

ROCKVILLE LAKE
Parke County

2006 Fish Management Report

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EXECUTIVE SUMMARY

- Rockville Lake is a 100-acre impoundment located just north of the Town of Rockville.
- A general lake survey was conducted on May 22 through May 24, 2006.
- A total of 10 species was sampled in the fish survey that accounted for 1,815 fish that weighed 563 lbs.
- White crappie dominated the collection by number (35%), followed by bluegill (32%), redear sunfish (15%), and black crappie (9%). Largemouth bass was first by weight (28%), followed by white crappie (23%), redear sunfish (17%), and bluegill (17%).
- A total of 642 white crappie was sampled that weighed 128 lbs. They ranged in length from 4.5 to 13.5 in with 1% being at least 9.0 in. In the 2001 and 2003 fish surveys there was a combined total of 17 white crappie sampled.
- A total of 582 bluegill was sampled that weighed 93 lbs. They ranged in length from 1.4 to 8.9 in. Age-3 bluegill accounted for 49% of the sample.
- A total of 275 redear sunfish was sampled that weighed 98 lbs. They ranged in length from 1.6 to 11.0 in with 34% and 23% being at least 8.0 and 9.0 in, respectively.
- A total of 168 black crappie was sampled that weighed 39 lbs. They ranged in length from 5.2 to 8.8 in with 17% being at least 8.0 in. All but two of the black crappie sampled were age-2.
- A total of 130 largemouth bass was sampled that weighed 155 lbs. They ranged in length from 4.4 to 19.3 in. Forty-one percent of the bass collected met or exceeded the 14-in minimum size limit compared to 10% and 7% in 2001 and 2003.
- The Rockville Lake fishery has improved since 2003 for all the game fish species and is an all around excellent fishing lake for panfish and largemouth bass.
- The current channel catfish stocking regime should be continued.
- The Rockville Park Board should not stock grass carp again and should consult the DFW District 5 fisheries biologist for the best chemical control methods to manage the aquatic vegetation at appropriate abundances when it becomes necessary.
- The Rockville Park Board should continue to refrain from conducting winter drawdowns.
- A general survey should be conducted in 2009 to monitor the status of the fishery.

INTRODUCTION

Rockville Lake is a 100-acre impoundment located just north of the town of Rockville. The lake was constructed in 1972 and is owned by the Little Raccoon Conservancy District. The Rockville Park Board manages most of the property surrounding the lake. Fees for Indiana residents to access the park in 2008 were \$5.00 for a daily pass and \$36.00 for an annual pass. Boat launching fees were \$5.00 for a daily launch permit and \$20.00 for an annual boat launch permit. Gasoline motors are not allowed to be operated as it is an electric motor only lake. More information about the park and directions to the lake can be found on the park's Internet site at www.rockvillelake.net. The lake's fishery is managed by the Division of Fish and Wildlife (DFW).

The 2003 general fisheries survey found that the predator-prey balance appeared to be good. The bass PSD was in the ideal range, while the bluegill PSD was below the ideal range due to excellent recruitment over the last two years. Most species have experienced good recruitment since the practice of annual winter drawdowns was ceased in 2000.

A major concern in 2003 was the absence of aquatic vegetation due to a 1994 stocking of grass carp. Aquatic vegetation is essential to sustaining a good fishery. Typically, grass carp are not as voracious after about 5 or 6 years of age, but that has not been the case at Rockville Lake. Planktonic algae blooms have also been a problem since vegetation levels have been reduced.

METHODS

The general survey was conducted on May 22 through May 24, 2006. All fish sampling effort and water chemistry measurements either exceeded or met the standard sampling guidelines (IDFW 2001). An aquatic vegetation survey was conducted on August 10 according to the standard aquatic vegetation sampling guidelines (IDFW 2006).

Fish sampling effort consisted of 1 h of DC night electrofishing using two dippers, eight gill net lifts, and four trap net lifts. All fish were measured to the nearest 0.1 in TL. Weights were derived from the Rockville Lake 2001 and 2003 Fish Management Reports (Wisener 2002 and Keller 2004). Scale samples were taken from a subsample of game fish for age and growth analysis. Proportional stock density (PSD) was used to evaluate the bluegill and largemouth bass populations (Anderson and Neuman 1996). The bluegill fishing potential index (BGFP) was used to evaluate the quality of the bluegill fishing (Ball and Tousignant 1996).

RESULTS

Rockville Lake's maximum depth was 20 ft. The Secchi disk measurement was 5.5 ft and DO concentrations were marginal for fish survival below 10 ft. The conductivity was 390 μ S. The aquatic vegetation survey revealed trace amounts of coontail, curlyleaf pondweed, sago pondweed, leafy pondweed, American pondweed, and numerous emergent species. Vegetation levels were similar to 2003 results.

