catch a bass >5 pounds decreased from 495 hours in 2005, to 95 hours in 2006, ranking it first in the state in the fewest number of hours to catch a bass over five pounds. No largemouth bass over eight pounds were recorded in the 2005 or 2006.

Trap netting for crappie was conducted during fall 2006. Only 18 crappie were captured in 20 net-nights of effort (0.9/net-night). Poor trap netting catch rates were also experienced at Upper Bear Creek Reservoir during fall 2005, when 21 crappie were captured in 40 net-nights of effort (Ekema et al. 2006). In an attempt to obtain a better sample, fall electrofishing was utilized. However, that resulted in only seven crappie captured in 12,889 seconds of effort (Table 3). Conversations with anglers suggested that a good crappie fishery existed (personal communication). During the fall, with reservoir levels lowered, crappie migrate from the shoreline and relocate off shore near or above the old creek channel. Neither trap netting nor electrofishing gear can suitably sample crappie

at these locations. Due to poor fall 2006 catch rates with both types of gear, sampling was postponed until spring 2007.

Crappie were targeted in the spring 2007 electrofishing sample. The spring 2007 white crappie electrofishing sample consisted of 109 fish, captured at a rate of 35.6 fish per hour (Table 3). This is better than experienced at Upper Bear Creek Reservoir during spring 2006 where CPUE was 30.51 (Ekema et al. 2006). Male crappie comprised 78% of the crappie sample with lengths ranging from 206mm to 328mm. Female crappie lengths ranged from 217mm to 346mm and comprised 18% of the sample. Four crappie (4%) were not sexed. No black crappie were captured. Quality (22%), preferred (69%), and memorable (9%) sized fish made up the sample (Table 3). The RSD-Q value fell below the 25th percentile category of Alabama upland reservoirs, while the RSD-P value was nearly twice the 75th percentile value of 34.9 for reservoirs above the fall line. RSD-M values exceeded the statewide mean for upland reservoirs (Figure 8). Relative weights for all RSD categories were below the statewide 25th percentile, but despite this, are fast growing. It took crappie 1.2 years to reach 9 inches (Table 10). At Upper Bear Creek Reservoir, it took crappie 2.22 years to reach the 9-inch minimum size limit (Ekema et al. 2006). Cedar Creek crappie reached lengths of 10, 11 and 12 inches in 2.4, 4.0 and 6.4 years, respectively (Table 10). Age-6 crappie represented 28.4% of the population with a mean length of 292.6mm. No age-5 fish were represented and only 6.4 percent of the sample were age-4. Age-2 and 3 crappie, totaling 65.2% of the sample, should be able to replace the older (aged-4+) fish when they die (Table 8). Year class inconsistencies made it impossible to calculate a valid mortality rate.

The access-area-creel-survey revealed that the bass catch rate by bass anglers was 1.45 fish per hour (Appendix B). This is more than the catch rate of 1.36 fish per hour on Upper Bear Creek Reservoir during the spring of 2006 (Ekema et al. 2006). Bass harvest

rates by bass anglers showed that 0.04 fish per hour were taken. This is nearly one-third the harvest rate of Upper Bear Creek bass during 2006, but two times the harvest rate of Wheeler bass in 2006 (Floyd et al. 2006). The modal length group of bass harvested was 275mm (Appendix B, Figure 1). Spotted bass accounted for 59.3% of the black bass harvest. Black bass (largemouth and spotted bass) exploitation estimates ranged from 3.8% to 6.7%.

The number of white crappie measured during the spring 2007 creel was 134. As with the electrofishing sample, no black crappie were observed. Catch rates for crappie by crappie anglers were 1.60 fish per hour (Appendix B). This surpassed catch rates from Upper Bear Creek Reservoir where crappie anglers caught 1.30 crappie per hour (Ekema et al. 2006) and Lewis Smith Reservoir catch rates of 1.38/hr. (Greene et al. 2002), and more than doubles the catch rates of 0.67 fish per hour from Tennessee River impoundments (Ekema unpublished). Crappie harvest rates by crappie anglers were 0.93 fish per hour. This is more than the harvest rate (0.85 fish/hr.) reported for Upper Bear Creek Reservoir (Ekema et al. 2006), and twice the Lewis Smith Reservoir harvest rate of 0.45 fish/hr. (Greene et al. 2002). Modal length group of harvested crappie was 260mm (Appendix B, Figure 2).

Recommendations

The largemouth bass population exhibits characteristics of a mesotrophic system, with low relative weights, slow to average growth, and low average weight per bass from the 2006 B.A.I.T. information. Abundance of preferred and memorable sized bass is within the State's recommended range, and the presence of fish up to age 12 (no age-11), indicate a bass population with low exploitation. The abundance of gizzard shad (personal observation) coupled with low water conditions through the 2007 growing season, should

allow bass to predate efficiently, resulting in increased Wr's, growth rates, and an overall increase in bass size. Angler catch rates for bass are good (1.45/hr.) as indicated by the creel survey, and should remain good because bass are recruiting to larger size classes. A minimum length limit would protect the abundant smaller bass, but already low relative weights and average growth rates could be made worse by implementing a minimum size limit. A slot-limit (i.e. 13-16 inch) would allow for harvest of the abundant one and 2-year-old fish, possibly increasing the abundance of bass within and above the slot, but growth rates of bass less than 15 inches are at the statewide mean and presence of preferred and memorable sized bass are already within the Alabama recommended range. Therefore, a slot limit would not necessarily increase the abundance of larger bass. In addition, restrictive length limits of any kind are ineffective with bass harvest rates of 0.036 bass/hour (Appendix B, number 45). Neighboring Little Bear Creek Reservoir had a 13-16 inch slot limit imposed on largemouth bass in 2001. As of spring 2005, this smaller reservoir (1,560 acres) has not shown a shift toward larger bass. Based on these factors, no management changes are recommended at this time, but the reservoir should be sampled again within 2 to 3 years to re-assess the bass population structure.

Age-6 crappie represented 28.4% of the crappie sampled. These fish will succumb to either natural or angler mortality within the near future. The strong 2004 and 2005 year classes should be able to maintain the fishery. Crappie reached 9 inches in just 1.2 years, so the 2005 year-class has grown to a harvestable size. No changes in crappie management are recommended for Cedar Creek Reservoir.

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APPENDIX A

TABLES AND FIGURES

Table 1. Cedar Creek Reservoir morphometric, physical and chemical characteristics.

