



## **Silver Run Lake Fishery Management Report March 2012**

### **Management Strategy**

A generally balanced largemouth bass and bream fishery is the management focus for Silver Run Lake. The goal is that the lake yield numerous, healthy bass in the range of 2-4 lb. and bream in the range of 7-10 inches, with the occasional memorable or trophy sized fish.

Through this report, it is important to realize that electrofishing is bias towards small to medium size fish. Larger largemouth bass can easily escape the electrofishing boat and are rare to sample. With this fact in mind, when assessing a fishery, many of the management decisions must be made on fish body condition and length distributions.

### **Methods**

Fish populations were sampled by conducting one, approximately 41 minute, electrofishing transect. Fish were collected for length frequency distributions and relative weight (Wr). Length frequency distributions allow insight regarding the population structure of the bass and bream. The calculation Wr is a measure of the body condition of each particular fish, which serves as an indication of the balance of fish and their food supply. In generally balanced populations the majority of both largemouth bass and bream Wr should be near 90. These assessments may allow for indication of problem(s) with overcrowding, aquatic weeds, food supply, competing species, and/or water quality.

### **Aquatic Weeds**

No aquatic weeds of issue were present during our visit. Maintaining young grass carp (less than 5 years old) at a minimum rate of five per acre and proper water clarity through fertilization or lake dyes are good techniques to reduce aquatic weed problems.



### **Fish Assessment**

During electrofishing 117 bass, 17 bluegill, 3 redear sunfish, and 17 black crappie were collected. The range of length and weight for the bass and bream collected was as follows: bass 5-19 inches and 0.1-4.7 lb., bream from 1-10 inches and 0.1-0.7lb, and crappie 7-10 in. 0.3-0.6 lb. In a balanced lake, we would expect to see numerous 3-6 inch bream (the preferred size for largemouth bass predation). 3-6 inch bream accounted for 65% of the bream collected during electrofishing, a good amount of available forage for largemouth bass.

Largemouth bass between 15-19 inches are at preferred length. Figure 1 shows that 42 individual, or 36%, were at or above preferred length. In a balanced lake, we expect to see 40-60% of the bass at or above preferred size. Bream are considered to be of quality length from 6-7 inches. In Figure 2, 5, or 25% of the bream were at or above quality length. In a balanced lake, we would expect to see 20-40% of the bream at or above quality length.

The desired  $W_r$  for both bass and bream ranges from 85-105% for a well managed/balanced system; a  $W_r$  below 85% indicates fish in poor condition while a  $W_r$  below 80% indicates severely thin fish. The average  $W_r$  for bass was 91 with 74% of the fish sampled having  $W_r$  greater than 85 (Fig. 3). The average  $W_r$  for bream was 95 with 86% of the fish sampled having  $W_r$  greater than 85 (Fig. 4).

### **Management Recommendations**

The information gathered during our visit indicates that your lake is meeting your management goal of a generally balanced fishery. The largemouth bass length distribution (Fig. 1) and  $W_r$  plot (Fig. 2) suggests that the bass population is foraging at its maximum potential as their body condition and length distributions point towards optimal growth due to a small population number and plentiful forage base. For the 2012 season, bass less than 14" should be harvested, bream should see no restrictions on their harvest, and a threadfin shad stocking should.

Although the average  $W_r$  of 91 indicates a healthy bass population, there is still room for improvement. It is still important to keep up with the harvest of largemouth



bass as much as possible, as this is a critical management technique for producing and maintaining balance. An fertilized lake that is managed for quality bass should have 20-25 lb. of bass/acre/year removed. For the 70-acre Silver Run Lake this equates to a total of **1,400-1,750 lbs.** of bass harvested annually. Although practicing catch and release of larger individuals is important to maintain a good number of quality sized fish in a lake, it is suggested that when managing for general balance that you remove all bass under 14 inches that are angled until the annual harvest quota is met. Removing these smaller predators will help in reaching your harvest quota and reduce the forage pressure on the smaller bluegills, in turn allowing for more available forage for the remaining bass to grow larger and healthier.

Bream harvest rates need not be restricted. In most cases, harvest through angling will rarely affect the bream population. The number of bream within a system is far greater than what could be affected by angling so largemouth bass should be considered the major management tool for controlling bream populations. A consistent supplemental feeding program can help to maintain and improve bream and bass populations. Pellet feeding can increase the body condition of bream which translates to improved spawning efforts and output which can also increase forage for largemouth bass.

Aqua Services, Inc. also suggests that threadfin shad be stocked this spring in order to increase the available forage for the existing largemouth bass population. Threadfin shad will provide yet another forage base for the bass, reduce the foraging pressure on the bluegill population, and can also support the bass population in years of low/poor bluegill reproduction. Additionally, the shad will inhabit the open water areas of the lake that are not being used by any other fish species. This allows for greater overall lake production and can create exciting 'schooling' bass activity. The consistent presence of a threadfin shad population will help to increase the overall health and size structure of the bass population.

For the upcoming 2012-2013 season maintain harvest records of largemouth bass and actively harvest all bass less than 14" until the minimum harvest requirement of **1,400-1,750 lbs.** largemouth bass has been met. If this harvest quota cannot be met by

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angling bass harvest through electrofishing should be conducted in the early spring, just prior spawning or in the early fall. Threadfin shad should be stocked this spring to provide an additional forage base for the largemouth bass population. With proper and consistent management, your lake will continue to serve as a resource for quality recreational fishing.