A total of 10 species was sampled in the fish survey that accounted for 1,815 fish that weighed 563 lbs. White crappie dominated the collection by number (35%), followed by bluegill (32%), redear sunfish (15%), and black crappie (9%). Largemouth bass was first by weight (28%), followed by white crappie (23%), redear sunfish (17%), and bluegill (17%). Other species sampled were channel catfish, white sucker, black bullhead, green sunfish, and yellow bullhead. None of the "other" species accounted for more than 1% of the sample by number.

A total of 642 white crappie was sampled that weighed 128 lbs. They ranged in length from 4.5 to 13.5 in with 1% being at least 9.0 in. The white crappie catch rate by gear type was 220.0/h of electrofishing, 87.3/trap net lift, and 9.1/gill net lift. In the 2001 and 2003 fish surveys, there was a combined total of 17 white crappie sampled. Four year classes of white crappie were sampled with age-2 fish comprising 99% of the sample. Age-2 white crappie averaged 7.7 in. Only one age-3 and one age-4 crappie was sampled.

A total of 582 bluegill was sampled that weighed 93 lbs. They ranged in length from 1.4 to 8.9 in. Bluegill catch rates were 533.0/h of electrofishing, 8.5/trap net lift, and 1.9/gill net lift. The 2006 electrofishing catch rate was 20% lower than the 2003 catch rate and the net catch rates had similar results between the two surveys. Age-3 bluegill accounted for 49% of the collection. Only one age-5 bluegill was sampled which was 8.8 in. Bluegill PSD and the BGFP increased from 2003. The PSD for bluegill was 56. Previous PSDs were 11 (1999), 49 (2001), and 10 (2003). The BGFP score was 32 which equates to an "excellent" rating for the bluegill fishery. The BGFP score in 2003 was 28.

A total of 275 redear sunfish was sampled that weighed 98 lbs. They ranged in length from 1.6 to 11.0 in with 34% and 23% being at least 8.0 and 9.0 in, respectively. In 2003, 4% were at least 8.0 in. Catch rates for redear sunfish were 161.0/h of electrofishing, 26.5/trap net lift, and 1.0/gill net lift. The electrofishing catch rates in 2001 and 2003 were 6.0 and 106.0/h.

A total of 168 black crappie was sampled that weighed 39 lbs. They ranged in length from 5.2 to 8.8 in with 17% being at least 8.0 in. The electrofishing catch rate increased 61% to 37.0/h. The gill net catch rate remained the same at 7.5/lift, and the trap net catch rate increased from 4.3 to 17.8/lift. All but two of the black crappie sampled were age 2. Age-2 black crappie had a mean length of 7.7 in.

A total of 130 largemouth bass was sampled that weighed 155 lbs. They ranged in length from 4.4 to 19.3 in. The largemouth bass catch rates were 128.0/h of electrofishing and 0.3/gill net lift. The 2006 electrofishing catch rate was lower than the 2001 and 2003 catch rates of 273.0 and 284.0/h. Largemouth bass PSD improved from 50 in 2003 to 66 in the present survey. Approximately half of the bass sampled in 2003 were age 1, compared to just 7% in 2006. Age-3 bass only accounted for 5% of the collection. Forty-one percent of the bass collected met or exceeded the 14-in minimum size limit, compared to 10% and 7% in 2001 and 2003.

Nine channel catfish were sampled that weighed 41 lbs. They ranged in length from 18.7 to 27.7 in. The electrofishing catch rate was 9.0/h and no catfish were caught in nets.

DISCUSSION

The Rockville Lake fishery has improved since 2003 for all game fish species and is an excellent fishing lake for panfish and largemouth bass.

The bluegill size structure improved, but their catch rates did decline. In 2003, age-3 and age-4 bluegill comprised only 4% of the bluegill sample compared to 61% in 2006. The bluegill PSD and BGFP improved, which supports the increased proportion of age 3 and older bluegill.

A big change in the fishery was the increased abundance of crappie. Only a handful of white crappie were sampled in 2001 and 2003 and now they comprise 35% of the fish collected by number. The black crappie abundance by number slightly increased, but the electrofishing and trap net catch rates substantially increased. The majority of both species originated from the 2004 year class. Few older crappie were sampled. As speculated in previous fish management reports, harvest of older crappie is probably significant. This lake may be a good candidate for future crappie research.