Surface area	4200 acres
Volume	93940 acre-feet
Drainage area	179 sq. mi.
Full pool elevation	580 ft. msl
Mean annual fluctuation	20 feet
Shoreline distance	64 miles
Mean depth	15 feet
Maximum depth	80 feet
Outlet depth	variable
Thermocline Depth	19.5 feet
Chlorophyll a (dam forebay)	5.43 ug/l (2004 mean)
Total dissolved solids	NA
Morphoedaphic index	NA
Year of Impoundment	1979

Table 2. Fish stocked in Cedar Creek Reservoir, 1979-2007.

Species	Year	No./Acre	Size (in.)	Total
FL Largemouth Bass	1979	9.80	1	41,190
	1986	0.90	1	3,833
	1987	1.00	1	4,200
	1991	3.00	1	12,660
	1992	3.00	1	12,660
	1993	3.00	1	12,660
				87,203
Hybrid Striped Bass	1979	10.70	1	45,000
	1981	3.30	1	13,710
	1983	9.40	1	39,624
	1984	12.10	1	51,000
	1985	10.00	1	42,000
	1986	11.90	1	50,000
	1987	2.00	1	8,400
				249,734

Table 3. Relative Stock Density (RSD), Catch Per Hour (CPH), Relative Weight (Wr), and Proportional Stock Density (PSD) of target species from Cedar Creek Reservoir.

LARGEMOUTH BASS

		No. of	SUBSTOCK			RSD-S				RSD-Q				RSD-P				RSD-M				RSD-T				TOTAL		
Year	Gear	Samples	NO.	CPH	SSR	NO.	CPH	PCT.	Wr	NO.	CPH	PCT.	Wr	NO.	CPH	PCT.	Wr	NO.	CPH	PCT.	Wr	NO.	CPH	PCT.	Wr	NO.	CPH	PSD
1990	Electro.	10	69	13.8	104.5	41	8.2	62.0	80	20	4.0	30.0	81	2	0.4	3.0	75	3	0.6	5.0	102	--	--	--	--	135	27.0	38
1999	Electro.	9	59	14.5	58.0	54	13.2	53.0	76	23	5.6	23.0	77	15	3.6	15.0	90	8	1.9	8.0	88	1	0.2	1	87	160	39.3	47
2007	**Electro.**	**10**	**72**	**14.4**	**45.0**	**86**	**17.2**	**53.0**	**76**	**45**	**9.0**	**28.0**	**82**	**23**	**4.6**	**14.0**	**89**	**7**	**1.4**	**4.0**	**94**	--	--	--	--	**233**	**46.6**	**47**
LAKE AVERAGE				14.2	69.2		12.9	56.0	77		6.2	27.0	80		2.9	10.7	85		1.3	5.7	95		0.2	1.0	87		38	44

SPOTTED BASS

		No. of	SUBSTOCK			RSD-S				RSD-Q				RSD-P				RSD-M				RSD-T				TOTAL		
Year	Gear	Samples	NO.	CPH	SSR	NO.	CPH	PCT.	Wr	NO.	CPH	PCT.	Wr	NO.	CPH	PCT.	Wr	NO.	CPH	PCT.	Wr	NO.	CPH	PCT.	Wr	NO.	CPH	PSD
1999	Electro.	9	23	5.6	61.0	37	9.0	97.0	84	1	0.2	3.0	107	--	--	--	--	--	--	--	--	--	--	--	--	61	15.0	3
2007	**Electro.**	**10**	**53**	**10.6**	**75.0**	**63**	**12.6**	**89.0**	**83**	**8**	**1.6**	**11.0**	**89**	--	--	--	--	--	--	--	--	--	--	--	--	**124**	**24.8**	**11**
LAKE AVERAGE				8.1	68.0		10.8	93.0	84		0.9	7.0	98		0.0	0.0	0.0		0.0	0.0	0.0		0.0	0.0	0.0		19.9	7

BLUEGILL

		No. of	SUBSTOCK			RSD-S				RSD-Q				RSD-P				RSD-M				RSD-T				TOTAL		
Year	Gear	Samples	NO.	CPH	SSR	NO.	CPH	PCT.	Wr	NO.	CPH	PCT.	Wr	NO.	CPH	PCT.	Wr	NO.	CPH	PCT.	Wr	NO.	CPH	PCT.	Wr	NO.	CPH	PSD
1990	Electro.	10	1	0.2	6.7	11	2.2	73.0	85	4	0.8	27.0	78	--	--	--	--	--	--	--	--	--	--	--	--	16	3	27
1999	Electro.	4	8	4.9	7.0	106	65.3	94.0	84	7	4.3	6.0	80	--	--	--	--	--	--	--	--	--	--	--	--	121	74.6	6
LAKE AVERAGE				2.6	6.9		33.8	83.5	85		2.6	16.5	79		0.0	0.0	0		0.0	0.0	0		0.0	0.0	0		38.9	17

WHITE CRAPPIE

		No. of	SUBSTOCK			RSD-S				RSD-Q				RSD-P				RSD-M				RSD-T				TOTAL		
Year	Gear	Samples	NO.	CPH	SSR	NO.	CPH	PCT.	Wr	NO.	CPH	PCT.	Wr	NO.	CPH	PCT.	Wr	NO.	CPH	PCT.	Wr	NO.	CPH	PCT.	Wr	NO.	CPH	PSD
F1998	T. Net	32	27	0.8	22	31	1.0	25	77	45	1.4	36.0	82	45	1.4	36.0	83	3	0.1	2.0	76	--	--	--	--	151	4.7	--
F2006	T. Net	20	1	0.1	6	1	0.1	6.0	73	14	0.7	82.0	85	2	0.1	12.0	80	--	--	--	--	--	--	--	--	18	0.9	--
F2006	Electro.	2	--	--	--	--	--	--	--	2	0.6	29.0	89	3	0.8	43.0	79	2	0.6	29.0	85	--	--	--	--	7	2.0	--
2007	**Electro.**	**6**	--	--	--	--	--	--	--	**24**	**7.8**	**22.0**	**85**	**75**	**24.5**	**69.0**	**88**	**10**	**3.3**	**9.0**	**89**	--	--	--	--	**109**	**35.6**	--
LAKE AVERAGE			NOT APPLICABLE																									

GIZZARD SHAD

		No. of	SUBSTOCK			RSD-S				RSD-Q				RSD-P				RSD-M				RSD-T				TOTAL		
Year	Gear	Samples	NO.	CPH	SSR	NO.	CPH	PCT.	Wr	NO.	CPH	PCT.	Wr	NO.	CPH	PCT.	Wr	NO.	CPH	PCT.	Wr	NO.	CPH	PCT.	Wr	NO.	CPH	PSD
1990	Electro.	8	39	10	36.8	101	25.9	95.3	92	5	1.3	4.7	91	--	--	--	--	--	--	--	--	--	--	--	--	145	37.2	5
1999	Electro.	5	31	19.1	44.3	56	34.6	80.0	--	14	8.6	20.0	--	--	--	--	--	--	--	--	--	--	--	--	--	101	62.3	20
LAKE AVERAGE				14.6	40.6		30.3	87.7	92		5.0	12.4	91		0.0	0.0	0		0.0	0.0	0		0.0	0.0	0		49.8	13

