

Lake Somerset

Somerset County

May 2011 Trap Net, Hoop Net, Electrofishing Survey

Lake Somerset is a 252-acre Pennsylvania Fish and Boat Commission (PFBC) owned impoundment in Somerset, PA adjacent to State Route 219. The lake has two boat launches and motorized boats are restricted to electric motors only. Largemouth bass are managed under Big Bass regulations and other fishes are managed with Statewide regulations. The PFBC stocks walleye and channel catfish fingerlings annually at Lake Somerset and muskellunge and tiger muskellunge in alternating years. In 1996 PFBC Habitat Division placed several fish holding structures to help increase available fish habitat. The reservoir has high turbidity and high productivity (alkalinity 33 parts per million in 2011).



Fisheries biologist Mike Depew holding a large bowfin

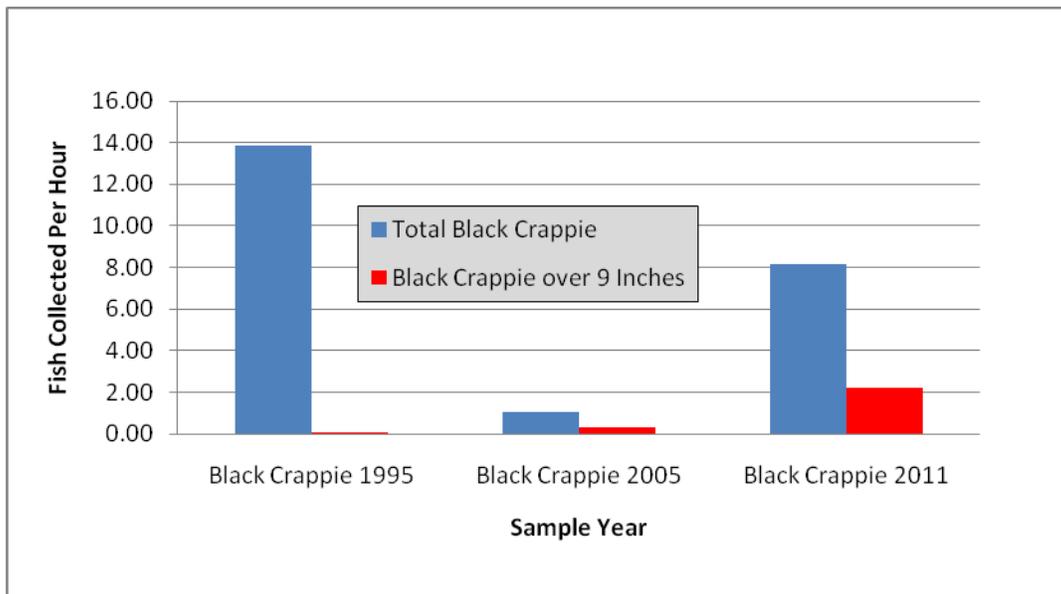
The primary purpose of our 2011 surveys was to measure the size structure and quality of the lake's resident gamefish, panfish, and forage fish populations and to update fisheries management strategies for the lake where necessary. The majority of the fish we collected during our trap net surveys were black crappie and many were of quality size (9 inches or larger) fish. Additionally, there were a large number just under that quality size that should grow larger over the next year. Table 1 below summarizes the catch data from our 2011 trap net survey.

Table 1. 2011 Survey Gear: 12 Trap Net Sets.

Fish Species	Number	Size (Inches)	Comments
Walleye	77	9 - 29	90% Over 15 inches 51% Over 20 inches
Black Crappie	2269	4 - 13	27% Over 9 inches
Sunfish	528	3 - 8	17% Over 7 inches
Yellow Perch	163	4 - 10	12% Over 9 inches
Channel Catfish	24	4 - 29	16% Over 14 inches
Bowfin	7	12 - 22	-
Brown Bullhead	61	7 - 16	85% Over 10 inches
Yellow Bullhead	10	7 - 11	-
Musky and Tiger Musky	23	25 - 45	70% over 30 inches
Golden Shiner	14	Not measured	-
White Sucker	2	Not measured	-
Common Carp	3	Not measured	-
Gizzard Shad	838	Not measured	-

Black crappie catch rates changed for the better since the last two surveys. In 1995 and 2005 almost no quality fish (9 inches or larger) were caught. Figure 1 shows that 27% of our 2011 survey catch were quality size fish.

Figure 1. Black Crappie Collected in Trap Nets at Lake Somerset.





