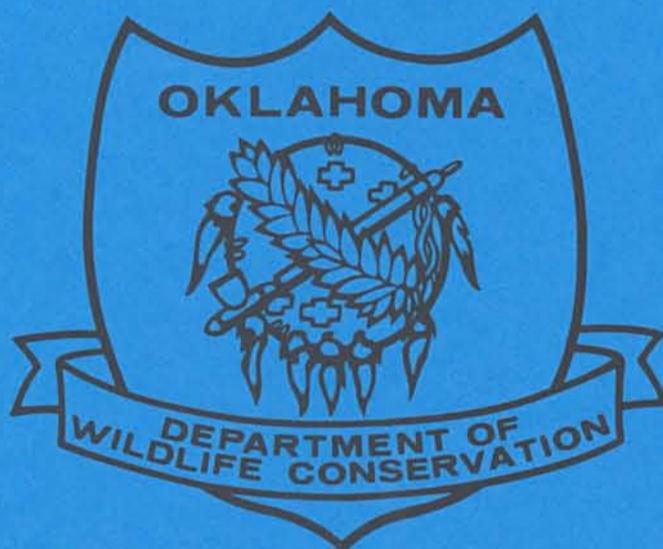


SURVEY REPORT

OKLAHOMA FISHERIES MANAGEMENT PROGRAM



FISH MANAGEMENT SURVEYS AND RECOMMENDATIONS

FOR

LAKE GEORGE HORANY

1998

PERFORMANCE REPORT

State: Oklahoma

Project No. F-44-D

Project Title: Oklahoma Fisheries Management Program

Study Title: Surveys and Recommendations - George Horany

Period Covered: 1 January 1998 - 31 December 1998

LAKE GEORGE HORANY

ABSTRACT

Lake George Horany was sampled by fall gillnetting in 1998 to determine fish population trends. Channel catfish population density was low; with good condition individuals that are experiencing some reproduction problems. White crappie showed signs of slow growth. Bluegill sunfish were the most abundant fish captured during fall gillnetting and were found in high abundance, mostly stock size and larger. Recommendations included constructing brush fish attractors and installing catfish spawning containers to provide habitat and protection of the nests. Stocking of grow-out channel catfish to augment low natural reproduction is also recommended. The enforcement of the slot length limit is recommended to help improve the quality of largemouth bass angling on George Horany.

INTRODUCTION

Lake George Horany impounds the Catfish Creek, in the city limits of Bristow in Creek County, Oklahoma (Fig. 1). George Horany covers 14 surface hectares and was constructed in 1936 by the City of Bristow. George Horany Reservoir has a mean depth of 1 m and a maximum of 8 m, a shoreline development ratio of zero, and a secchi disc visibility of around 10 cm in the main pool in August; turbidity is primarily from plankton. Fish habitat consists primarily of aquatic vegetation and rock.

The most recent stockings were channel catfish with 900 growouts in 1998 and 4,550 fingerling Florida largemouth bass in 1991 (Table 1).

George Horany Reservoir was sampled in 1998 by fall gillnetting to evaluate channel catfish information.

Crappie (Combined)

1. Crappie abundance from 1998 fall gillnetting ($C/f = 0.043$) was below the minimum acceptable value for a quality fishery (Table 2).
2. Abundance of crappie in >200 mm size groups was satisfactory while ≥ 250 mm was unsatisfactory (Table 2).
3. Body condition values (W_t) was excellent for the ≥ 200 mm size group.
4. The population was primarily composed of age 2 (40% of the population age 2) with a mean length higher than acceptable (>200 mm) for age 2 crappie (Table 3).
5. George Horany Reservoir was never stocked with crappie and any future stocking done by the public should be discouraged. The impound is too small

and crappie would easily over populate.

Channel Catfish

1. Channel catfish abundance from 1998 fall gillnetting (C/f = 0.043) was below the minimum acceptable value for a quality fishery (C/f = 0.20)(Table 4).
2. The abundance of channel catfish in all size groups were unsatisfactory (Table 4).
3. Body condition values (W_r) were unsatisfactory for ≥ 300 mm and ≥ 400 mm size groups but those ≤ 300 mm were in excellent condition.

