

# Blue Grass

## **Fish and Wildlife Research and Management Notes**

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**Title:** Fisheries spot check survey results from six reclaimed pits at Blue Grass Fish and Wildlife Areas

## **INTRODUCTION**

Blue Grass Fish and Wildlife Area was acquired by the Department of Natural Resources, Division of Fish and Wildlife in August 2000. The property consists of 2,532 acres of reclaimed coal strip mined ground which contains 28 pits and lakes totaling approximately 600 acres. The property is located in northwest Warrick County about 1 mile east of Interstate 164. Most of the pits are hydrologically connected, especially during times of floods from nearby Pigeon Creek and Blue Grass Creek. Blue Grass Pit, Loon Pit, and Otter Pit are all directly connected by a 36 inch culvert that runs under the county roads. At present, only shore line fishing is allowed until boat ramps are constructed. The construction of seven boat ramps is scheduled to start in September 2001. All state fishing regulations have applied to these pits since fishing opened on March 1, 2001. The area has been heavily used by anglers since it opened to fishing.

## **METHODS**

Spot check fisheries surveys were conducted at Loon (206 acres), Blue Grass (173 acres), Otter (90 acres), Bird Dog (15.8 acres), Widgeon (11 acres), and Ringneck Pits (8.5 acres) from September 6 through September 13, 2000. The surveys were conducted on the pits which were easily accessible by a trailered boat. Many of the pits are inaccessible by vehicle. The surveys were conducted to determine what species of fish inhabit the pits, to gain some knowledge about the fisheries for public information and education purposes before the property opened, and to supplement the Blue Grass Fish and Wildlife Area Fisheries Management Plan which is planned to be written in 2003.

Fish collection effort consisted of daytime pulsed D.C. electrofishing with two fish dippers at Loon (1 hour of effort), Blue Grass (1 hour of effort), Bird Dog (0.5 hour of effort), Widgeon (0.38 hour of effort), and Ringneck Pits (0.36 hour of effort). Three over night gill net and trap net lifts were conducted at Otter Pit in lieu of electrofishing due to the high water conductivity. Stainless steel 1/4 inch cable was used for the electrofishing boat droppers due to the high water conductivity. Scale samples were taken from a subsample of game fish for age and growth determination. All fish were measured to the nearest 0.1 inch. Water chemistry parameters measured were dissolved oxygen, temperature, alkalinity, pH, conductivity, and turbidity.

## **RESULTS**

Water chemistry results were normal for all pits except for water conductivity. Conductivity measurements ranged from 137 MicroSiemens/cm (mS) at Bird Dog Pit to 2,283 mS at Otter Pit.

The other pits surveyed all had conductivities of at least 1,000 mS. The high conductivity levels reduced the number of fish sampled by the electrofishing boat.

### **Loon Pit**

A total of 78 fish was sampled that weighed 37.61 pounds (Appendix A). Redear sunfish were most abundant by number followed by largemouth bass, bluegill, gizzard shad, and common carp. Largemouth bass were most abundant by weight followed by common carp, redeer sunfish, spotted gar, and bigmouth buffalo. Other species sampled were white crappie and hybrid bluegill. Redear sunfish, largemouth bass, and bluegill growth rates were all normal when compared to district averages.

### **Blue Grass Pit**

A total of 61 fish was sampled that weighed 33.49 pounds (Appendix B). Largemouth bass was most abundant by number followed by gizzard shad, bluegill, and redeer sunfish. Common carp were most abundant by weight followed by largemouth bass, bowfin, and gizzard shad. Longear sunfish was the only other species sampled. Growth rates were average for largemouth bass, redeer sunfish, and bluegill.

### **Otter Pit**

A total of 216 fish was sampled that weighed 156.02 pounds (Appendix C). Bluegill dominated the collection by number followed by channel catfish, gizzard shad, white crappie, and largemouth bass. Channel catfish was most abundant by weight followed by common carp, bowfin, bluegill, and white crappie. Other species sampled were spotted sucker, yellow bullhead, redeer sunfish, smallmouth buffalo, freshwater drum, shortnose gar, spotted gar, and black bullhead. Growth rates for bluegill and white crappie were average. All the fish species sampled in Otter Pit should also be found in Blue Grass and Loon Pits since they are all connected.

### **Bird Dog Pit**

A total of 114 fish was sampled that weighed 22.48 pounds (Appendix D). Largemouth bass dominated the sample by number and weight followed by bluegill, redeer sunfish, and golden shiner. No other species were sampled. Electrofishing catch rates were high (for day electrofishing) for bass, bluegill, and redeer sunfish. Growth rates for bass and redeer were average, while bluegill growth was at the high end of the average range. This was the only pit sampled that possessed "normal" conductivity levels which accounted for the better electrofishing catch rates.

### **Widgeon Pit**

A total of 114 fish were sampled that weighed 65.68 pounds (Appendix E). Gizzard shad dominated the sample by number followed by largemouth bass, redeer sunfish, and bluegill. Largemouth bass ranked first by weight followed by common carp and gizzard shad. Other species sampled were golden shiner, yellow bullhead, and blackstripe topminnow. Eighty-eight

percent of the bass sampled were longer than 12 inches and nearly half were greater than 15 inches. Numerous bass over five pounds have been reported being caught and harvested from this pit since March 1. Most of the bluegill and redear sampled were less than 6 inches in length. Bass growth rates were above average for ages 3 through 5. Bluegill and redear growth rates were average. The limiting factor for this pit is its shallow average depth of 3 feet.

### **Ringneck Pit**

A total of 43 fish were sampled that weighed 10.87 pounds (Appendix F). Largemouth bass ranked first by number and weight followed by bluegill and redear sunfish. Two gizzard shad were observed during the survey but not collected. No other species were sampled. All the bass sampled were less than 13.5 inches in length. Bluegill and redear sunfish were found up to 7 and 8 inches respectively. Bass growth rates were at the low end of the average range, while bluegill growth was average.

## **CONCLUSION**

The brief surveys served the purpose of acquiring some quick information about the more accessible pits on the property. The information was a great asset as the district biologist had to answer many questions about fishing at the property. These surveys showed the need for standard fisheries surveys. Otter pit, Loon Pit, and Blue Grass Pit are all directly connected and should have the same fish species in them. However, the gill and trap netting results from Otter Pit showed an abundance of white crappie and channel catfish, in addition too twice as many species sampled, which did not show up during the electrofishing spot check surveys at Loon and Blue Grass Pits.

A new work plan was developed to conduct standard fisheries surveys in 2001 and 2002 at the accessible Blue Grass pits and to hook and line survey the walk in pits. A Blue Grass Fish and Wildlife Area Fisheries Management Plan is planned to be written in 2003 summarizing the survey results from 2001 and 2002.

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