Fisheries Biologist Mike Depew with two typical black crappie

Quality sunfish (pumpkinseed and bluegill 7 inches or larger) catch rates have remained similar to the surveys in 1995 and 2005. Sunfish continue to be hampered by direct competition with gizzard shad. Figure 2 compares catch rates of sunfish between the last three survey years.

Figure 2. Sunfish Collected in Trap Nets at Lake Somerset.

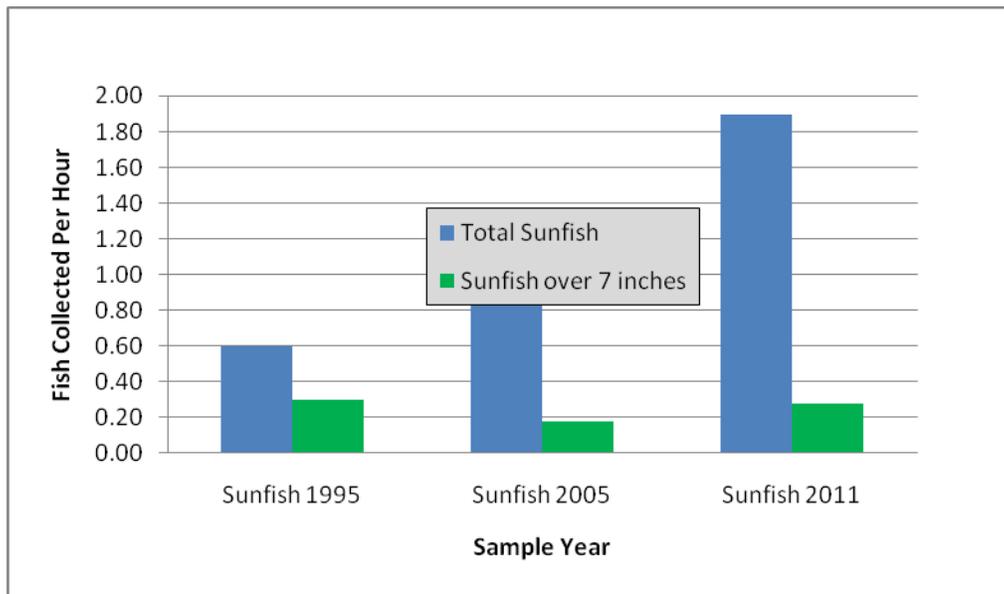
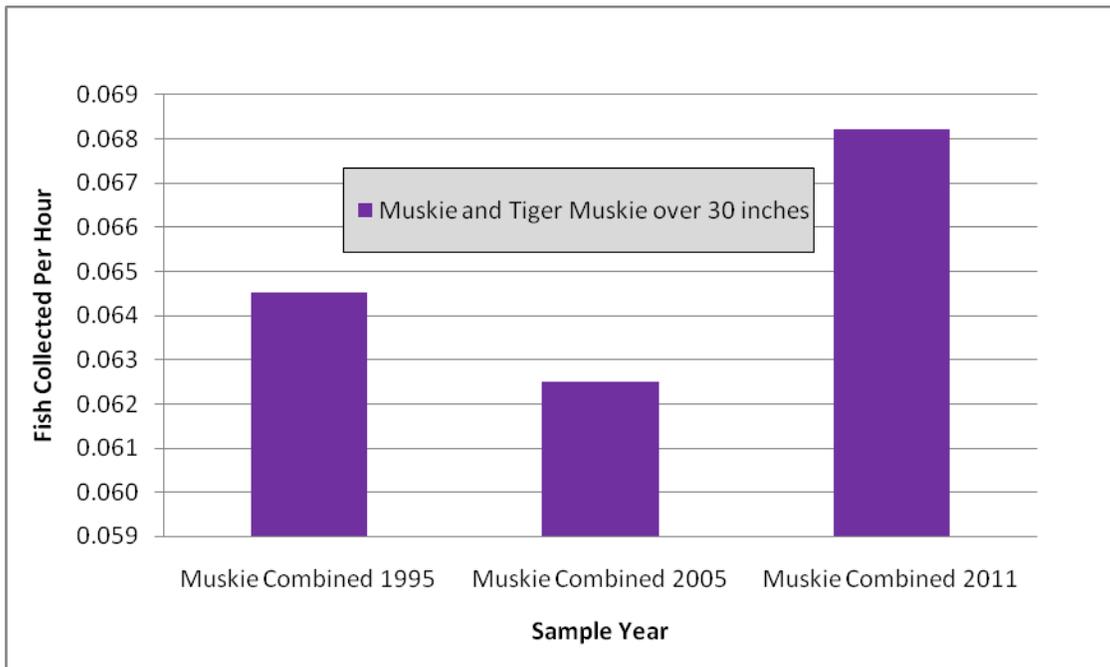


Figure 3 compares the catch effort for muskellunge and tiger muskellunge over 30 inches in Lake Somerset. We caught slightly more combined muskellunge per hour in 2011 than in previous years. Lake Somerset continues to provide a stable muskellunge fishery.