Other

1. Nineteen bluegill were collected in 1997 and were moderately abundant (Table 5).
1. Only 2 redear were netted in 1998 (Table 5).
1. Only 2 warmouth were netted in 1998 (Table 5).

RECOMMENDATIONS

Habitat Enhancement

1. Provide spawning habitat for channel catfish.

Fish Stockings

1. Stock 4,500 growout channel catfish.

Fishing Surveys

1. Spring electrofishing survey should be conducted in 1999 to check the largemouth bass population and condition of bluegill sunfish.

2. A fall gillnet survey in 1999 to check the population of channel catfish.

Prepared by Brent Gordon
Brent Gordon
Fisheries Technician

Mark Ambler
Mark Ambler
Special Projects Manager

Approved by Barry Bolton
Barry Bolton
Assistant Chief of Fisheries

DATE	SPECIES	NUMBER	SIZE
1980	Largemouth Bass	666,600	Fingerling
1981	Florida LMB	444,000	Fingerling
1981	Channel Catfish	33,000	Growouts
1981	Walleye	789,000	Fry
1982	Blue Catfish	45	Adults
1983	Smallmouth Bass (Reservoir Strain)	198	Sub-Adults
1984			
1985			
1986			
1987	Grass Carp	150	3" Fingerling
1987	Channel Catfish	12,000	Growouts
1988	Channel Catfish	700	Growouts
1989			
1990	Florida LMB	3,800	Fingerlings
1990	Channel Catfish	6,100	Growouts
1991	Florida LMB	4,550	Fingerlings
1991	Channel Catfish	4,000	Growouts
1998	Channel Catfish	900	Growouts

Table 2. Total number (No.), catch rates (C/f), and relative weights (W_r) by size groups of crappie collected by gill netting from Lake George Horany. Numbers in

parentheses represent acceptable C/f values for a quality fishery. Acceptable W_r values are ≥ 90 .

Year	Total (≥ 20)		<200 mm (.05-.30)		≥ 200 mm (.08)		≥ 250 ($\geq .04$)	
	No.	C/f	C/f	W_r	C/f	W_r	C/f	W_r
1980								
1981								
1982								
1983								
1984								
1985								
1986								
1987								
1988								
1989								
1990								
1997	5	0.083	0.033	88	0.050	97	---	---
1998	15	0.043	---	---	0.217	100	---	---

Table 3. Mean length at age of crappie collected by gill netting from Lake George

Horany. Numbers in parentheses represent values for acceptable growth rates.

Year	Age 1 (≥160 mm)	Age 2 (≥200 mm)	Age 3 (≥225 mm)	Age 4 (≥250 mm)
1977				
1978				
1979				
1980				
1981				
1982				
1983				
1984				
1985				
1986				
1987				
1988				
1989				
1990				
1991				
1992				
1998	—	223	218	210

Table 4. Total number (No.), catch rates (C/f), and relative weights (W_r) by size groups of channel catfish collected by gill netting from Lake George Horany. Numbers in parentheses represent acceptable C/f values for a quality fishery. Acceptable W_r values are ≥ 90 .

Year	Total (≥ 20)		<300 mm (≥ 10)		≥ 300 mm (≥ 10)		≥ 400 mm (≥ 05)	
	No.	C/f	C/f	W_r	C/f	W_r	C/f	W_r
1979								
1980								
1981								
1982								
1983								
1984								
1985								
1986								
1987								
1988								
1989								
1990								
1994								
1997	2	0.033	—	—	0.033	88	0.033	88
1998	3	0.043	0.014	101	0.029	75	0.029	75

Table 5. Total number (No.) and catch rates (C/f) of non-game fish collected by gill netting from Lake George Horany.

Year No.	Bluegill ¹		Redear		Warmouth	
	No.	C/f	No.	C/f	No.	C/f
1980						
1981						
1982						
1983						
1984						
1985						
1986						
1987						
1988						
1989						
1990						
1991						
1992						
1997	28	0.467				
1998	19	0.275	2	.029	2	.029

¹BBH = black bullhead; YBH = yellow bullhead; DRM = freshwater drum; CRP = common carp; SBF = smallmouth buffalo; BBF = bigmouth buffalo; BUF = buffalo spp.; RCS = river carpsucker; RRH = river redhorse; LNG = longnose gar; SPG = spotted gar; SHG = shortnose gar; GAR = gar spp.

