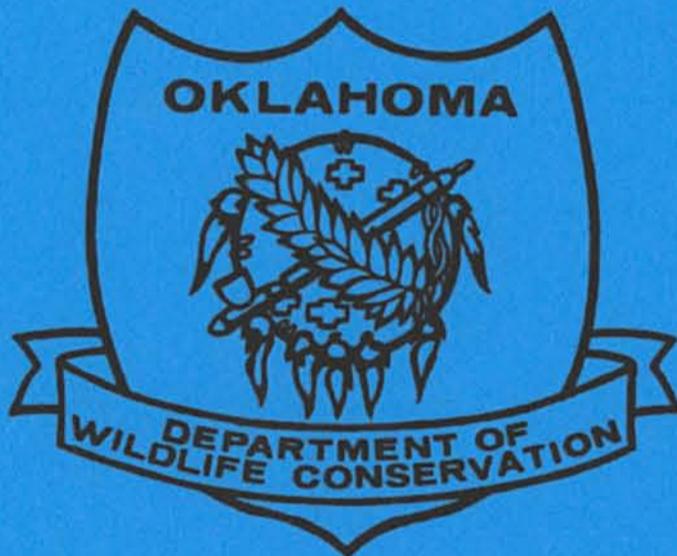


1.02  
1.4  
1.51  
42.6  
47.3  
33.0

# SURVEY REPORT

## OKLAHOMA FISHERIES MANAGEMENT REPORT



### FISH MANAGEMENT SURVEYS AND RECOMMENDATIONS

FOR

PRAGUE LAKE

2005

## **Performance Report**

State: Oklahoma

Project No. F 44-D-20

Project Title: Oklahoma Fisheries Management Program

Study Title: Surveys and Recommendations - Prague Lake

Period Covered: 1 January 2005 - 31 December 2005

### **PRAGUE LAKE**

#### **ABSTRACT**

Prague Lake was sampled by spring electrofishing and fall gill netting in 2005 to evaluate stocking success of Florida largemouth bass and to monitor fish population trends. Largemouth bass were abundant, and a high quality fishery was present. Florida bass stockings have been successful. Crappie abundance was adequate, but numbers of quality and trophy size fish were low. Channel catfish were still abundant, and a good fishery was present. Gizzard shad abundance was low.

Recommendations include: stocking Florida largemouth bass fingerlings in 2006 and channel catfish fingerlings in 2007, conducting periodic fish population surveys and maintaining the 356-mm minimum length limit on bass.

## INTRODUCTION

Prague Lake impounds Sand Creek 8 km northwest of Prague in Lincoln County, Oklahoma (Figure 1). Prague Lake covers 121 surface hectares and was constructed in 1984 by the City of Prague. The lake has a mean depth of 3.3 m and a secchi disc visibility of around 147 cm in the main pool in August. However, turbid water conditions often occur for extended periods of time following heavy rains. Fish habitat consists primarily of flooded timber and aquatic vegetation.

The main fisheries management problem was a decline in channel catfish abundance. Recent stockings of  $\geq 178$  mm fingerlings have greatly increased their abundance, and this species is now being stocked periodically to maintain their abundance. Florida largemouth bass fingerlings are being stocked every other year to enhance trophy bass potential (Table 1).

Two large brushrows were constructed prior to impoundment from trees cleared from the dam site area to provide fish attractor habitat. A 356-mm minimum length limit for black bass is currently in effect. A boating access project consisting of the installation of a boat ramp, boat dock, and a gravel parking lot was completed in 1990. Restrooms were installed in 1991. A fishing access project consisting of the installation of a walkway and covered fishing dock was completed in 1992. The boat

dock and fishing dock were heavily damaged by high winds in 1994 and were repaired. The gravel parking lot was asphalted in 1998.

Prague Lake was sampled in 2005 by spring electrofishing and fall gill netting to evaluate success of Florida largemouth bass stockings and to monitor fish population trends.

## RESULTS

### Largemouth bass

1. Largemouth bass abundance from 2005 spring electrofishing ( $C/f=114.0$ ) was well above the minimum acceptable value for a quality fishery ( $C/f \geq 40$ ). The total bass  $C/f$  has been increasing in recent sample years (Table 2).
2. In 2005 spring electrofishing, abundances of all sizes of bass were satisfactory (Table 2). Catch rates of bass  $\geq 300$  mm and  $\geq 356$  mm were especially good and were similar to those found in the previous survey. The largest largemouth bass collected weighed 2.7 kg (5.8 lbs.).
3. Body condition values ( $W_r$ ) were satisfactory for all size classes, although they had decreased slightly from those in the previous survey (Table 2).
4. Results of electrophoretic testing indicate that, of the 2004 year-class, 35% were pure Florida strain, 25% were  $F_1$

hybrids, 28% were  $F_x$  hybrids, and 12% were pure northern strain bass.