Figure 3. Muskie and Tiger Muskie Collected in Trap Nets at Lake Somerset.



Area Fisheries Manager Rick Lorson with a 45", 36 lb. musky

Figure 4 shows the catch rates for yellow perch. Yellow perch of all sizes were caught at a very low rate in 2005 and 2011 compared to our 1995 survey. Yellow perch could be affected by gizzard shad abundance at a younger age making it harder for them to attain quality size. We have also noted over the years in several lakes that yellow perch and crappie abundance appear inversely related. When large numbers of crappies are present there are fewer yellow perch and vice versa. This holds true at Lake Somerset.

Figure 4. Yellow Perch Collected in Trap Nets at Lake Somerset.

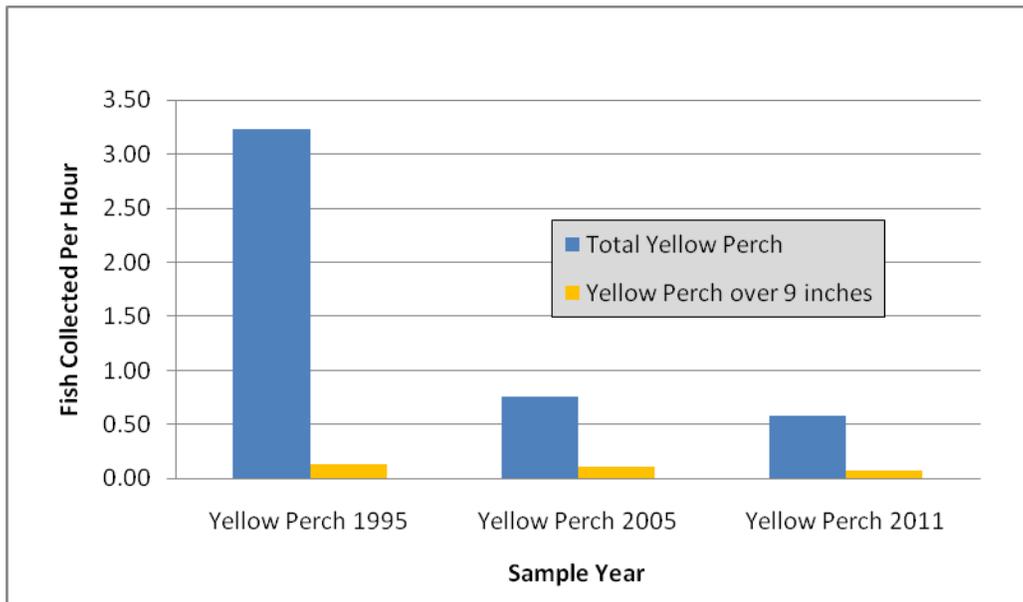
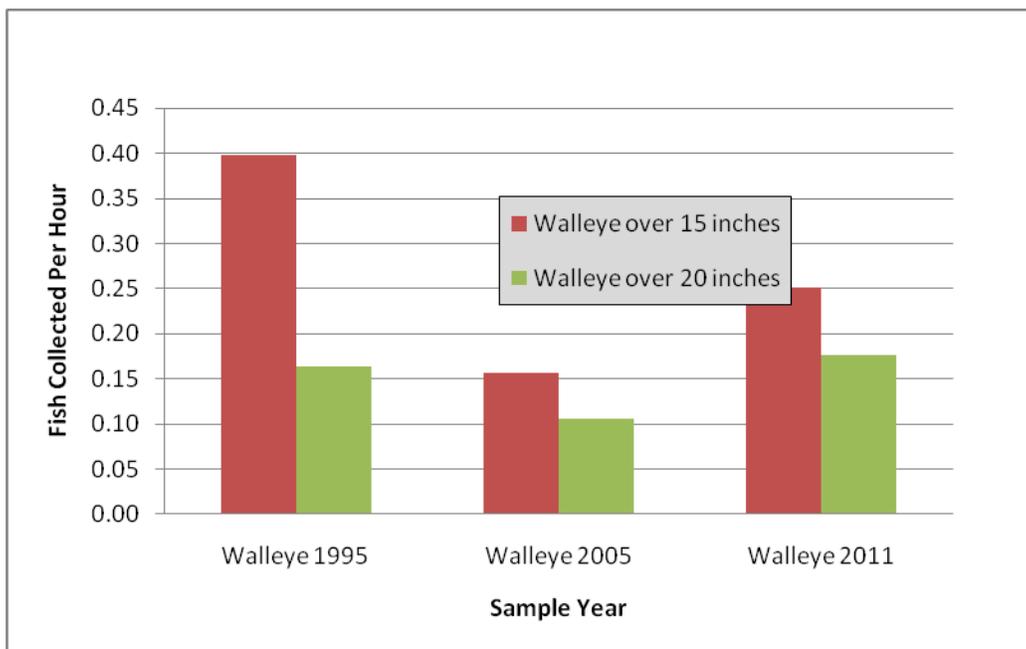