The redear sunfish population is at its highest level since 2001. The percentage of quality size redear has substantially increased since 2003 as indicated by the improved size structure and increased electrofishing catch rates.

Rockville is a quality bass fishing lake. The largemouth bass size structure has greatly improved since 2003. The most significant improvement was the increased proportion of 14-in and larger bass. The lake should continue to produce large bass as long as the current bluegill production continues. The large increase in the crappie population in combination with no aquatic vegetation for small bass to evade predators could be impacting bass recruitment.

Channel catfish are stocked every other year at Rockville Lake by the DFW in an effort to maintain a fishable population. Channel catfish are usually not able to maintain a population in small impoundments due to predation on young catfish by largemouth bass. The last stocking occurred in the fall of 2006 and consisted of 1,667 channel catfish that averaged 8.0 in. It is recommended that the current channel catfish stocking regime be continued.

Grass carp have been in the lake for nearly 12 years. While grass carp are usually not expected to provide adequate vegetation control for this length of time; vegetation was only sparsely present in 2006. This lake needs some level of aquatic vegetation to maintain the good fishery. Also, an increase in vascular plants will help absorb nutrients that are currently producing planktonic algae blooms. Unfortunately, once the plants do come back it will not take long for them to return to nuisance levels. It is recommended that the Rockville Park Board not stock grass carp again when this occurs. Herbicides are a better alternative as they allow the vegetation to be managed at appropriate abundances and in areas of greatest concern such as around the beach, docks, and boat ramp. When it becomes necessary to start a plant management program the park board should consult the DFW District 5 fisheries biologists for the best chemical control methods to manage the aquatic vegetation.

The fishery started to show noticeable improvements once the annual winter drawdowns were discontinued. As recommended in 2003, the Rockville Park Board should continue to refrain from conducting winter drawdowns. A general survey should be conducted in 2009 to monitor the status of the fishery.

RECOMMENDATIONS

- Investigate the possibility of conducting a crappie research project.
- The current channel catfish stocking regime should be continued.

- The Rockville Park Board should not stock grass carp again and should consult the DFW District 5 fisheries biologists for the best chemical control methods to manage the aquatic vegetation at appropriate abundances when it becomes necessary.
- The Rockville Park Board should continue to refrain from conducting winter drawdowns.
- A general survey should be conducted in 2009 to monitor the status of the fishery.

LITERATURE CITED

Anderson, R. O., and R. M. Neumann. 1996. Length, weight, and associated structural indices. Pages 447-481 in B. R. Murphy and D. W. Willis, editors. Fisheries techniques, 2nd edition. American Fisheries Society, Bethesda, Maryland.

Ball, R. L. and J. N. Tousignant. 1996. The development of an objective rating system to assess bluegill fishing in lakes and ponds. Research report. Indiana Department of Natural Resources. Indianapolis. 18 pp.

Indiana Division of Fish and Wildlife. 2001. Manual of fisheries survey methods. Indiana Department of Natural Resources. Indianapolis. 67 pp.

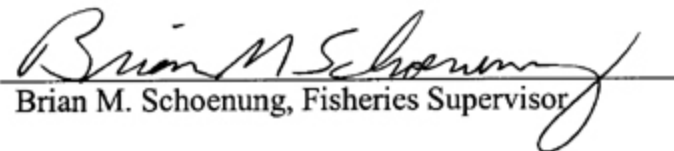
Indiana Division of Fish and Wildlife. 2006. Tier II aquatic vegetation survey protocol. Indiana Department of Natural Resources. Indianapolis. 23 pp.

Keller, D. C. 2004. Rockville lake. 2003 fish management report. Indiana Department of Natural Resources. Indianapolis. 18 pp.

Wisener, J. R. 2002. Rockville lake. 2001 fish management report. Indiana Department of Natural Resources. Indianapolis. 17 pp.

Submitted by: Jamie L. Smyth, Assistant Fisheries Biologist
Date: August 7, 2008

Approved by: J. Rhett Wisener, Fisheries Biologist

Approved by: 
Brian M. Schoenung, Fisheries Supervisor

Date: December 24, 2008

LAKE SURVEY REPORT

Type of Survey	<input type="checkbox"/> Initial Survey	<input checked="" type="checkbox"/> Re-Survey
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Lake Name Rockville Lake	County Parke	Date of survey (Month, day, year) May 22-24, 2006
Biologist's name Rhett Wisener, Jamie Smyth, Dan Carnahan		Date of approval (Month, day, year) December 24, 2008

LOCATION		
Quadrangle Name Rockville	Range 7W	Section 6, 31
Township Name 15N, 16N	Nearest Town Rockville	