THREADFIN SHAD

		No. of	SUBSTOCK			RSD-S				RSD-Q				RSD-P				RSD-M				RSD-T				TOTAL		
Year	Gear	Samples	NO.	CPH	SSR	NO.	CPH	PCT.	Wr	NO.	CPH	PCT.	Wr	NO.	CPH	PCT.	Wr	NO.	CPH	PCT.	Wr	NO.	CPH	PCT.	Wr	NO.	CPH	PSD
1990	Electro.	10	--	--	--	--	--	--	--	19	5.4	100.0		--	--	--	--	--	--	--	--	--	--	--	--	19	5.4	100
1999	Electro.	4	--	--	--	14	10.2	11.3	--	110	80.3	88.7		--	--	--	--	--	--	--	--	--	--	--	--	124	90.5	89
LAKE AVERAGE				0.0	0.0		5.1	5.7	0		42.9	94.4	0		0.0	0.0	0		0.0	0.0	0		0.0	0.0	0		72	48.0	95

Table 4. Age composition and mean length of largemouth bass from Cedar Creek Reservoir, spring 2007.

Annulus	Year Class	Number	Percent	CPE	Mean Length	Standard Deviation
1	2006	76	32.6	15.2	170.0	2.9
2	2005	88	37.8	17.6	270.9	2.5
3	2004	35	15.0	7.0	332.4	4.8
4	2003	8	3.4	1.6	391.0	13.0
5	2002	10	4.3	2.0	415.0	12.0
6	2001	4	1.7	0.8	500.0	15.8
7	2000	5	2.1	1.0	503.4	15.5
8	1999	1	0.4	0.2	453.0	
9	1998	3	1.3	0.6	510.3	30.1
10	1997	2	0.9	0.4	545.0	55.0
11	1996	0	0.0	0.0	0.0	
12	1995	1	0.4	0.2	548.0	
Total		233	100.0	46.6		

Table 5. Length at age for largemouth bass from Cedar Creek Reservoir, spring 2007.

Length (mm)	I	II	III	IV	V	VI	VII	VIII	IX	X	XI	XII	Total
100	1												1
125	15												15
150	31												31
175	25												25
200	3	5											8
225		14											14
250		25	2										27
275	1	36											37
300		8	13										21
325			10	1	1								12
350			7		1								8
375			3	4									7
400				1	3								4
425				1	4								5
450				1	1	1	2	1	1				7
475						2				1			3
500							1		1				2
525						1	2					1	4
550									1				1
575													0
600										1			1
Total	76	88	35	8	10	4	5	1	3	2	0	1	233

Table 6. Age composition and mean length of spotted bass from Cedar Creek Reservoir, spring 2007.

Annulus	Year Class	Number	Percent	CPE	Mean Length	Standard Error
1	2006	53	42.7	10.6	148.7	2.4
2	2005	60	48.4	12.0	237.3	3.3
3	2004	11	8.9	2.2	270.7	11.1
Total		124	100.0	24.8		

Table 7. Length at age for spotted bass from Cedar Creek Reservoir, spring 2007.

Length (mm)	I	II	III	Total
75	1			1
100	4			4
125	23			23
150	22			22
175	3	5		8
200		14	1	15
225		20	2	22
250		16	4	20
275		5	2	7
300			1	1
325			1	1
Total	53	60	11	124

Table 8. Age composition and mean length of white crappie from Cedar Creek Reservoir, spring 2007.

Annulus	Year Class	Number	Percent	CPE	Mean Length	Standard Error
1	2006					
2	2005	32	29.4	10.5	239.4	3.4
3	2004	39	35.8	12.7	270.3	2.6
4	2003	7	6.4	2.3	287.3	4.1
5	2002	0	0.0	0.0	0.0	
6	2001	31	28.4	10.1	292.6	4.1
Total		109	100.0	35.6		

Table 9. Length at age for white crappie from Cedar Creek Reservoir, spring 2007.

Length (mm)	I	II	III	IV	V	VI	Total
200		1					1
210		4	1				5
220		8					8
230		4					4
240		3	3				6
250		8	5			1	14
260		2	7			2	11
270		2	11	2		6	21
280			8	3		7	18
290			4	1		6	11
300				1		3	4
310						2	2
320						1	1
330						1	1
340						2	2
Total	0	32	39	7	0	31	109

Table 10. Time to reach "Lengths of Interest" using the von Bertalanffy equation, for largemouth bass and white crappie from Cedar Creek Reservoir, spring 2007.

Largemouth bass				**White crappie**		
Lengths of Interest		Time to Reach	State Average	Lengths of Interest		Time to Reach
(inches)	(mm)	(years)	(years)	(inches)	(mm)	(years)
12	305	2.49	2.47	9	229	1.2
13	330	2.86		10	254	2.4
14	356	3.30		11	279	4.0
15	381	3.78	3.79	12	305	6.4
16	406	4.32				
17	432	5.00				
18	457	5.80				
19	483	6.89				
20	508	8.38	7.45			
21	533	11.00				

