

EVALUATION OF THE FISH COMMUNITY AT BOONE'S POND

Boone County

2008 Fish Management Report

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2009

EXECUTIVE SUMMARY

- Boone's Pond is a 6-acre borrow pit located at the intersection of Interstate 65 and Highway 267, approximately 4 miles southeast of Lebanon, Indiana.
- The fish community survey was conducted June 30 to July 1, 2008.
- There were 135 fish collected that weighed 43 lbs. Eight species comprised the sample.
- The predominant species collected by number were largemouth bass (39%), bluegill (24%), channel catfish (19%), and redear sunfish (14%). Largemouth bass (54%), channel catfish (24%), bluegill (5%), and redear sunfish (5%) were the most abundant by weight.
- A total of 53 largemouth bass was collected that weighed 23 lbs. Electrofishing CPUE was 102.0/h. Largemouth ranged in length from 5.4 to 12.3 in and averaged 9.9 in. None of the bass collected met the 14-in minimum size limit.
- There were 33 bluegill collected weighing 2 lbs. Catch rates were 54.0/h of electrofishing and 3.0/trap net lift. Bluegill ranged in length from 2.4 to 8.1 in and averaged 4.4 in. Only 1 bluegill collected (3%) was 6.0 in or larger.
- Twenty-six channel catfish weighing 10 lbs were collected. Catfish CPUE was 8.0/h of electrofishing and 11.0/gill net lift. Channels ranged in length from 8.8 to 14.4 in and averaged 11.2 in. Only six (23%) of the channels collected were at least 12.0 in.
- A total of 19 redear sunfish was collected that weighed 2 lbs. Redear ranged in length from 1.6 to 8.1 in and averaged 5.1 in. The percentage of 6.0 in or larger redear collected was 26%.
- Annual channel catfish stockings should continue at a rate of 125, 10-in channels per acre.
- It is recommended that no further grass carp be stocked into Boone's Pond at this time.
- Aquatic herbicides should be applied around the boat ramp and primary shore fishing areas.

INTRODUCTION

Boone's Pond is a 6-acre borrow pit located at the intersection of Interstate 65 and Highway 267, approximately 4 miles southeast of Lebanon, Indiana. The pond was created in 1962 during the construction of the interstate. The Division of Fish and Wildlife (DFW) purchased the pond and surrounding land for use as a public fishing area. There is a boat launch and ample shoreline available for anglers. Boone's is an electric motor only pond.

In the past, Boone's Pond was used as a test site for various management strategies. Due to its low productivity, a fertilization project was conducted at Boone's in the late 1960's in an attempt to increase the productivity and overall biomass of fish. The fertilization project was terminated after results yielded little improvement and only seemed to further aggravate the abundance of filamentous algae (Gulish 1970). In the late 1980's and early 1990's, Boone's Pond was selected as a study lake to determine the effectiveness of triploid grass carp as a tool for aquatic plant control. Despite a high stocking rate, the grass carp did not significantly impact aquatic vegetation (Kiley 1990). Grass carp were stocked two more times, with the last stocking occurring in 1999.

Channel catfish are stocked into Boone's Pond on an annual basis to provide additional angling opportunities. Normally, the stocking rate is 125, 10-in channels per acre. In the spring of 2007, surplus channel catfish were available and 246,787 fry were stocked. Prior to this survey, the last annual stocking of channel catfish occurred in the fall of 2007 (713, 10-in channels).

The last fish community survey was conducted in 1997 (Keller 1998). The predator/prey balance was weighted in favor of largemouth bass and the bluegill population had dwindled. The present survey was conducted to evaluate the predator/prey balance and the utilization of stocked catfish by anglers.

METHODS

The fish community survey was conducted June 30 to July 1, 2008. Physical and chemical characteristics of the lake were measured and collected according to DFW survey guidelines (2001). Aquatic vegetation was sampled on July 1, 2008 according to DFW guidelines (2007).

