SURVEY REPORT

OKLAHOMA FISHERIES MANAGEMENT PROGRAM

FISH MANAGEMENT SURVEY AND RECOMMENDATIONS

FOR

CARLTON LAKE

1999

Performance Report

State: Oklahoma **Project No.** F 44-14

Project Title: Oklahoma Fisheries Management Program

Study Title: Surveys and Recommendations - Carlton Lake

Period Covered: 1 January 1999 - 31 December 1999

LAKE CARLTON

ABSTRACT

Lake Carlton was sampled by spring electrofishing in 1999 to determine fish population trends. Largemouth bass were high in abundance (C/f=67.2) and was less than the last sample which was conducted in 1995. Abundance of bluegill was high (C/f=190), but gizzard shad abundance was low (C/f=2.0). Species collected in low numbers include longear sunfish, redear, green sunfish and warmouth.

Recommendations were made to refurbish existing brush fish attractors as needed and to stock 2,080 growout channel catfish in 2000.

INTRODUCTION

Lake Carlton impounds the Fourche Maline Creek, 8.0 km North of Wilburton in Latimer County, Oklahoma (Fig. 1) within the boundaries of Robbers Cave State Park. Carlton covers 52 surface acres and was constructed in the 1930's. It is very shallow in the upper 1/3 of the lake due to siltation and near the dam the maximum depth is approximately 6 meters. Fish habitat consists primarily of aquatic vegetation. Major fisheries include black bass, crappie, channel catfish and bluegill sunfish.

Recent fish stockings are shown in (Table 1). Habitat improvements include four brush fish attractors, that are refurbished as needed. In January 1987, a new boat ramp was constructed to provide better access to anglers.

Lake Carlton was sampled in 1999 by spring electrofishing to evaluate the black bass, sunfish and shad populations.

RESULTS

Largemouth Bass

1. Largemouth bass abundance from 1999 spring electrofishing (C/f=67.2) was above the minimum acceptable value for a quality fishery (C/f ≥ 40). The total bass C/f was higher than the 1986 and 1990 sample, but lower than the 1995 sample (Table 2).

2. In 1999 spring electrofishing, the abundance of largemouth bass <200 mm was similar to the 1995 sample and those bass ≥300 mm decreased somewhat compared to the 1995 sample (Table 2).

3. Body condition values (W_r) were satisfactory for largemouth bass in all size groups except those between 200-299 mm. Body condition values have remained fairly stable (Table 2).

4. Abundance, size structure and body condition values were acceptable at Carlton Lake, indicating a quality bass fishery. Angling for largemouth bass in 2000 should be good at Carlton lake.

Bluegill

1. Bluegill abundance from 1999 spring electrofishing (C/f=190) was well above the minimum acceptable value for a quality forage supply (C/f ≥ 45.0). The total bluegill C/f decreased compared to the last sample in 1995 (Table 3).

2. In 1999 spring electrofishing, the abundance of bluegill in all size groups was above acceptable values. The abundance of bluegill decreased compared to the last sample in 1995 (Table 3).

3. Body condition values (W_r) were unsatisfactory for bluegill in all size groups. Body condition values have decreased in recent samples (Table 3).

4. Bluegill should continue to provide excellent forage in Carlton lake.

Gizzard Shad

1. Shad abundance from 1999 spring electrofishing (C/f=2.0) was far below the minimum acceptable value for a quality forage supply (C/f ≥ 40). The total shad C/f decreased compared to the last sample conducted in 1995 (Table 4).
2. In spring electrofishing, there were no shad <200 mm in the sample, indicating an unsatisfactory forage supply. The abundance of shad <200 mm decreased compared to the last sample (Table 4).
3. Spring electrofishing body condition values (W_r) were not determined (Table 4).
4. Gizzard shad should not provide adequate forage in Carlton lake.

Species Collected in Low Numbers Include:

1. No spotted bass were sampled by spring electrofishing in 1999, suggesting a small abundance of spotted bass (Table 5).
2. Other species collected in low numbers include green sunfish, longear sunfish, redear and warmouth.