ACCESSIBILITY					
State owned public access site			Other access site Boat ramp and facilities owned by the Town of Rockville		
Surface acres 89	Maximum depth 20 ft	Average depth 11 ft	Acre feet 957	Water level 645 msl	Extreme fluctuations Minor
Location of benchmark					

INLETS		
Name Williams Creek	Location North end	Origin T16N, R7W, S31

OUTLETS	
Name Williams Creek	Location Southeast end

Water level control

POOL	ELEVATION (Feet MSL)	ACRES	Bottom type
TOP OF DAM	668		<input type="checkbox"/> Boulder
TOP OF FLOOD CONTROL POOL	660	134	<input checked="" type="checkbox"/> Gravel
TOP OF CONSERVATION POOL	645	89	<input checked="" type="checkbox"/> Sand
TOP OF MINIMUM POOL	623		<input checked="" type="checkbox"/> Muck
STREAMBED	621		<input checked="" type="checkbox"/> Clay
			<input type="checkbox"/> Marl

Watershed use
Wooded, agricultural, residential, golf course.

Development of shoreline
Boat ramp, beach, picnic and camping areas operated by the Rockville Park Board.

Previous surveys and investigations
Watershed eradication and fish stocking in 1972. Fish management surveys: 1973-75, 1977, 1978, 1980, 1981, 1986, 1988, 1990, 1992, 1997, 1999, 2001, and 2003. Spot-check survey: 1979. Creel surveys: 1974-81.

Largemouth bass sampling: 1991.

SAMPLING EFFORT					
ELECTROFISHING	Day hours		Night hours		Total hours
			1.00		1.00
TRAP NETS	Number of traps		Number of Lifts		Total effort
	4		1		4 lifts
GILL NETS	Number of nets		Number of Lifts		Total effort
	8		1		8 lifts
ROTENONE	Gallons	ppm	Acre Feet Treated	SHORELINE SEINING	Number of 100 Foot Seine Hauls

PHYSICAL AND CHEMICAL CHARACTERISTICS			
Color		Turbidity	
Green		5 Feet 6 Inches (SECCHI DISK)	
Alkalinity (ppm)*		pH	
Surface: 119.7 Bottom: 68.4		Surface: 9.5 Bottom: 8.5	
Conductivity:		Air temperature:	
390 microsiemens		°F	
Water chemistry GPS coordinates:			
N		W	

TEMPERATURE AND DISSOLVED OXYGEN (D.O.)								
DEPTH (FEET)	Degrees (°F)	D.O. (ppm)	DEPTH (FEET)	DEGREES (°F)	D.O. (ppm)	DEPTH (FEET)	DEGREES (°F)	D.O. (ppm)
SURFACE	67.2	17.1	36			72		
2	67.2	17.0	38			74		
4	67.1	17.1	40			76		
6	64.1	15.5	42			78		
8	63.3	13.6	44			80		
10	61.4	6.9	46			82		
12	59.9	2.6	48			84		
14	58.6	0.8	50			86		
16	57.2	0.1	52			88		
18	55.1	0	54			90		
20	54.7	0	56			92		
22			58			94		
24			60			96		
26			62			98		
28			64			100		
30			66					
32			68					
34			70					

COMMENTS

*ppm-parts per million

OCCURRENCE AND ABUNDANCE OF SUBMERSED AQUATIC PLANTS

Total Sites:	30	Mean species / site:	NA	Native diversity:	NA
Littoral Sites:	0	Maximum species / site:	NA	Species diversity:	NA
Littoral Depth (ft):	1.0	Number of species:	1	SE Mean natives / site:	NA
Date:	8/10/2006	Littoral sites with plants:	1	Mean natives / site:	NA
Lake:	Rockville	Secchi(ft):	not taken	SE Mean species / site:	NA

<u>Species</u>	Frequency of <u>occurrence</u>	<u>Score frequency</u>				<u>Dominance</u>
		<u>0</u>	<u>1</u>	<u>3</u>	<u>5</u>	
Coontail	3.3	96.7	3.3	0.0	0.0	0.7
Filamentous algae	6.7					

Observed species: arrowhead, cattail spp., bulrush spp., duckweed, watermeal, curlyleaf pondweed, sago pondweed, smartweed, leafy pondweed, American pondweed.