Fish were collected via night DC electrofishing for 0.5 h (one lap around the pond) using two dippers, 2 standard experimental mesh gill nets, and 2 trap nets. Electrofishing settings were adjusted to provide a larger sample of fish (Smith-Root box set at 707 volts and one boom deployed rather than two). The collected fish were measured to the nearest 0.1 in TL. Scale samples from the dominant sport fish were collected for age and growth analysis. Weight estimates of all species were calculated using central Indiana averages. Proportional stock density (PSD) was calculated for bluegill and largemouth bass (Anderson and Neumann 1996). The Bluegill Fishing Potential Index (BGFP) was used to describe the bluegill fishery (Ball and Tousignant 1996).

RESULTS

The surface temperature at Boone's Pond on June 30th was 79.2°F. Dissolved oxygen concentrations were suitable for fish survival to 22 ft. The conductivity was 500 μ S and the Secchi disk measurement was 17.3 ft.

Eurasian watermilfoil was found at 90% of the sampling sites during the vegetation survey. Chara and American pondweed were the only other species found at over 50% of the sampling sites. Eleven species of submersed vegetation, cattails, spikerush, horsetail, bulrush, and filamentous algae were observed.

There were 135 fish collected that weighed 43 lbs. Eight species comprised the sample. The predominant species collected by number were largemouth bass (39%), bluegill (24%), channel catfish (19%), and redear sunfish (14%). Largemouth bass (54%), channel catfish (24%), bluegill (5%), and redear sunfish (5%) were the most abundant by weight.

Largemouth bass were first in abundance by number (39%) and weight (54%). A total of 53 largemouth was collected that weighed 23 lbs. Electrofishing CPUE was 102.0/h. Largemouth ranged in length from 5.4 to 12.3 in and averaged 9.9 in. Age-3 and age-4 bass accounted for 77% of the collection but only averaged 9.8 and 10.8 in, respectively. Largemouth PSD was 2. None of the bass collected met the 14-in minimum size limit.

There were 33 bluegill collected weighing 2 lbs. Catch rates were 54.0/h of electrofishing and 3.0/trap net lift. Bluegill ranged in length from 2.4 to 8.1 in and

averaged 4.4 in. Only 1 bluegill collected (3%) was 6.0 in or larger. Age-3 bluegill averaged 4.6 in and accounted for 61% of the collection. Bluegill PSD was 8. The BGFP score was 7 which equates to a “poor” rating for the fishery.

Twenty-six channel catfish weighing 10 lbs were collected. Channels were third in abundance by number (19%) and second by weight (24%). Catfish CPUE was 8.0/h of electrofishing and 11.0/gill net lift. Channels ranged in length from 8.8 to 14.4 in and averaged 11.2 in. Only six (23%) of the channels collected were at least 12.0 in.

A total of 19 redear sunfish was collected that weighed 2 lbs. Redear ranged in length from 1.6 to 8.1 in and averaged 5.1 in. Age-3 redear accounted for 47% of the collection and averaged 6.0 in. The percentage of 6.0 in or larger redear collected was 26%.

The remaining four species accounted for just 3% of the collection by number and 12% by weight. Notable species of interest were black crappie and brown bullhead.

DISCUSSION

There continues to be an imbalance between predators and prey at Boone’s Pond. The low productivity and infertility of the pond has made it difficult to produce a quality bass and bluegill fishery. Largemouth bass was the most abundant species found in the pond and though a decent number of age-3 and age-4 bass were found, they had a small average size. Bluegill and redear numbers were low, and of those collected, not many would be considered of harvestable size. Age-3 was the dominant year class collected for both bluegill and redear, but their average sizes were small as well.

A goal of the present survey was to determine whether anglers were utilizing the stocked catfish. The relatively few channel catfish (compared to the high stocking rate) and lack of larger catfish collected, indicates the catfish are being utilized by anglers. Thus, annual channel catfish stockings should continue at a rate of 125, 10 in channels per acre.

Triploid grass carp have been stocked at a high rate in Boone’s Pond in the past with limited results. There were a few dense stands of submersed vegetation in the pond, but the predominant species was Eurasian watermilfoil. Unfortunately, grass carp do not prefer to forage on milfoil. There are likely a few grass carp still in the pond, but they would be of an age where they are no longer efficient at controlling submersed

vegetation. It is recommended that no further grass carp be stocked into Boone's Pond at this time. However, aquatic herbicides should be applied around the boat ramp and primary shore fishing areas to help thin the submersed vegetation. Not only will this improve access, it should increase the nutrients available for fish production and make it easier for bass to forage on the abundance of small fish.