5. Abundance and size structure of the population indicated that a high quality bass fishery was present. The percentage of Florida bass genes in the population indicates good success of Florida bass stockings.

### Crappie

1. Crappie abundance from 2005 fall gill netting ( $C/f=0.23$ ) was above the minimum acceptable value for a quality fishery ( $C/f \geq 0.20$ ). The total crappie  $C/f$  had decreased from previous sample (Table 3).
2. The abundance of crappie  $< 200$  mm in length was satisfactory, while all other size classes were below minimum acceptable values (Table 3). Abundance of crappie  $< 200$  mm in length was similar to that found in the previous survey, while abundances for those  $\geq 200$  mm and  $\geq 250$  mm had decreased. The largest crappie collected weighed 1.0 kg (2.2 lbs.).
3. Body condition values ( $W_r$ ) of all size classes of crappie were satisfactory (Table 3).
4. Numbers of quality and trophy size crappie were too low for a quality fishery.

### Channel catfish

1. Channel catfish abundance from 2005 fall gill netting ( $C/f=0.36$ ) was above the minimum acceptable value for a quality fishery ( $C/f \geq 0.20$ ). Channel catfish abundance had decreased considerably since the previous survey (Table 4).
2. Abundances of channel catfish in all size classes except for those <300 mm were above minimum acceptable values. Abundances of all size classes were decreased from those of the previous survey (Table 4). The largest channel catfish collected weighed 2.2 kg (4.9 lbs.).
3. Body condition value ( $W_r$ ) for channel catfish in all size classes were below acceptable levels (Table 4).
4. Channel catfish fingerlings have not been stocked since 2001. While a good fishery is still present, abundance has declined considerably in recent years.

#### **Gizzard shad**

1. Gizzard shad abundance from 2005 fall gill netting ( $C/f=0.05$ ) was below the minimum acceptable value for a quality forage supply ( $C/f \geq 0.20$ ) and had decreased from the previous gill net survey (Table 5).
2. No gizzard shad <150 mm in length were collected indicating poor reproduction in 2005.

#### **RECOMMENDATIONS**

### Fish Stockings

1. It is recommended that Florida largemouth bass fingerlings be stocked in 2006 to maintain Florida bass genes in the population for trophy bass production.
2. It is recommended that channel catfish fingerlings be stocked in 2007 to maintain adequate population abundance.

### Fish surveys

1. Periodic surveys should be conducted to monitor trends in the fish populations and to evaluate success of fish stockings.

### Fishing Regulations

1. The 356-mm minimum length limit on largemouth bass should be retained.

Prepared by Garland Wright  
Fish Supervisor

Table 1. Species, number and size of fish stocked in Prague Lake, 1985 - 2005.

DATE	SPECIES	NUMBER	SIZE
1985	Florida LAB	16,055	fingerlings
	Northern LAB	16,050	fingerlings
	Channel catfish	32,000	fingerlings
	Bluegill	160,000	fingerlings
1988	Gizzard shad	170	adults
	Channel catfish	16,000	fingerlings
1989	Channel catfish	16,000	fingerlings
1993	Channel catfish	12,000	fingerlings
1994	Channel catfish	12,000	fingerlings
1995	Channel catfish	12,000	fingerlings
1996	Florida LAB	12,600	fingerlings
1997	Florida LAB	6,000	fingerlings
	Channel catfish	6,210	fingerlings
1998	Florida LAB	6,105	fingerlings
	Channel catfish	6,010	fingerlings
1999	Florida LAB	6,000	fingerlings
	Channel catfish	6,150	fingerlings
2000	Florida LAB	6,796	fingerlings
	Channel catfish	6,019	fingerlings
2001	Channel catfish	6,000	fingerlings
2002	Florida LAB	6,490	fingerlings
2004	Florida LAB	6,100	fingerlings

Table 2. Total number (No.), catch rates (C/f), and relative weights ( $W_r$ ) by size groups of **largemouth bass** collected by spring electrofishing from Prague Lake (V.P. 1980-1988; G.P. 1989-2005). Numbers in parentheses represent acceptable C/f values for a quality fishery. Acceptable  $W_r$  values are  $\geq 90$ .