Figure 5 compares catch efforts for walleye in Lake Somerset. Overall the amount of 20 inch fish has remained stable while having a moderate difference between years in 15 inch fish. Our catch rates of walleye have remained well above the statewide standard. Lake Somerset is another success story for small lakes in southwest PA providing good walleye density.

Figure 5. Walleye Collected in Trap Nets at Lake Somerset.

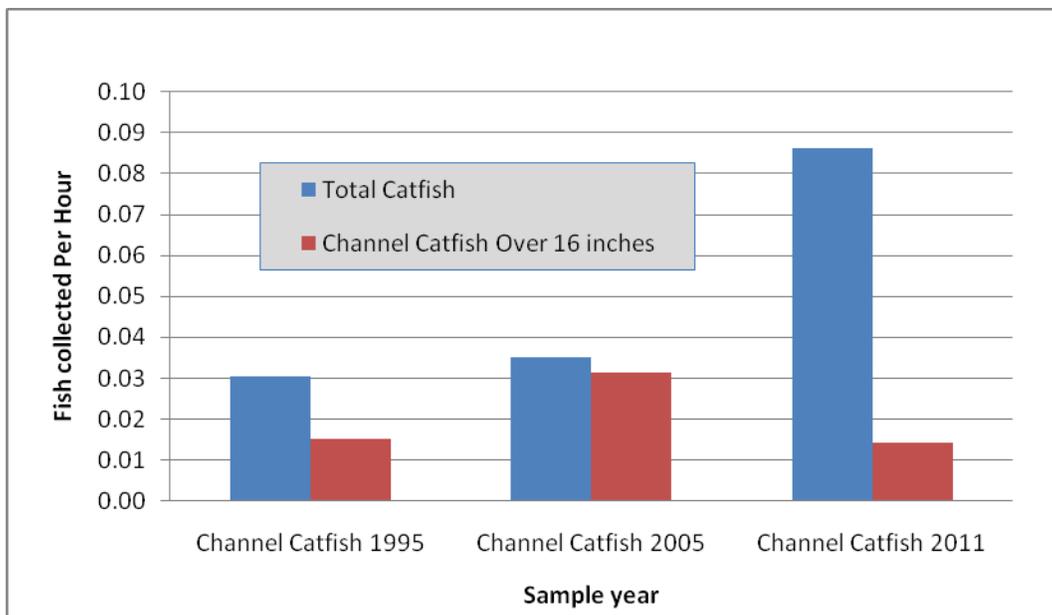




Fisheries Biologist Aide Joseph Cocco with a nice walleye

Channel catfish were caught in excellent numbers over the three sampling years. Stocking of channel catfish will continue to provide excellent fishing at Lake Somerset. Figure 6 compares the last three sample years for channel catfish.