RECOMMENDATIONS

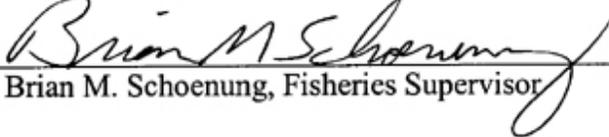
- Annual channel catfish stockings should continue at a rate of 713, 10 in channels.
- It is recommended that no further grass carp be stocked into Boone's Pond at this time.
- Aquatic herbicides should be applied around the boat ramp and primary shore fishing areas.

LITERATURE CITED

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Submitted by: Jamie L. Smyth, Assistant Fisheries Biologist
Date: March 23, 2009

Approved by: J. Rhett Wisener, Fisheries Biologist

Approved by: 
Brian M. Schoenung, Fisheries Supervisor

Date: July 17, 2009

LAKE SURVEY REPORT

| | | |
|----------------|---|---|
| Type of Survey | <input type="checkbox"/> Initial Survey | <input checked="" type="checkbox"/> Re-Survey |
|----------------|---|---|

| | | |
|------------------------------------|--|--|
| Lake Name Boone's Pond | County Boone | Date of survey (Month, day, year) 6/30-7/1/08 |
| Biologist's name Jamie L. Smyth | Date of approval (Month, day, year) 7/17/2009 | |

| LOCATION | | |
|----------------------------|----------------------------------|---------------|
| Quadrangle Name Fayette | Range 1E | Section 22 |
| Township Name 18N | Nearest Town Lebanon, Indiana | |

| ACCESSIBILITY | | | | | |
|---|------------------------|------------------------------------|-------------------|-------------------------------|------------------------------|
| State owned public access site Boat ramp and complete shore access | | Privately owned public access site | | Other access site | |
| Surface acres 5.7 | Maximum depth 30 ft | Average depth 11.7 ft | Acre feet 66.7 | Water level Not determined | Extreme fluctuations 2 ft |
| Location of benchmark BM 952 T18N, R1E, S27, NW 1/4, NE 1/4 | | | | | |

| INLETS | | |
|--|----------|--------|
| Name | Location | Origin |
| None--The pond is a borrow pit fed by ground water | | |
| | | |
| | | |

| OUTLETS | | | |
|---------------------------|-----------------------------|--------------|---|
| Name | Location | | |
| None | | | |
| Water level control | | | |
| None | | | |
| POOL | ELEVATION (Feet MSL) | ACRES | Bottom type <input type="checkbox"/> Boulder <input checked="" type="checkbox"/> Gravel <input checked="" type="checkbox"/> Sand <input checked="" type="checkbox"/> Muck <input checked="" type="checkbox"/> Clay <input type="checkbox"/> Marl |
| TOP OF DAM | | | |
| TOP OF FLOOD CONTROL POOL | | | |
| TOP OF CONSERVATION POOL | | | |
| TOP OF MINIMUM POOL | | | |
| STREAMBED | | | |

Watershed use
There is little or no watershed for the pond.

Development of shoreline
Concrete boat ramp, picnic area, and parking lot. The entire shoreline is accessible to bank anglers.

Previous surveys and investigations
Fertilization projects: 1968, 1969. Fisheries surveys: 1966, 1972, 1974, 1975, 1978, 1980, 1983, 1997.