		Total ( $>40$ )	<200 mm (15-45)	200-299 mm (15-30)	$\geq 300$ mm ( $\geq 15$ )	$\geq 356$ mm ( $\geq 10$ )	$\geq 533$ mm ( $\geq 2$ )						
Year	No.	C/f	C/f	$W_r$	C/f	$W_r$	C/f	$W_r$	C/f	$W_r$	C/f	$W_r$	
1987	97	32.3	17.0	93	4.0	96	11.3	103	6.3	109			
1989	108	48.0	4.9	99	33.3	89	9.8	99	8.0	102			
1992	104	52.0	18.0	101	10.0	89	24.0	93	13.0	98	0.5	130	
1996	146	73.0	18.0	94	15.0	89	40.0	97	30.5	98	0.5	121	
1997	160	80.0	18.0	90	30.5	89	31.5	92	18.0	96	2.5	102	
1998	157	89.7	20.0	93	24.6	92	45.1	100	29.1	103	4.0	110	
1999	161	107.3	24.0	83	29.3	83	54.0	91	35.3	93	3.3	105	
2002	190	108.6	24.0	99	19.4	95	65.1	96	37.7	95	1.7	100	
2005	171	114.0	30.0	90	19.3	91	64.7	95	38.0	96	0.7	101	

Table 3. Total number (No.), catch rates (C/f), and relative weights ( $W_r$ ) by size groups of **crappie** collected by gill netting from Prague Lake. Numbers in parentheses represent acceptable C/f values for a quality fishery. Acceptable  $W_r$  values are  $\geq 90$ .

Year	Total ( $\geq .20$ )		<200 mm (.05-.30)		$\geq 200$ mm ( $\geq .08$ )		$\geq 250$ mm ( $\geq .04$ )	
	No.	C/f	C/f	$W_r$	C/f	$W_r$	C/f	$W_r$
1987	46	0.64	0.64	98	0.00	--	0.00	--
1989	24	0.30	0.21	89	0.09	82	0.04	84
1992	98	0.82	0.74	99	0.08	91	0.04	98
1994	118	0.49	0.49	94	0.00	--	0.00	--
1995	102	1.09	1.01	91	0.07	89	0.05	92
2001	24	0.24	0.09	95	0.15	110	0.10	108
2005	28	0.23	0.22	90	0.01	96	0.01	96

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 Prague Lake. Numbers in parentheses represent acceptable C/f values for a quality fishery. Acceptable  $W_r$  values are  $\geq 90$ .

Year	Total ( $\geq .20$ )		<300 mm ( $\geq .10$ )		$\geq 300$ mm ( $\geq .10$ )		$\geq 400$ mm ( $\geq .05$ )	
	No.	C/f	C/f	$W_r$	C/f	$W_r$	C/f	$W_r$
1987	13	0.18	0.00	--	0.18	86	0.06	103
1989	36	0.45	0.04	112	0.41	84	0.10	97
1992	12	0.10	0.07	89	0.03	85	0.01	98
1994	134	0.56	0.35	88	0.21	87	0.13	91
1995	56	0.60	0.16	92	0.44	86	0.14	89
2001	127	1.26	0.61	92	0.64	86	0.35	88
2005	43	0.36	0.03	81	0.32	82	0.09	83

Table 5. Total number (No.), catch rates (C/f), and relative weights ( $W_r$ ) by size groups of **gizzard shad** collected by spring electrofishing (V.P. 1980-1988; G.P. 1989-2002), gill netting, and seizing from Prague Lake. Numbers in parentheses represent acceptable C/f values for a quality fishery. Acceptable  $W_r$  values are  $\geq 90$ .

Year	Spring Electrofishing				Fall Gill Netting				Seizing	
	Total ( $\geq 40$ )	<200 mm ( $\geq 20$ )		$W_r$	Total ( $\geq 20$ )	<200 mm ( $\geq 10$ )		$W_r$	Age 0 -	C/f
1987	0	0.0	0.0	--	0	0.0	0.0	--		
1989	44	19.6	0.9	--	25	0.31	0.13	--		
1992	155	77.5	37.0	109	32	0.27	0.18	--		
1994					44	0.18	0.13	83		
1995					64	0.68	0.54	83		
1996	50	25.0	16.5	--						
1997	56	56.0	37.0	67						
1998	17	17.0	7.0	64						
1999	110	110.0	67.0	69						
2001					27	0.27	0.15	--		
2002	131	174.7	138.7	--						
2005					6	0.05	0.0	--		