SPECIES AND RELATIVE ABUNDANCE OF FISHES COLLECTED BY NUMBER AND WEIGHT

*COMMON NAME OF FISH	NUMBER	PERCENT	LENGTH RANGE (inches)	WEIGHT (pounds)	PERCENT
White crappie	642	35.4	4.5 - 13.5	127.75	22.7
Bluegill	582	32.1	1.4 - 8.9	92.70	16.5
Redear sunfish	275	15.2	1.6 - 11.0	98.25	17.4
Black crappie	168	9.3	5.2 - 8.8	39.08	6.9
Largemouth bass	130	7.2	4.4 - 19.3	155.18	27.5
Channel catfish	9	0.5	18.7 - 27.7	40.75	7.2
White sucker	4	0.2	16.0 - 18.0	7.68	1.4
Black bullhead	2	0.1	10.1 - 11.1	1.24	0.2
Green sunfish	2	0.1	4.6 - 6.0	0.22	< 0.1
Yellow bullhead	1	0.1	10.7	0.61	0.1
Totals	1,815			563.46	

*Common names of fishes recognized by the American Fisheries Society.

NUMBER, PERCENTAGE, WEIGHT, AND AGE OF WHITE CRAPPIE

TOTAL LENGTH (inches)	NUMBER COLLECTED	PERCENT OF FISH COLLECTED	AVERAGE WEIGHT (pounds)	AGE OF FISH	TOTAL LENGTH (inches)	NUMBER COLLECTED	PERCENT OF FISH COLLECTED	AVERAGE WEIGHT (pounds)	AGE OF FISH
1.0					19.0				
1.5					19.5				
2.0					20.0				
2.5					20.5				
3.0					21.0				
3.5					21.5				
4.0					22.0				
4.5	3	0.5	0.04	1	22.5				
5.0					23.0				
5.5					23.5				
6.0	2	0.3	0.11	not aged	24.0				
6.5	15	2.3	0.13	2	24.5				
7.0	159	24.8	0.16	2	25.0				
7.5	315	49.1	0.19	2	25.5				
8.0	122	19.0	0.24	2	26.0				
8.5	18	2.8	0.30	2	TOTAL	642			
9.0	4	0.6	0.39	2					
9.5	2	0.3	0.43	2					
10.0									
10.5	1	0.2	0.58	3					
11.0									
11.5									
12.0									
12.5									
13.0									
13.5	1	0.2	1.38	4					
14.0									
14.5									
15.0									
15.5									
16.0									
16.5									
17.0									
17.5									
18.0									
18.5									

ELECTROFISHING CATCH	220.0/h	GILL NET CATCH	9.1/lift	TRAP NET CATCH	87.3/lift
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NUMBER, PERCENTAGE, WEIGHT, AND AGE OF BLUEGILL

TOTAL LENGTH (inches)	NUMBER COLLECTED	PERCENT OF FISH COLLECTED	AVERAGE WEIGHT (pounds)	AGE OF FISH	TOTAL LENGTH (inches)	NUMBER COLLECTED	PERCENT OF FISH COLLECTED	AVERAGE WEIGHT (pounds)	AGE OF FISH
1.0	1	0.2	0.01	1	19.0				
1.5	7	1.2	0.01	1	19.5				
2.0	15	2.6	0.01	1	20.0				
2.5	23	4.0	0.01	1	20.5				
3.0	39	6.7	0.02	1	21.0				
3.5	20	3.4	0.03	1, 2	21.5				
4.0	19	3.3	0.04	2	22.0				
4.5	29	5.0	0.07	2, 3	22.5				
5.0	60	10.3	0.09	2, 3	23.0				
5.5	63	10.8	0.13	2, 3	23.5				
6.0	78	13.4	0.17	2, 3	24.0				
6.5	106	18.2	0.22	3, 4	24.5				
7.0	75	12.9	0.27	3, 4	25.0				
7.5	33	5.7	0.33	4	25.5				
8.0	12	2.1	0.40	3, 4	26.0				
8.5	2	0.3	0.63	4, 5	TOTAL	582			
9.0									
9.5									
10.0									
10.5									
11.0									
11.5									
12.0									
12.5									
13.0									
13.5									
14.0									
14.5									
15.0									
15.5									
16.0									
16.5									
17.0									
17.5									
18.0									
18.5									

ELECTROFISHING CATCH	533.0/h	GILL NET CATCH	1.9/lift	TRAP NET CATCH	8.5/lift
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NUMBER, PERCENTAGE, WEIGHT, AND AGE OF REDEAR SUNFISH