Channel catfish evaluations and creel surveys: 1984, 1985. Grass carp evaluations: 1986, 1987, 1988, 1989, 1990, 1991, 1992.

| SAMPLING EFFORT | | | | | |
|-----------------|-----------------|-----|-------------------|-------------------|--------------------------------|
| ELECTROFISHING | Day hours | | Night hours | | Total hours |
| | | | 0.5 | | 0.5 |
| TRAP NETS | Number of traps | | Number of Lifts | | Total effort |
| | 2 | | 2 | | 2 |
| GILL NETS | Number of nets | | Number of Lifts | | Total effort |
| | 2 | | 2 | | 2 |
| ROTENONE | Gallons | ppm | Acre Feet Treated | SHORELINE SEINING | Number of 100 Foot Seine Hauls |

| PHYSICAL AND CHEMICAL CHARACTERISTICS | | | |
|---------------------------------------|--|------------------|------------------------|
| Color | | Turbidity | |
| Green | | 17 Feet | 4 Inches (SECCHI DISK) |
| Alkalinity (ppm)* | | pH | |
| Surface: 136.8 Bottom: 153.9 | | Surface: 9.2 | Bottom: 9.5 |
| Conductivity: | | Air temperature: | |
| 500 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 | 79.2 | 7.8 | 36 | | | 72 | | |
| 2 | 78.1 | 7.9 | 38 | | | 74 | | |
| 4 | 77.4 | 7.7 | 40 | | | 76 | | |
| 6 | 77.2 | 7.6 | 42 | | | 78 | | |
| 8 | 77.0 | 7.6 | 44 | | | 80 | | |
| 10 | 76.5 | 7.6 | 46 | | | 82 | | |
| 12 | 72.0 | 10.2 | 48 | | | 84 | | |
| 14 | 67.3 | 10.6 | 50 | | | 86 | | |
| 16 | 62.8 | 10.6 | 52 | | | 88 | | |
| 18 | 59.2 | 8.8 | 54 | | | 90 | | |
| 20 | 57.0 | 6.3 | 56 | | | 92 | | |
| 22 | 53.8 | 3.4 | 58 | | | 94 | | |
| 24 | 52.7 | 0.8 | 60 | | | 96 | | |
| 26 | 52.3 | 0.4 | 62 | | | 98 | | |
| 28 | 52.3 | 0.3 | 64 | | | 100 | | |
| 30 | 52.2 | 0.3 | 66 | | | | | |
| 32 | 52.2 | 0.3 | 68 | | | | | |
| 34 | | | 70 | | | | | |

| COMMENTS |
|----------|
| |
| |

*ppm-parts per million

Occurrence and Abundance of Submersed Aquatic Plants - Overall

| | | |
|---------------------------|-----------------------------|------------------------------|
| Lake: Boone's Pond | Secchi (ft): 17 | SE Mean Species / Site: 0.36 |
| Date: 7/1/2008 | Littoral Sites w/Plants: 20 | Mean Natives / Site: 2.45 |
| Littoral Depth (ft): 22.0 | Number of Species: 9 | SE Mean Natives / Site: 0.27 |
| Littoral Sites: 20 | Max. Species / Site: 8 | Species Diversity: 0.84 |
| Total Sites: 20 | Mean Species / Site: 3.60 | Native Diversity: 0.80 |

| Species | Frequency of | Score Frequency | | | | Dominance |
|-----------------------|--------------|-----------------|----|----|----|-----------|
| | Occurrence | 0 | 1 | 3 | 5 | |
| American pondweed | 55 | 70 | 25 | 5 | 0 | 53 |
| Sago pondweed | 20 | 95 | 5 | 0 | 0 | 28 |
| Southern naiad | 30 | 70 | 30 | 0 | 0 | 6 |
| Coontail | 45 | 55 | 40 | 5 | 0 | 11 |
| Chara | 70 | 30 | 40 | 30 | 0 | 26 |
| Leafy pondweed | 25 | 85 | 15 | 0 | 0 | 21 |
| Eurasian watermilfoil | 90 | 25 | 50 | 10 | 15 | 58 |
| Brittle naiad | 15 | 85 | 15 | 0 | 0 | 3 |
| Curlyleaf pondweed | 10 | 90 | 10 | 0 | 0 | 2 |
| Filamentous Algae | 65 | | | | | |

Other species noted: Bladderwort, eelgrass, cattails, spikerush, horsetail, bulrush