Figure 6. Channel Catfish Collected in Trap Nets at Lake Somerset



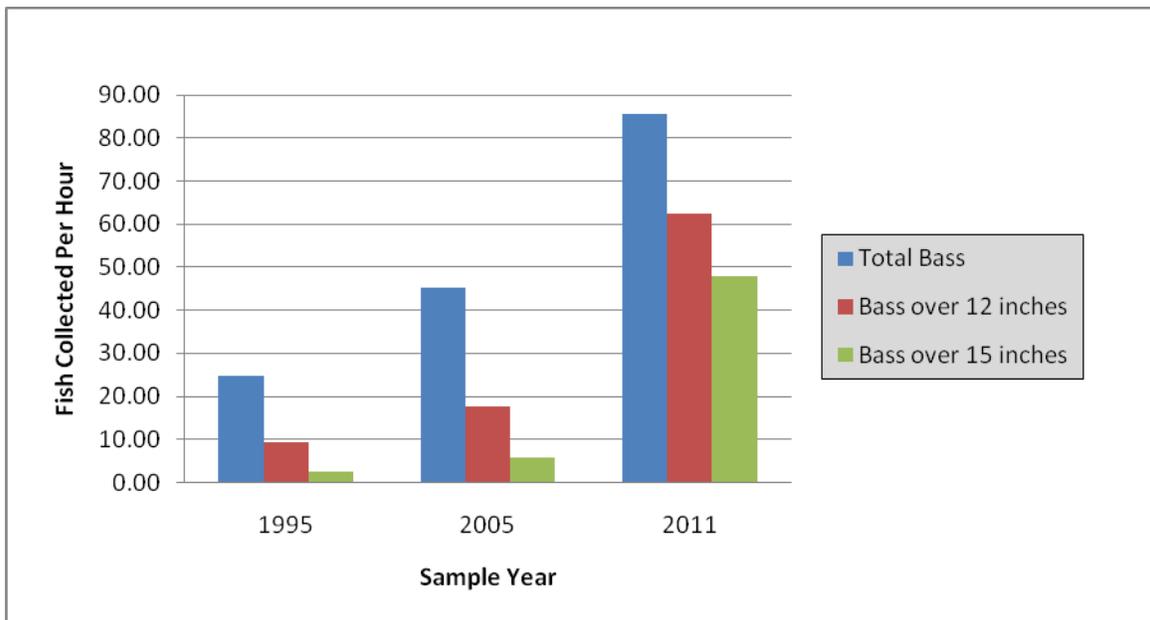
During the nighttime electrofishing survey we found that the number and size structure of largemouth bass was much better than previous surveys. Table 2 below summarizes the catch data from our 2011 electrofishing survey.

Table 2. 2011 Survey Gear: 3 Nighttime Boat Electrofishing Runs.

Fish Species	Number	Size (Inches)	Comments
Largemouth Bass	184	7 - 20	73% Over 12 inches 56% over 15% inches

We compared catch rates for largemouth bass through the last three surveys (Figure 7). In 2011 our total catch was 85.5 fish per hour which almost tripled our catch rate from 1995 (25 fish per hour) and nearly doubled the catch rate of 2005 (45 fish per hour). In 2011 all Big Bass Program guidelines were exceeded at Lake Somerset. Total largemouth bass were caught at 86 fish per hour (State Guideline = 35 per hour), largemouth bass over 12 inches were caught at a rate of 62 fish per hour (state guideline = 7 per hour) and bass over 15 inches at an astounding 48 fish per hour (state guideline = 2 per hour).

Figure 7. Largemouth Bass Collected during Nighttime electrofishing at Lake Somerset.





Area 8 Fishing and Boating Maintainer Gary Crawford with two largemouth bass over 15 inches

Hoop nets are specialty nets that are used to capture channel catfish over a 72 hour set. Each set has three nets set in tandem and each is baited to maximize channel catfish capture. This sample technique has been used in other areas of the United States but is relatively new for the PFBC. We summarized the results from our April hoop net survey (Table 3). Our hoop net sampling in the future will take place later in the year to get higher catfish catches and lower panfish catches.

Table 3. 2011 Survey Gear: 8 Hoop Net Sets.

Fish Species	Number	Size (Inches)	Comments
Channel Catfish	19	11 - 29	94% Quality Sized Fish
Black Crappie	1647	5 - 12	38% Quality Sized Fish
Sunfish	109	6 - 7	59% Quality Sized Fish
Bowfin	1	-	
Brown Bullhead	14	10 - 15	
Muskellunge	3	28 - 29	
Walleye	7	15 - 27	



Three Hoop Nets Set in Tandem

Lake Somerset has excellent fishing opportunities for largemouth bass, channel catfish, brown bullhead, walleye, muskie, tiger muskie and crappie. Fishing opportunities for sunfish, carp, and perch are considered fair at Lake Somerset.

**Joseph Cocco and Mike Depew
Area 8 Fisheries Biologist Aide and Fisheries Biologist**