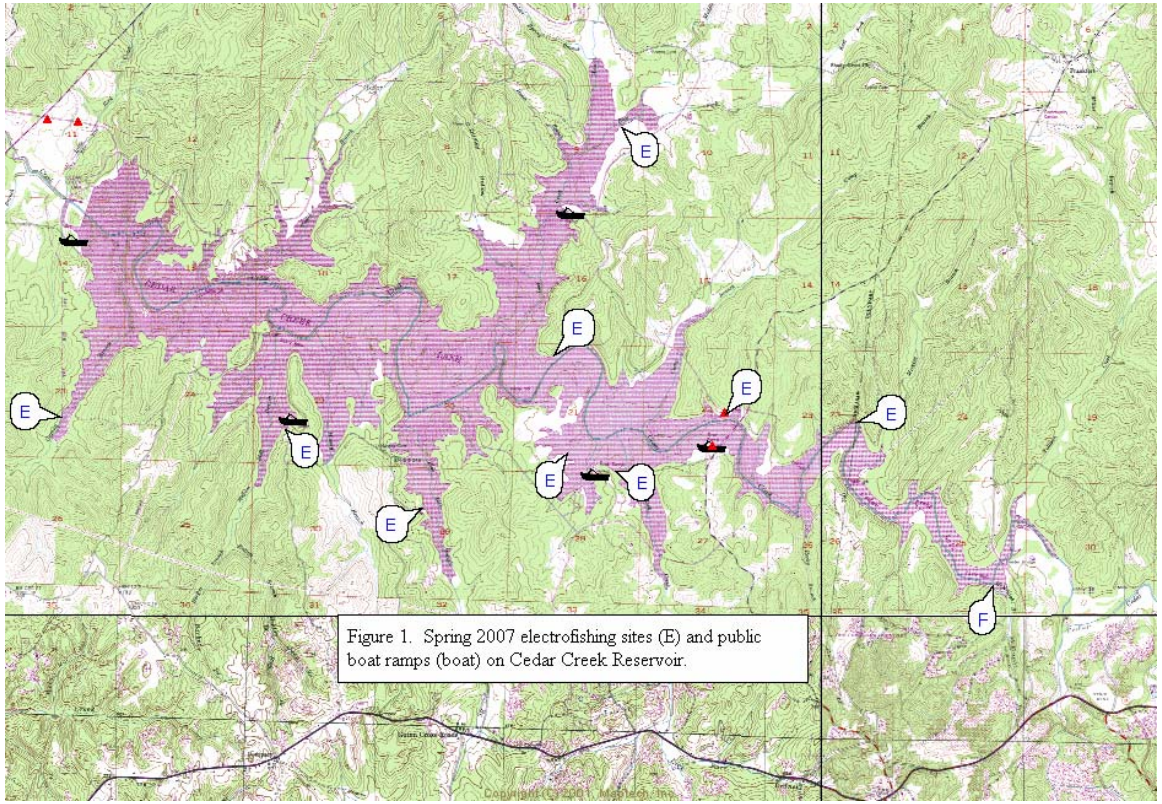

Figure 1. Spring 2007 electrofishing sites (E) and public boat ramps (boat) on Cedar Creek Reservoir.

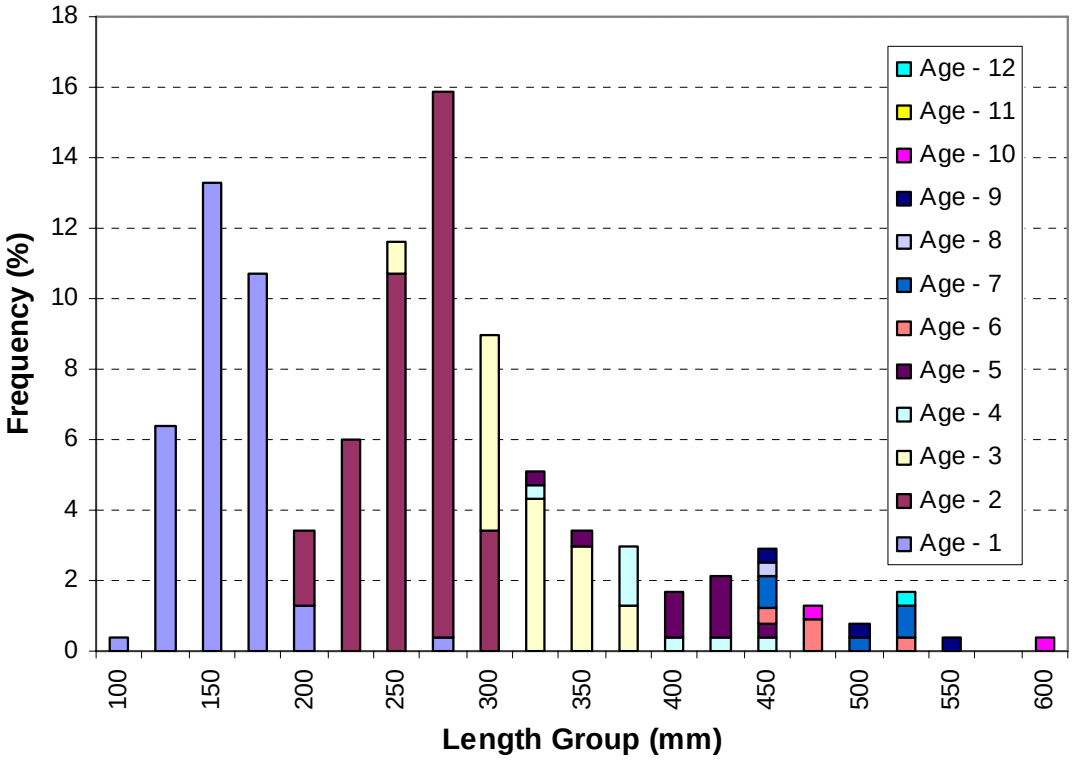

Figure 2. Length at age frequency of largemouth bass (N=233) from Cedar Creek Reservoir, spring 2007.

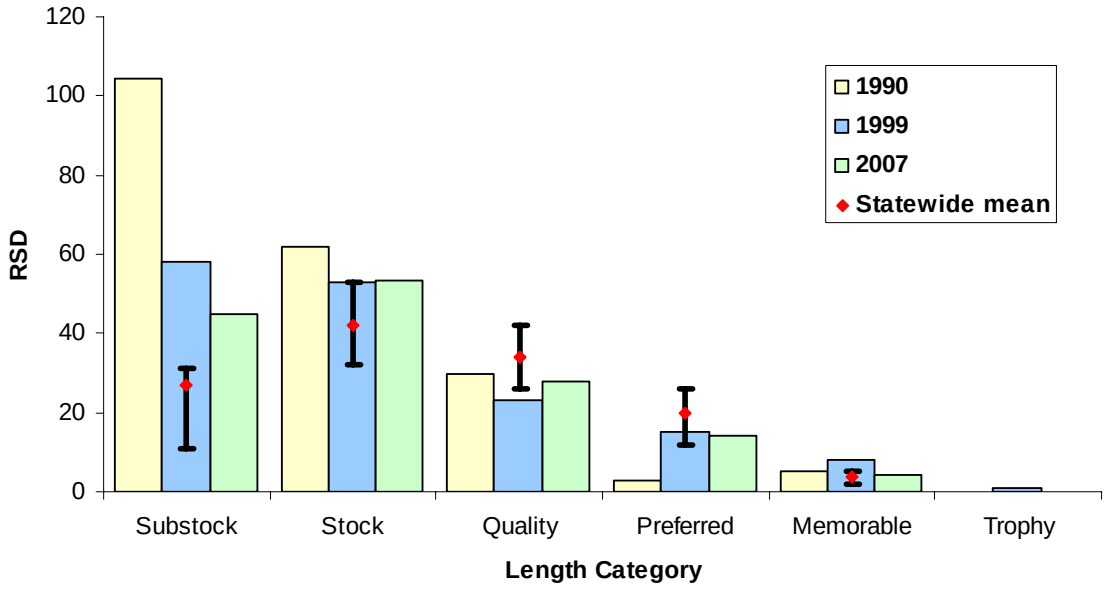

Figure 3. Relative stock density (RSD) of largemouth bass from Cedar Creek Reservoir, spring 1990, 1999 and 2007, and the statewide mean. The I-beams denote the 25th and 75th percentiles of RSD values for largemouth bass, statewide.