TOTAL LENGTH (inches)	NUMBER COLLECTED	PERCENT OF FISH COLLECTED	AVERAGE WEIGHT (pounds)	AGE OF FISH	TOTAL LENGTH (inches)	NUMBER COLLECTED	PERCENT OF FISH COLLECTED	AVERAGE WEIGHT (pounds)	AGE OF FISH
1.0					19.0				
1.5	1	0.4	0.01	1	19.5				
2.0	1	0.4	0.01	1	20.0				
2.5	3	1.1	0.01	1	20.5				
3.0	4	1.5	0.02	1	21.0				
3.5	7	2.5	0.03	1	21.5				
4.0	4	1.5	0.05	1, 2	22.0				
4.5	7	2.5	0.07	1	22.5				
5.0	6	2.2	0.09	2	23.0				
5.5	15	5.5	0.13	2	23.5				
6.0	24	8.7	0.18	2, 3	24.0				
6.5	41	14.9	0.22	2, 3	24.5				
7.0	47	17.1	0.28	2	25.0				
7.5	21	7.6	0.34	2, 3	25.5				
8.0	20	7.3	0.40	3	26.0				
8.5	12	4.4	0.51	3	TOTAL	275			
9.0	9	3.3	0.61	3					
9.5	27	9.8	0.73	3, 4					
10.0	22	8.0	0.82	3, 4					
10.5	3	1.1	0.93	3, 4					
11.0	1	0.4	0.96	4					
11.5									
12.0									
12.5									
13.0									
13.5									
14.0									
14.5									
15.0									
15.5									
16.0									
16.5									
17.0									
17.5									
18.0									
18.5									

ELECTROFISHING CATCH	161.0/h	GILL NET CATCH	1.0/lift	TRAP NET CATCH	26.5/lift
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NUMBER, PERCENTAGE, WEIGHT, AND AGE OF BLACK CRAPPIE

TOTAL LENGTH (inches)	NUMBER COLLECTED	PERCENT OF FISH COLLECTED	AVERAGE WEIGHT (pounds)	AGE OF FISH	TOTAL LENGTH (inches)	NUMBER COLLECTED	PERCENT OF FISH COLLECTED	AVERAGE WEIGHT (pounds)	AGE OF FISH
1.0					19.0				
1.5					19.5				
2.0					20.0				
2.5					20.5				
3.0					21.0				
3.5					21.5				
4.0					22.0				
4.5					22.5				
5.0	1	0.6	0.06	1	23.0				
5.5					23.5				
6.0	1	0.6	0.11	1	24.0				
6.5	2	1.2	0.16	2	24.5				
7.0	47	28.0	0.20	2	25.0				
7.5	89	53.0	0.24	2	25.5				
8.0	25	14.9	0.27	2	26.0				
8.5	3	1.8	0.35	2	TOTAL	168			
9.0									
9.5									
10.0									
10.5									
11.0									
11.5									
12.0									
12.5									
13.0									
13.5									
14.0									
14.5									
15.0									
15.5									
16.0									
16.5									
17.0									
17.5									
18.0									
18.5									

ELECTROFISHING CATCH	37.0/h	GILL NET CATCH	7.5/lift	TRAP NET CATCH	17.8/lift
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NUMBER, PERCENTAGE, WEIGHT, AND AGE OF LARGEMOUTH BASS

TOTAL LENGTH (inches)	NUMBER COLLECTED	PERCENT OF FISH COLLECTED	AVERAGE WEIGHT (pounds)	AGE OF FISH	TOTAL LENGTH (inches)	NUMBER COLLECTED	PERCENT OF FISH COLLECTED	AVERAGE WEIGHT (pounds)	AGE OF FISH
1.0					19.0	2	23.5	4.05	7
1.5					19.5				
2.0					20.0				
2.5					20.5				
3.0					21.0				
3.5					21.5				
4.0	1	0.8	0.04	1	22.0				
4.5	3	2.3	0.05	1	22.5				
5.0	5	3.8	0.05	1	23.0				
5.5	1	0.8	0.07	1	23.5				
6.0					24.0				
6.5	1	0.8	0.12	2	24.5				
7.0	1	0.8	0.19	2	25.0				
7.5	11	8.5	0.22	2	25.5				
8.0	13	10.0	0.26	2	26.0				
8.5	6	4.6	0.30	2	TOTAL	130			
9.0	11	8.5	0.36	2					
9.5	1	0.8	0.40	2					
10.0	2	1.5	0.46	2					
10.5	2	1.5	0.54	2					
11.0									
11.5	1	0.8	0.82	3					
12.0	1	0.8	0.95	3					
12.5	5	3.8	1.05	3					
13.0	4	3.1	1.20	4					
13.5	8	6.2	1.31	4					
14.0	14	10.8	1.48	4					
14.5	4	3.1	1.65	4					
15.0	5	3.8	1.81	4, 5					
15.5	3	2.3	2.15	5					
16.0	6	4.6	2.29	5					
16.5	8	6.2	2.49	5, 6					
17.0	4	3.1	2.62	6					
17.5									
18.0	4	3.1	3.23	6, 7					
18.5	3	2.3	3.39	7					
ELECTROFISHING CATCH	128.0/h		GILL NET CATCH	0.3/lift		TRAP NET CATCH	0/lift		