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 | | | | |
| 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 | 1.9 | 0.05 | 1 | 23.0 | | | | |
| 5.5 | | | | | 23.5 | | | | |
| 6.0 | | | | | 24.0 | | | | |
| 6.5 | | | | | 24.5 | | | | |
| 7.0 | | | | | 25.0 | | | | |
| 7.5 | 4 | 7.5 | 0.19 | 2 | 25.5 | | | | |
| 8.0 | 2 | 3.8 | 0.23 | 2 | 26.0 | | | | |
| 8.5 | 1 | 1.9 | 0.28 | 3 | TOTAL | 53 | | | |
| 9.0 | 7 | 13.2 | 0.33 | 3 | | | | | |
| 9.5 | 8 | 15.1 | 0.40 | 3,4 | | | | | |
| 10.0 | 12 | 22.6 | 0.46 | 3,4,5 | | | | | |
| 10.5 | 10 | 18.9 | 0.54 | 3,4 | | | | | |
| 11.0 | 4 | 7.5 | 0.63 | 4,5 | | | | | |
| 11.5 | 3 | 5.7 | 0.72 | 4,5 | | | | | |
| 12.0 | 1 | 1.9 | 0.82 | not aged | | | | | |
| 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 | 102.0 / h | GILL NET CATCH | 0.0 / lift | TRAP NET CATCH | 0.5 / lift |
|----------------------|-----------|----------------|------------|----------------|------------|

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 | | | | | 19.0 | | | | |
| 1.5 | | | | | 19.5 | | | | |
| 2.0 | 1 | 3.0 | 0.01 | 1 | 20.0 | | | | |
| 2.5 | 3 | 9.1 | 0.01 | 1,2 | 20.5 | | | | |
| 3.0 | 1 | 3.0 | 0.02 | 2 | 21.0 | | | | |
| 3.5 | 7 | 21.2 | 0.03 | 2,3 | 21.5 | | | | |
| 4.0 | 10 | 30.3 | 0.04 | 3 | 22.0 | | | | |
| 4.5 | 2 | 6.1 | 0.06 | 2,3 | 22.5 | | | | |
| 5.0 | 4 | 12.1 | 0.08 | 3 | 23.0 | | | | |
| 5.5 | 2 | 6.1 | 0.11 | 3,4 | 23.5 | | | | |
| 6.0 | 1 | 3.0 | 0.15 | 3 | 24.0 | | | | |
| 6.5 | | | | | 24.5 | | | | |
| 7.0 | | | | | 25.0 | | | | |
| 7.5 | 1 | 3.0 | 0.31 | 5 | 25.5 | | | | |
| 8.0 | 1 | 3.0 | 0.38 | not aged | 26.0 | | | | |
| 8.5 | | | | | TOTAL | 33 | | | |
| 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 | 54.0 / h | GILL NET CATCH | 0.0 / lift | TRAP NET CATCH | 3.0 / 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 | | | | |
| 3.0 | | | | | 21.0 | | | | |
| 3.5 | | | | | 21.5 | | | | |
| 4.0 | | | | | 22.0 | | | | |
| 4.5 | | | | | 22.5 | | | | |
| 5.0 | | | | | 23.0 | | | | |
| 5.5 | | | | | 23.5 | | | | |
| 6.0 | | | | | 24.0 | | | | |
| 6.5 | | | | | 24.5 | | | | |
| 7.0 | | | | | 25.0 | | | | |
| 7.5 | | | | | 25.5 | | | | |
| 8.0 | | | | | 26.0 | | | | |
| 8.5 | 1 | 3.8 | 0.17 | not aged | TOTAL | 26 | | | |
| 9.0 | 1 | 3.8 | 0.20 | | | | | | |
| 9.5 | 3 | 11.5 | 0.23 | | | | | | |
| 10.0 | 2 | 7.7 | 0.28 | | | | | | |
| 10.5 | 3 | 11.5 | 0.33 | | | | | | |
| 11.0 | 6 | 23.1 | 0.38 | | | | | | |
| 11.5 | 4 | 15.4 | 0.43 | | | | | | |
| 12.0 | 2 | 7.7 | 0.49 | | | | | | |
| 12.5 | 2 | 7.7 | 0.56 | | | | | | |
| 13.0 | | | | | | | | | |
| 13.5 | 1 | 3.8 | 0.73 | | | | | | |
| 14.0 | 1 | 3.8 | 0.83 | | | | | | |
| 14.5 | | | | | | | | | |
| 15.0 | | | | | | | | | |
| 15.5 | | | | | | | | | |
| 16.0 | | | | | | | | | |
| 16.5 | | | | | | | | | |
| 17.0 | | | | | | | | | |
| 17.5 | | | | | | | | | |
| 18.0 | | | | | | | | | |
| 18.5 | | | | | | | | | |