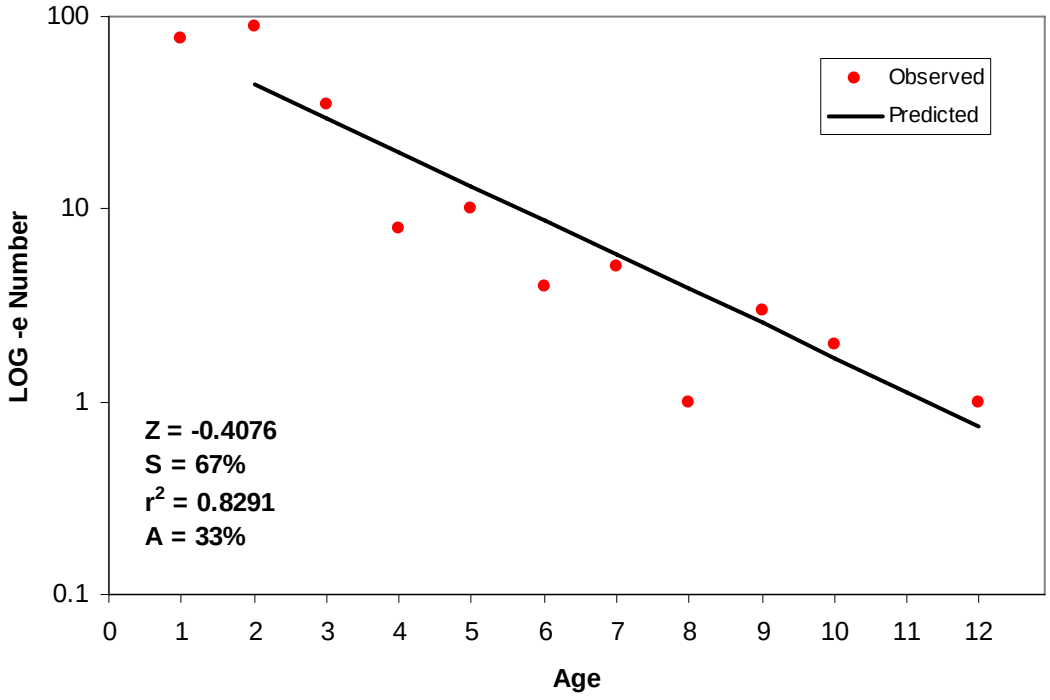

Figure 4. Total annual mortality (A) regression for largemouth bass (ages 2-12) from Cedar Creek Reservoir, spring 2007.

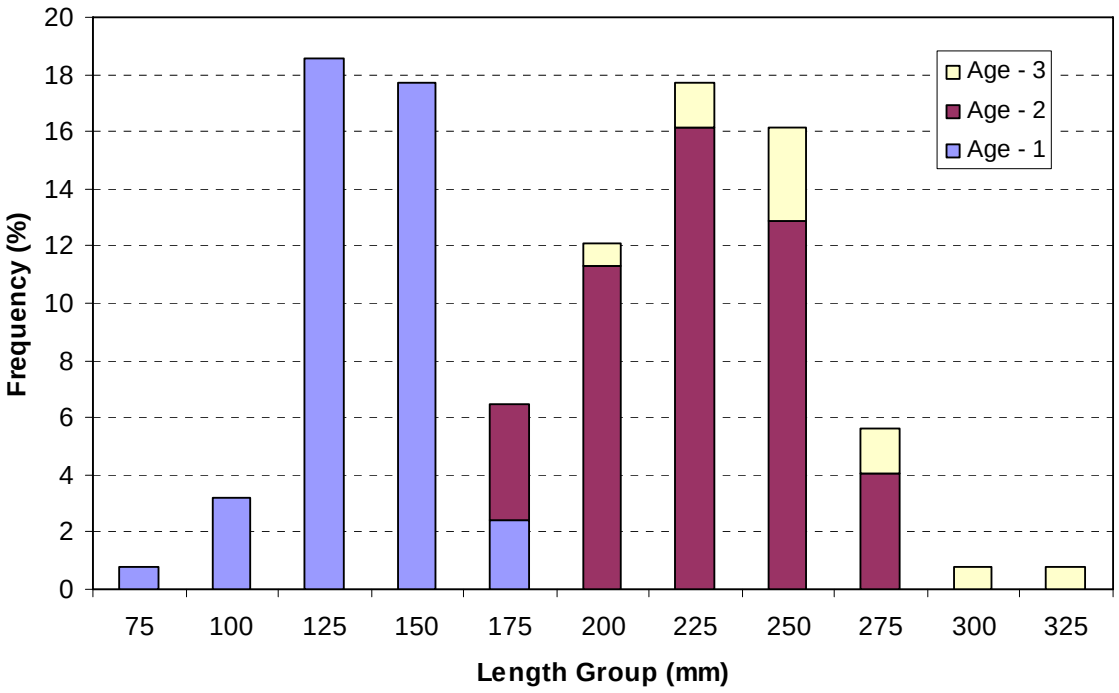

Figure 5. Length at age frequency of spotted bass (N=124) from Cedar Creek Reservoir, spring 2007.

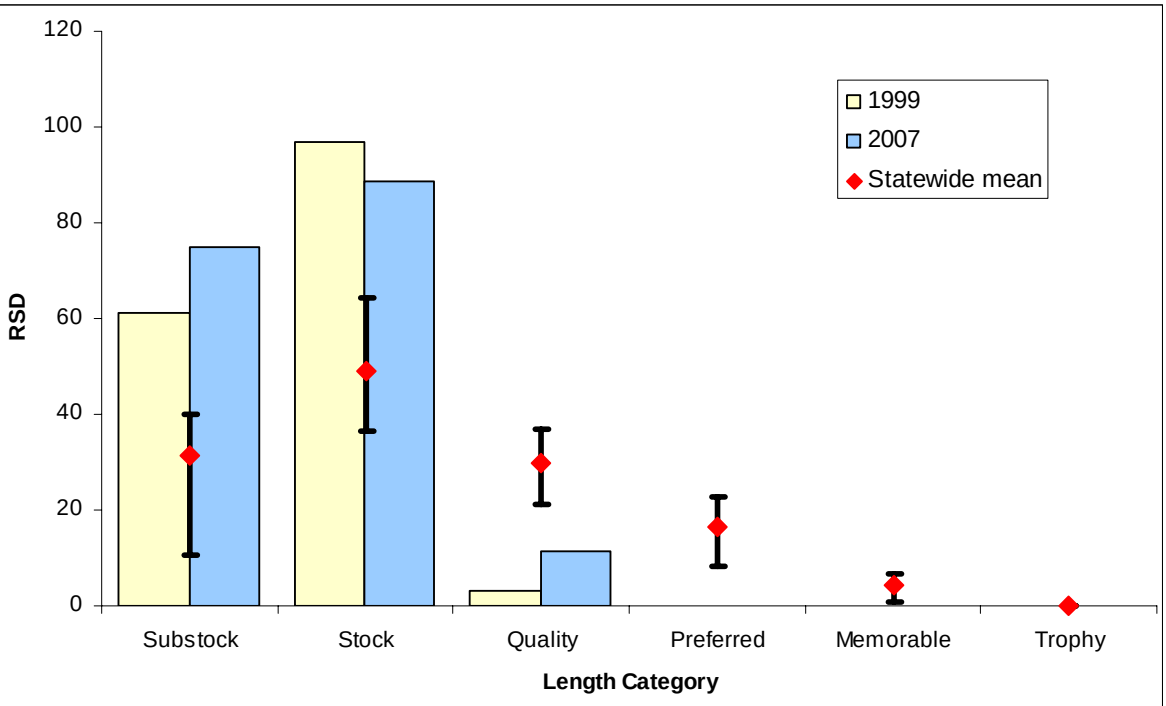

Figure 6. Relative stock density (RSD) of spotted bass from Cedar Creek Reservoir, spring 1999 and 2007, and the statewide mean. The I beams denote the 25th and 75th percentiles of RSD values for spotted bass, statewide.

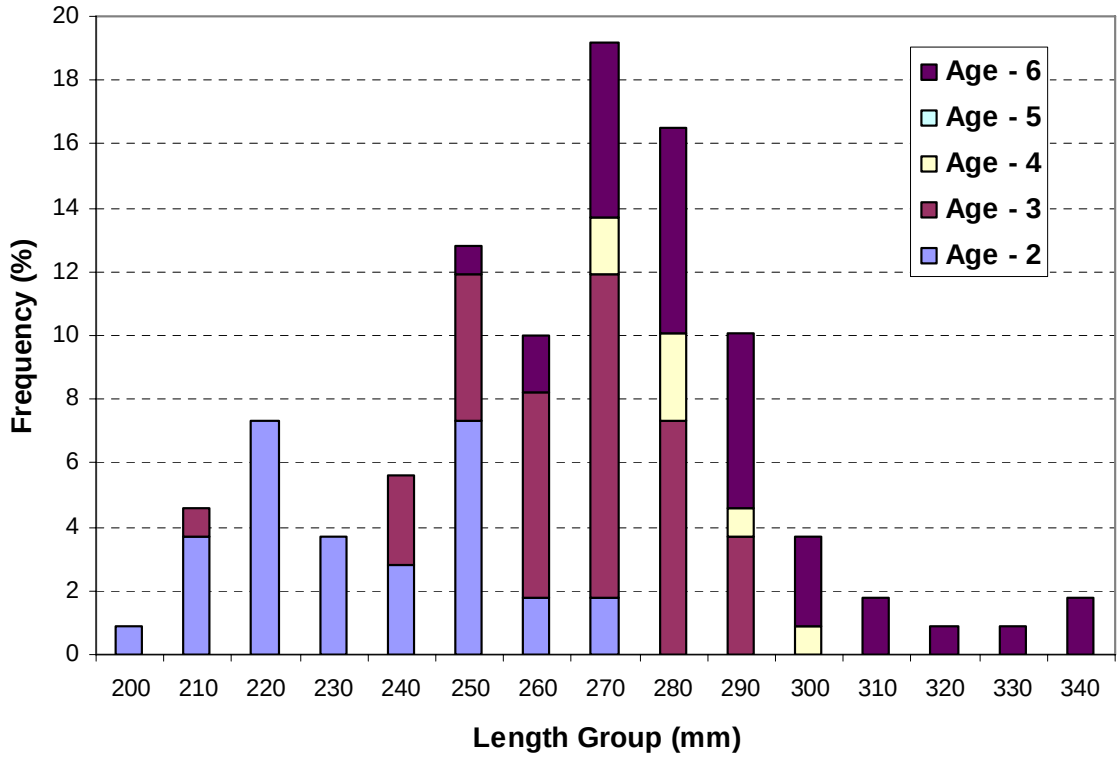

Figure 7. Length at age frequency of white crappie (N=109) from Cedar Creek Reservoir, spring 2007.