NUMBER, PERCENTAGE, WEIGHT, AND AGE OF CHANNEL CATFISH

TOTAL LENGTH (inches)	NUMBER COLLECTED	PERCENT OF FISH COLLECTED	AVERAGE WEIGHT (pounds)	AGE OF FISH	TOTAL LENGTH (inches)	NUMBER COLLECTED	PERCENT OF FISH COLLECTED	AVERAGE WEIGHT (pounds)	AGE OF FISH
1.0					19.0				
1.5					19.5				
2.0					20.0				
2.5					20.5	1	11.1	3.46	
3.0					21.0	2	22.2	3.46	
3.5					21.5	1	11.1	3.81	
4.0					22.0				
4.5					22.5				
5.0					23.0	2	22.2	4.67	
5.5					23.5				
6.0					24.0				
6.5					24.5				
7.0					25.0				
7.5					25.5	1	11.1	6.52	
8.0					26.0				
8.5					26.5				
9.0					27.0				
9.5					27.5	1	11.1	8.50	
10.0					TOTAL	9			
10.5									
11.0									
11.5									
12.0									
12.5									
13.0									
13.5									
14.0									
14.5									
15.0									
15.5									
16.0									
16.5									
17.0									
17.5									
18.0									
18.5	1	11.1	2.20	not aged					
ELECTROFISHING CATCH	9.0/h		GILL NET CATCH	0/lift		TRAP NET CATCH		0/lift	

GPS LOCATION OF SAMPLING EQUIPMENT

GILL NETS			TRAP NETS			ELECTROFISHING		
1	N 39 46.611	W 87 13.050	1	N 39 46.699	W 87 13.029	1	N 39 46.574	W 87 13.083
2	N 39 46.564	W 87 13.290	2	N 39 46.714	W 87 13.277		N	W
3	N 39 46.629	W 87 13.429	3	N 39 47.027	W 87 13.571	2	N 39 46.765	W 87 13.508
4	N 39 46.660	W 87 13.246	4	N 39 47.177	W 87 13.510		N	W
5	N 39 46.697	W 87 13.401	5	N	W	3	N 39 47.006	W 87 13.556
6	N 39 46.823	W 87 13.451	6	N	W		N	W
7	N 39 46.949	W 87 13.453	7	N	W	4	N 39 46.778	W 87 13.361
8	N 39 46.988	W 87 13.510	8	N	W		N	W
9	N	W	9	N	W	5	N	W
10	N	W	10	N	W		N	W
11	N	W	11	N	W	6	N	W
12	N	W	12	N	W		N	W
13	N	W	13	N	W	7	N	W
14	N	W	14	N	W		N	W
15	N	W	15	N	W	8	N	W
16	N	W	16	N	W		N	W
17	N	W	17	N	W	9	N	W
18	N	W	18	N	W		N	W
19	N	W	19	N	W	10	N	W
20	N	W	20	N	W		N	W
						11	N	W
							N	W
						12	N	W
							N	W
						13	N	W
							N	W
						14	N	W
							N	W
						15	N	W
							N	W
						16	N	W
							N	W
						17	N	W
							N	W
						18	N	W
							N	W
						19	N	W
							N	W
						20	N	W
							N	W

Mean length at Capture

White Crappie

Age	Number	Mean TL	Var	SE	Lo 95%CI	Up 95%CI
1	3	4.8	0.00	0.00	4.8	4.8
2	635	7.7	0.19	0.02	7.7	7.8
3	1	10.8	NA	NA	NA	NA
4	1	13.8	NA	NA	NA	NA

Bluegill

Age	Number	Mean TL	Var	SE	Lo 95%CI	Up 95%CI
1	88	2.9	0.27	0.06	2.7	3.0
2	134	5.0	0.54	0.06	4.9	5.1
3	283	6.5	0.46	0.04	6.4	6.6
4	75	7.4	0.25	0.06	7.3	7.5
5	1	8.8	NA	NA	NA	NA

Redear sunfish

Age	Number	Mean TL	Var	SE	Lo 95%CI	Up 95%CI
1	25	3.7	0.74	0.17	3.4	4.1
2	125	6.8	0.58	0.07	6.6	6.9
3	104	8.5	1.72	0.13	8.2	8.7
4	21	10.2	0.13	0.08	10.0	10.4