RECOMMENDATIONS

Fish Attractor Structures

1. All existing structures should be refurbished as needed.

Fish Stockings

1. Stock 2,080 growout channel catfish in 2000.

Fish Surveys

1. Spring electrofishing should be conducted in 2001 to evaluate the condition of the bass fishery and forage base.

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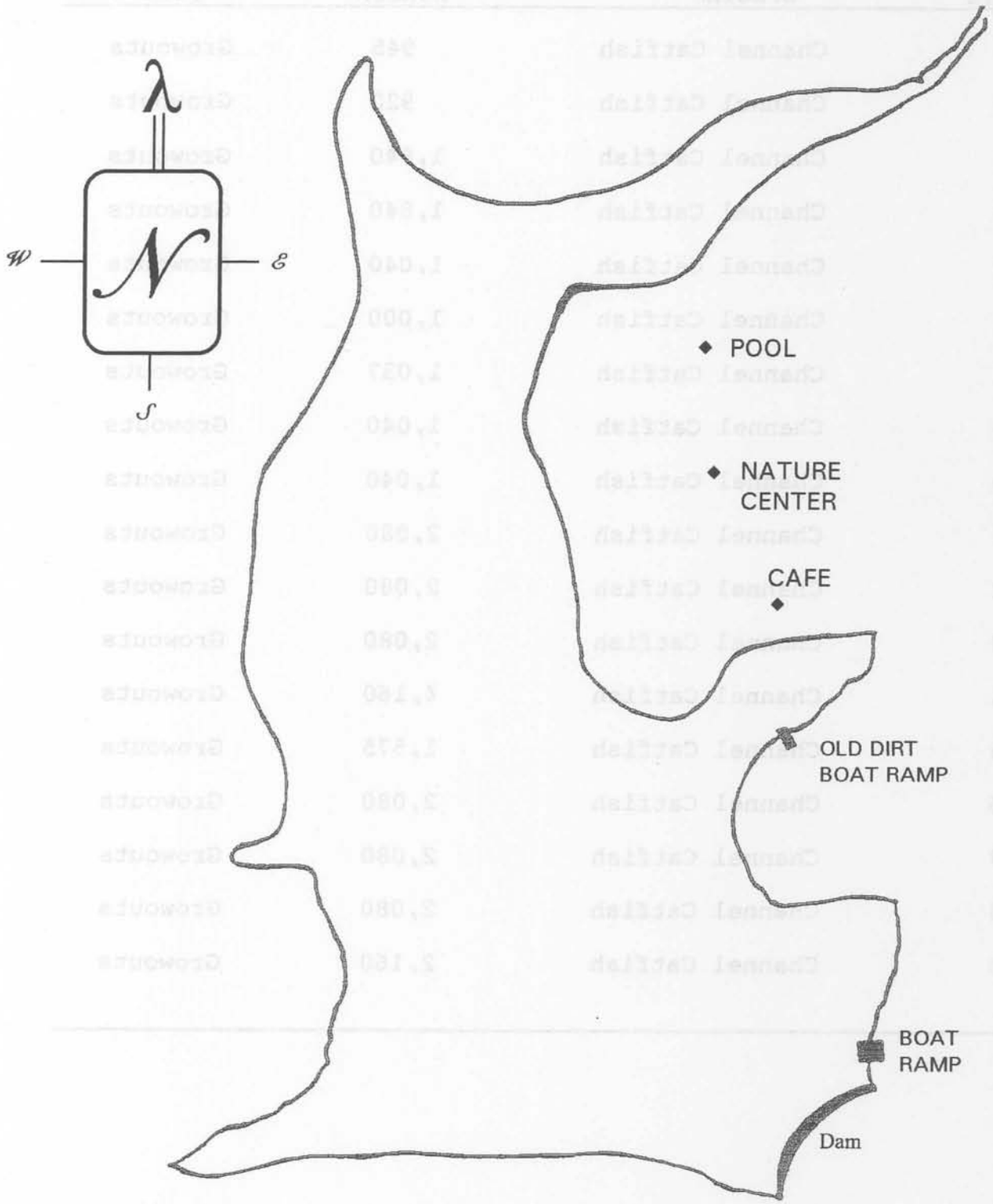
Figure 1. Map of Carlton Lake



SAMPLING SITES:

SPRING ELECTROFISHING: ENTIRE SHORELINE

Table 1. Species, number and size of fish stocked in Carlton Lake 1982-1999.

DATE	SPECIES	NUMBER	SIZE
1982	Channel Catfish	945	Growouts
1983	Channel Catfish	920	Growouts
1984	Channel Catfish	1,840	Growouts
1985	Channel Catfish	1,840	Growouts
1986	Channel Catfish	1,040	Growouts
1987	Channel Catfish	1,000	Growouts
1988	Channel Catfish	1,037	Growouts
1989	Channel Catfish	1,040	Growouts
1990	Channel Catfish	1,040	Growouts
1991	Channel Catfish	2,080	Growouts
1992	Channel Catfish	2,080	Growouts
1993	Channel Catfish	2,080	Growouts
1994	Channel Catfish	4,160	Growouts
1995	Channel Catfish	1,575	Growouts
1996	Channel Catfish	2,080	Growouts
1997	Channel Catfish	2,080	Growouts
1998	Channel Catfish	2,080	Growouts
1999	Channel Catfish	2,160	Growouts

Table 2. Total number (No.), catch rates (C/f), and relative weights (Wr) by size groups of **largemouth bass** collected by spring electrofishing from arlton Lake. Numbers in parentheses represent acceptable C/f values for a quality fishery. Acceptable Wr values are ≥90.

	Total (≥40)		<200 mm (15-45)		200-299 mm (15-30)		≥300 mm (≥15)		≥356 mm (≥10)	
Year	No.	C/f	C/f	Wr	C/f	Wr	C/f	Wr	C/f	Wr
1986	37	29.6	8.8	-	8.8	-	12.0	-	7.2	-
1990	66	44.0	6.0	106	26.7	83	11.3	87	7.3	88
1995	106	84.8	30.4	101	26.4	85	28.0	90	11.2	94
1999	84	67.2	28.0	93	24.0	81	15.2	90	8.8	92

Table 3. Total number (No.), catch rates (C/f), and relative weights (W_r) by size groups of **Bluegill** collected by spring electrofishing from Carlton lake. Numbers in parentheses represent acceptable C/f values for a quality fishery. Acceptable W_r values are ≥90.

	Total (≥45)	<75 mm (≥10)		75-149 mm (20-100)		≥150 mm (≥15)	
Year	No.	C/f	Wr	C/f	Wr	C/f	Wr
1986	258	206.4	15.2	-	173.6	92	17.6	75
1990	57	38.0	2.7	-	29.3	89	6.0	91
1995	147	294.0	144.0	-	138.0	89	12.0	89
1999	95	190.0	50.0	-	110.0	74	30.0	83

Table 4. Total number (No.), catch rates (C/f), and relative weights (W_r) by size groups of **gizzard shad** collected by spring electrofishing from arlton lake. Numbers in parentheses represent acceptable C/f values for a quality fishery. Acceptable W_r values are ≥90.

	Total (≥40)		<200 mm (≥20)	
Year	No.	C/f	C/f	Wr
1986	199	159.2	67.2	87
1990	48	32.0	2.7	87
1995	29	58.0	18.0	100
1999	1	2.0	0.0	-