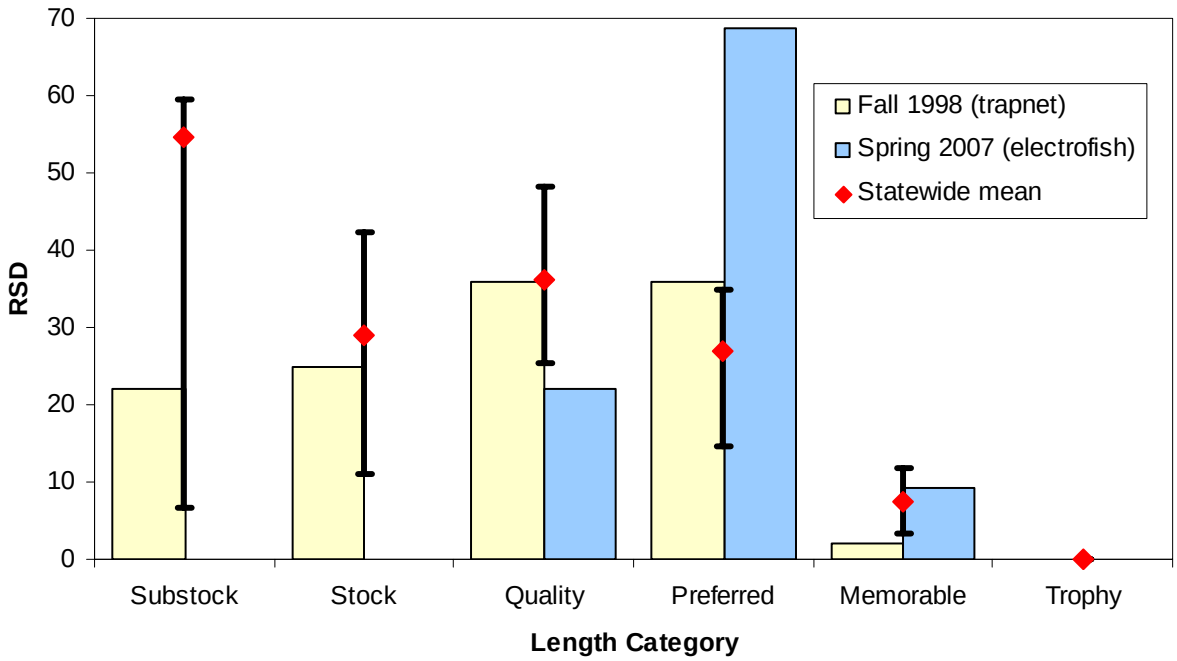

Figure 8. Relative stock density (RSD) of white crappie from Cedar Creek Reservoir, fall 1998 (trapnet) and spring 2007 (electrofish), and the statewide mean. The I-beams denote the 25th and 75th percentiles of RSD values for crappie, statewide.

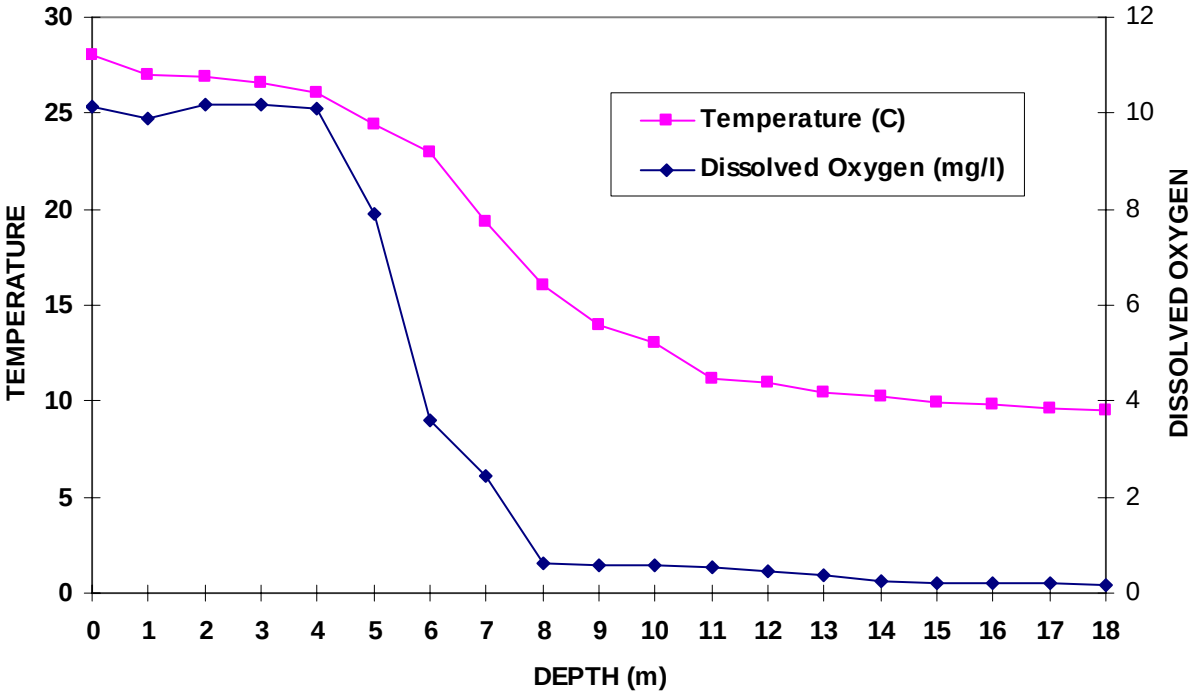

Figure 9. Temperature and dissolved oxygen profiles in the Cedar Creek Dam forebay during August, 2007.

APPENDIX B

ACCESS AREA CREEL SURVEY

CEDAR CREEK CREEL REPORT 2007

1.	Number of parties interviewed	=	205
2.	Number of anglers interviewed	=	398
3.	Total fishing effort (hours)	=	2295.45
4.	Mean trip length (hours)	=	5.77
5.	Number of parties fishing for bass	=	103
6.	Percent of parties in survey fishing for bass	=	50.24
7.	Number of bass anglers	=	185
8.	Percent of anglers in survey fishing for bass	=	46.48
9.	Fishing effort for bass (hours)	=	1267.28
10.	Percent effort for bass	=	55.21
11.	Mean trip length for bass anglers (hours)	=	6.85
12.	Number of parties fishing for crappie	=	94
13.	Percent of parties in survey fishing for crappie	=	45.85
14.	Number of crappie anglers	=	196
15.	Percent of anglers in survey fishing for crappie	=	49.25
16.	Fishing effort for crappie (hours)	=	964.32
17.	Percent effort for crappie	=	42.01
18.	Mean trip length for crappie anglers (hours)	=	4.92
19.	Number of parties fishing for anything	=	8
20.	Percent of parties in survey fishing for anything	=	3.90
21.	Number of anglers fishing for anything	=	17
22.	Percent of anglers in survey fishing for anything	=	4.27
23.	Fishing effort for anything (hours)	=	63.85
24.	Percent effort for anything	=	2.78
25.	Number of parties fishing for other species	=	0
26.	Percent of parties in survey fishing for other species	=	0.00
27.	Number of anglers fishing for other species	=	0
28.	Percent of anglers in survey fishing for other species	=	0.00
29.	Fishing effort for other species (hours)	=	0.00

30. Percent effort for other species = 0.00

31. Number of LMB <12" released by all anglers = 1197

32. Number of LMB >12" released by all anglers = 421

33. Number of LMB <12" released by bass anglers = 765

34. Number of LMB >12" released by bass anglers = 371

35. Number of SPB <12" released by all anglers = 606

36. Number of SPB >12" released by all anglers = 154

37. Number of SPB <12" released by bass anglers = 521

38. Number of SPB >12" released by bass anglers = 140

39. Number of bass harvested by all anglers = 94

40. Number of bass harvested by bass anglers = 46

41. Bass harvest rate (bass/hr.) for all anglers = 0.04

42. Bass catch rate (bass/hr.) for all anglers = 1.08

43. Bass harvest rate (bass/hr.) for bass anglers = 0.04

44. Bass catch rate (bass/hr.) for bass anglers = 1.45

45. Modal length group (25mm) of black bass harvested = 275

46. Number of crappie < 9" released by all anglers = 848

47. Number of crappie > 9" released by all anglers = 188

48. Number of crappie < 9" released by crappie anglers = 838

49. Number of crappie > 9" released by crappie anglers = 174

50. Number of crappie harvested by all anglers = 909

51. Number of crappie harvested by crappie anglers = 893

52. Crappie harvest rate (crappie/hr.) for all anglers = 0.40

53. Crappie catch rate (crappie/hr.) for all anglers = 0.81

54. Crappie harvest rate (crappie/hr.) for crappie anglers = 0.93

55. Crappie catch rate (crappie/hr.) for crappie anglers = 1.60

56. Modal length group (10mm) of crappie harvested = 260

57. Effort by access area

Access area	No. of parties	Effort (hours)	Percent Effort
Britton Bridge	60	569.95	24.83
Slick Rock	145	1725.50	75.17
Total	205	2295.45	100.00