| | | | | | |
|----------------------|---------|----------------|-------------|----------------|------------|
| ELECTROFISHING CATCH | 8.0 / h | GILL NET CATCH | 11.0 / lift | TRAP NET CATCH | 0.0 / lift |
|----------------------|---------|----------------|-------------|----------------|------------|

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 | 5.3 | 0.01 | not aged | 19.5 | | | | |
| 2.0 | | | | | 20.0 | | | | |
| 2.5 | 2 | 10.5 | 0.01 | not aged | 20.5 | | | | |
| 3.0 | | | | | 21.0 | | | | |
| 3.5 | 2 | 10.5 | 0.03 | 2 | 21.5 | | | | |
| 4.0 | 1 | 5.3 | 0.04 | 2 | 22.0 | | | | |
| 4.5 | 1 | 5.3 | 0.06 | 2 | 22.5 | | | | |
| 5.0 | 1 | 5.3 | 0.08 | 2 | 23.0 | | | | |
| 5.5 | 6 | 31.6 | 0.11 | 3 | 23.5 | | | | |
| 6.0 | 1 | 5.3 | 0.15 | 3 | 24.0 | | | | |
| 6.5 | 2 | 10.5 | 0.20 | 3 | 24.5 | | | | |
| 7.0 | | | | | 25.0 | | | | |
| 7.5 | 1 | 5.3 | 0.31 | 4 | 25.5 | | | | |
| 8.0 | 1 | 5.3 | 0.38 | 5 | 26.0 | | | | |
| 8.5 | | | | | TOTAL | 19 | | | |
| 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 | 20.0 / h | GILL NET CATCH | 0.0 / lift | TRAP NET CATCH | 4.5 / lift |
|----------------------|----------|----------------|------------|----------------|------------|

Mean Length at Capture

Largemouth bass

| Age | Number | Mean TL | Var | SE | Lo 95%CI | Up 95%CI |
|-----|--------|---------|------|------|----------|----------|
| 1 | 1 | 5.3 | NA | NA | NA | NA |
| 2 | 6 | 7.9 | 0.07 | 0.11 | 7.7 | 8.1 |
| 3 | 23 | 9.8 | 0.29 | 0.11 | 9.6 | 10.0 |
| 4 | 18 | 10.8 | 0.32 | 0.14 | 10.5 | 11.0 |
| 5 | 4 | 10.8 | 0.56 | 0.36 | 10.1 | 11.5 |

Bluegill

| Age | Number | Mean TL | Var | SE | Lo 95%CI | Up 95%CI |
|-----|--------|---------|------|------|----------|----------|
| 1 | 2 | 2.5 | 0.13 | 0.25 | 2.0 | 3.0 |
| 2 | 8 | 3.6 | 0.42 | 0.23 | 3.1 | 4.0 |
| 3 | 20 | 4.6 | 0.48 | 0.16 | 4.3 | 4.9 |
| 4 | 1 | 5.8 | NA | NA | NA | NA |
| 5 | 1 | 7.8 | NA | NA | NA | NA |

Redear sunfish

| Age | Number | Mean TL | Var | SE | Lo 95%CI | Up 95%CI |
|-----|--------|---------|------|------|----------|----------|
| 1 | | | | | | |
| 2 | 5 | 4.4 | 0.43 | 0.29 | 3.8 | 4.9 |
| 3 | 9 | 6.0 | 0.19 | 0.15 | 5.7 | 6.3 |
| 4 | 1 | 7.8 | NA | NA | NA | NA |
| 5 | 1 | 8.3 | NA | NA | NA | NA |