Black Crappie

Age	Number	Mean TL	Var	SE	Lo 95%CI	Up 95%CI
1	2	5.8	0.50	0.50	4.8	6.8
2	166	7.7	0.14	0.03	7.6	7.7

Largemouth bass

Age	Number	Mean TL	Var	SE	Lo 95%CI	Up 95%CI
1	10	5.1	0.18	0.13	4.8	5.3
2	48	8.6	0.76	0.13	8.3	8.8
3	7	12.5	0.15	0.15	12.2	12.8
4	33	14.1	0.29	0.09	14.0	14.3
5	18	16.2	0.28	0.13	15.9	16.4
6	8	17.4	0.34	0.21	17.0	17.8
7	7	18.8	0.17	0.15	18.4	19.1

White crappie Age-Length Key

Length group (in)	Total #	Sub-sample	Age													
			1	2	3	4	5	6	7	8	9	10	11	12	13	
1.0																
1.5																
2.0																
2.5																
3.0																
3.5																
4.0																
4.5	3	3	3													
5.0																
5.5																
6.0	2															
6.5	15	5		15												
7.0	159	5		159												
7.5	315	5		315												
8.0	122	6		122												
8.5	18	5		18												
9.0	4	4		4												
9.5	2	2		2												
10.0																
10.5	1	1			1											
11.0																
11.5																
12.0																
12.5																
13.0																
13.5	1	1				1										
Total	642	37	3	635	1	1	0	0	0	0	0	0	0	0	0	0

Bluegill Age-Length Key															
Length group (in)	Total #	Sub-sample	Age												
			1	2	3	4	5	6	7	8	9	10	11	12	13
1.0	1	1	1												
1.5	7	4	7												
2.0	15	5	15												
2.5	23	5	23												
3.0	39	4	39												
3.5	20	5	4	16											
4.0	19	5		19											
4.5	29	5		23	6										
5.0	60	5		48	12										
5.5	63	5		13	50										
6.0	78	5		16	62										
6.5	106	5			85	21									
7.0	75	5			60	15									
7.5	33	4				33									
8.0	12	5			7	5									
8.5	2	2				1	1								
Total	582	70	89	134	283	75	1	0	0	0	0	0	0	0	0

Redear sunfish Age-Length Key															
Length group (in)	Total #	Sub-sample	Age												
			1	2	3	4	5	6	7	8	9	10	11	12	13
1.0															
1.5	1	1	1												
2.0	1	1	1												
2.5	3	2	3												
3.0	4	4	4												
3.5	7	4	7												
4.0	4	2	2	2											
4.5	7	3	7												
5.0	6	2		6											
5.5	15	5		15											
6.0	24	5		14	10										
6.5	41	5		25	16										
7.0	47	5		47											
7.5	21	4		16	5										
8.0	20	4			20										
8.5	12	3			12										
9.0	9	5			9										
9.5	27	5			22	5									
10.0	22	5			9	13									
10.5	3	2			2	2									
11.0	1	1				1									
Total	275	68	25	125	104	21	0	0	0	0	0	0	0	0	0

Black crappie Age-Length Key

Length group (in)	Total #	Sub-sample	Age													
			1	2	3	4	5	6	7	8	9	10	11	12	13	
5.0	1	1	1													
5.5																
6.0	1	1	1													
6.5	2	2		2												
7.0	47	4		47												
7.5	89	5		89												
8.0	25	5		25												
8.5	3	2		3												
Total	168	20	2	166	0	0	0	0	0	0	0	0	0	0	0	0

Largemouth bass Age-Length Key															
Length group (in)	Total #	Sub-sample	Age												
			1	2	3	4	5	6	7	8	9	10	11	12	13
4.0	1	1	1												
4.5	3	2	3												
5.0	5	3	5												
5.5	1	1	1												
6.0															
6.5	1	1		1											
7.0	1	1		1											
7.5	11	4		11											
8.0	13	5		13											
8.5	6	5		6											
9.0	11	5		11											
9.5	1	1		1											
10.0	2	2		2											
10.5	2	2		2											
11.0															
11.5	1	1			1										
12.0	1	1			1										
12.5	5	3			5										
13.0	4	1				4									
13.5	8	3				8									
14.0	14	4				14									
14.5	4	4				4									
15.0	5	4				3	3								
15.5	3	1					3								
16.0	6	4					6								
16.5	8	4					6	2							
17.0	4	2						4							
17.5															
18.0	4	2							2	2					
18.5	3	2								3					
19.0	2	2								2					
Total	130	71	10	48	7	33	18	8	7	0	0	0	0	0	0