58. The state and county of residence for Cedar Creek Reservoir angler parties

State	County / City	Parties	Percent of All
AL	COLBERT	36	16.82
AL	FAYETTE	2	0.93
AL	FRANKLIN	110	51.40
AL	JEFFERSON	2	0.93
AL	LAMAR	1	0.47
AL	LAUDERDALE	11	5.14
AL	LAWRENCE	7	3.27
AL	LIMESTONE	2	0.93
AL	MADISON	5	2.34
AL	MARION	22	10.28
AL	MORGAN	5	2.34
AL	WALKER	2	0.93
AL	WINSTON	6	2.80
MS	PRENTISS	1	0.47
MS	ITAWAMBA	1	0.47
TN	LEWIS	1	0.47
Total		214 *	99.99

* In an interview, a party may include anglers from different counties; therefore, this total is higher than the total number of parties interviewed.

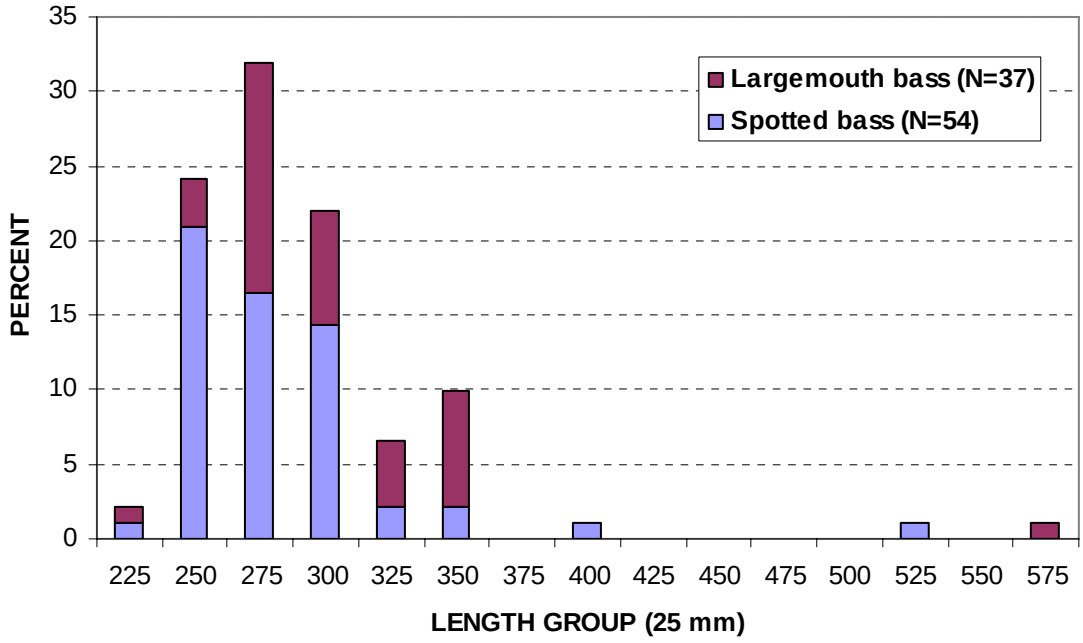

Figure 1. Percent of black bass harvested (N=91) by 25mm length group from Cedar Creek Reservoir, spring 2007.

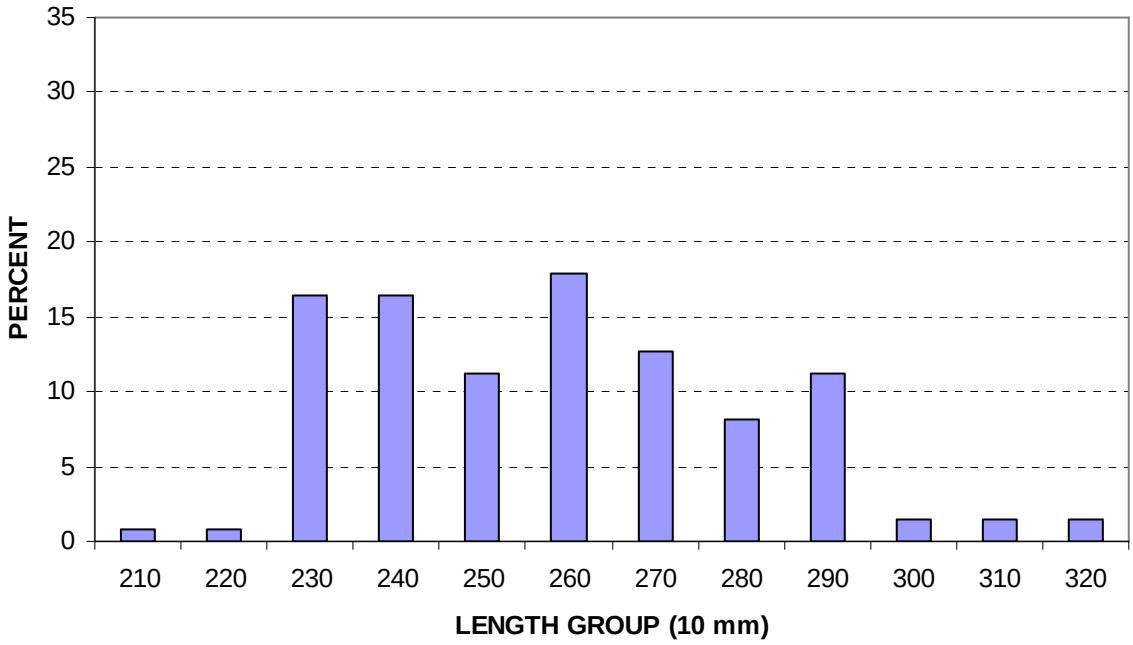

Figure 2. Percent of white crappie harvested (N=134) by 10mm length group from Cedar Creek Reservoir, spring 2007.