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 | |
| 1.0 | | | | | | | | | | | | | | | | |
| 1.5 | | | | | | | | | | | | | | | | |
| 2.0 | | | | | | | | | | | | | | | | |
| 2.5 | | | | | | | | | | | | | | | | |
| 3.0 | | | | | | | | | | | | | | | | |
| 3.5 | | | | | | | | | | | | | | | | |
| 4.0 | | | | | | | | | | | | | | | | |
| 4.5 | | | | | | | | | | | | | | | | |
| 5.0 | 1 | 1 | 1 | | | | | | | | | | | | | |
| 5.5 | | | | | | | | | | | | | | | | |
| 6.0 | | | | | | | | | | | | | | | | |
| 6.5 | | | | | | | | | | | | | | | | |
| 7.0 | | | | | | | | | | | | | | | | |
| 7.5 | 4 | 4 | | 4 | | | | | | | | | | | | |
| 8.0 | 2 | 1 | | 2 | | | | | | | | | | | | |
| 8.5 | 1 | 1 | | | 1 | | | | | | | | | | | |
| 9.0 | 7 | 4 | | | 7 | | | | | | | | | | | |
| 9.5 | 8 | 4 | | | 6 | 2 | | | | | | | | | | |
| 10.0 | 12 | 5 | | | 7 | 2 | 2 | | | | | | | | | |
| 10.5 | 10 | 5 | | | 2 | 9 | | | | | | | | | | |
| 11.0 | 4 | 5 | | | | 3 | 1 | | | | | | | | | |
| 11.5 | 3 | 3 | | | | 2 | 1 | | | | | | | | | |
| 12.0 | 1 | | | | | | | | | | | | | | | |
| 12.5 | | | | | | | | | | | | | | | | |
| Total | 53 | 33 | 1 | 6 | 23 | 18 | 4 | 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 | | | | | | | | | | | | | | | | |
| 1.5 | | | | | | | | | | | | | | | | |
| 2.0 | 1 | 1 | 1 | | | | | | | | | | | | | |
| 2.5 | 3 | 3 | 1 | 2 | | | | | | | | | | | | |
| 3.0 | 1 | 1 | | 1 | | | | | | | | | | | | |
| 3.5 | 7 | 7 | | 4 | 3 | | | | | | | | | | | |
| 4.0 | 10 | 5 | | | 10 | | | | | | | | | | | |
| 4.5 | 2 | 2 | | 1 | 1 | | | | | | | | | | | |
| 5.0 | 4 | 4 | | | 4 | | | | | | | | | | | |
| 5.5 | 2 | 2 | | | 1 | 1 | | | | | | | | | | |
| 6.0 | 1 | 1 | | | 1 | | | | | | | | | | | |
| 6.5 | | | | | | | | | | | | | | | | |
| 7.0 | | | | | | | | | | | | | | | | |
| 7.5 | 1 | 1 | | | | | 1 | | | | | | | | | |
| 8.0 | 1 | | | | | | | | | | | | | | | |
| 8.5 | | | | | | | | | | | | | | | | |
| Total | 33 | 27 | 2 | 8 | 20 | 1 | 1 | 0 | 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 | | | | | | | | | | | | | | | |
| 2.0 | | | | | | | | | | | | | | | | |
| 2.5 | 2 | | | | | | | | | | | | | | | |
| 3.0 | | | | | | | | | | | | | | | | |
| 3.5 | 2 | 2 | | 2 | | | | | | | | | | | | |
| 4.0 | 1 | 1 | | 1 | | | | | | | | | | | | |
| 4.5 | 1 | 1 | | 1 | | | | | | | | | | | | |
| 5.0 | 1 | 1 | | 1 | | | | | | | | | | | | |
| 5.5 | 6 | 5 | | | 6 | | | | | | | | | | | |
| 6.0 | 1 | 1 | | | 1 | | | | | | | | | | | |
| 6.5 | 2 | 2 | | | 2 | | | | | | | | | | | |
| 7.0 | | | | | | | | | | | | | | | | |
| 7.5 | 1 | 1 | | | | 1 | | | | | | | | | | |
| 8.0 | 1 | 1 | | | | | 1 | | | | | | | | | |
| 8.5 | | | | | | | | | | | | | | | | |
| Total | 19 | 15 | 0 | 5 | 9 | 1 | 1 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |