Smallwood Impoundment
Gladwin County, T 18N, R 01E, Sec 1
Tittabawassee River Watershed, 2012

Kathrin Schrouder, Senior Fisheries Biologist

Environment

Smallwood Lake is an impoundment of the Tittabawassee River located about 6 miles east of Gladwin at White Star in Gladwin County (T 18N, R 1E, Sec 1) (Figure 1). It is the second impoundment downstream in a series of four impoundments and is the smallest. Smallwood Dam, an operational hydroelectric project, was constructed in 1925 and is listed as having a height of 36 ft and hydraulic head of 28 ft. It impounds 402 acres, flooding a large area of shoreline at normal pool elevation (704.8 ft). Fisheries files list the impoundment as 232 acres. The discrepancy is most likely due to the measurements occurring at different pond elevations or possible inclusion of more backwater acreage in the higher estimate. The impoundment has established summer and winter levels and is occasionally lowered for emergency or scheduled repair or maintenance. Numerous drains, the Little Tobacco River, and the Tittabawassee River downstream from Secord Dam are inlets to Smallwood Lake. The outlet is via the Tittabawassee River to Wixom Lake, Sanford Lake, Tittabawassee River, Saginaw River and eventually to Saginaw Bay. The dam is an active hydroelectric project owned by Boyce LLC. There is no developed DNR access to this lake, but the public can launch for a fee at the private marina or enter from private resorts.

Geology of the area consists of glacial lake deposits composed of fine sand with imbedded clay layers. The Tittabawassee River follows the western border of the Port Huron moraine, which is characterized by low relief and interbedding of glacial till with lake sediments (WRC 1960). Thickness of glacial drift in the eastern section is thinner and varies from 200 to 400 feet. The surrounding countryside is mostly level with sandy-loam soils, and farmland. The impoundment formed is irregular in shape with many drain inlets or arms coming into it. The impoundment has a maximum depth of about 28 feet and has fairly steep drop-offs. The bottom of the shoal areas is sand, clay, pulpy peat, and fibrous peat. In deeper water, the bottom is mostly clay and pulpy peat. The immediate shoreline is high banked, gently rolling hills with sandy and clay soils.

Residential development is extensive on Smallwood Impoundment. In August, 2012, a total of 461 dwellings were counted around the perimeter yielding an estimated density of 34.9 dwellings/mile. Shoreline armoring was high with an estimated 52% of the shoreline displaying some sort of armoring, mostly in the form of steel, wood, or concrete seawalls.

In general, Smallwood Impoundment is considered a medium shallow depth lake with warm temperature characteristics. Milfoil is the dominant form of aquatic vegetation in the littoral zone with a common occurrence of algae. While aquatic vegetation is a major habitat component for fish, there has been a fairly extensive history of aquatic nuisance vegetation treatments conducted on Smallwood Impoundment.

History

Fisheries management of Smallwood Lake impoundment began with sporadic stocking of a variety of species from 1937 to 1944. These included smallmouth bass, largemouth bass, northern pike, bluegills, walleye, and yellow perch. The first biological inventory was completed in 1951 and no management recommendations were made. White bass were introduced in 1954. Additional general fisheries surveys were conducted in 1951 and 1967. The fish populations appeared to be healthy and no comments were included with the surveys. The 1983 survey showed good populations of black and white crappie, northern pike, largemouth bass, and large channel catfish. In contrast, bluegill growth appeared to be slow and sizes were small. Emphasis was put on predator stocking to improve bluegill growth rates. More recent stocking is listed in table 1. A walleye stocking program was initiated in 1985. Northern pike were stocked from 1974 to 1990 and later discontinued in favor of stocking muskellunge. Muskellunge stocking began in 1994 to diversify fishing opportunities and to provide another predator. To date, muskellunge have not been regularly stocked at the prescribed rates because of limitations in hatchery production. Surveys in 1991 and 1999 indicated limited survival of stocked walleye and muskellunge, and a good warmwater fish community. Smallwood Impoundment was also drawn down for a short time period which also limited fish habitat and potentially restarted the population. Present management strategies for Smallwood Lake impoundment include stocking muskellunge and walleye. Periodic electrofishing surveys have been done to assess survival of stocked walleyes. The last Serns survey was conducted in 2005, with no young of the year walleye collected despite a substantial stocking effort of 43,158 spring fingerling walleyes earlier that year. A Serns survey is a fall electrofishing survey where the collections of young of the year walleye are made to determine year class strength. These surveys work well in large sand-bottomed or non-weedy bodies of water.

Current Status

This survey was conducted as part of Fisheries Division's Status and Trends Monitoring Program. The Status and Trends Monitoring Program seeks to randomly sample various sized lakes, using similar protocol, to determine trends among lakes at the regional and statewide levels.

Status and Trends protocol incorporates a variety of gear to sample the fish community within a recommended temperature range (55º-80º F). Large-mesh fyke nets and supplemental trap nets are used to capture larger (>3 inches) species that inhabit the littoral zone or that move inshore at night. Gill nets are used to sample fishes that occupy offshore waters and are particularly effective at capturing perch, salmonids, and northern pike. Night electrofishing is used to capture all size ranges of species and life stages that inhabit the littoral zone or that move inshore at night. Seining or small-mesh fyke nets are used to capture small-bodied nongame species and smaller size classes (<3 inches) of sport fishes that inhabit the littoral zone. Collectively, the catch from these gears presents a general picture of the overall fish community.

The fish community of Smallwood Impoundment was sampled May 21-25, 2012 with a seine, large-mesh fyke, trap, small-mesh fyke, and gill nets. Three electrofishing stations were sampled the evening of May 24. Habitat sampling occurred on August 21.

Limnological parameters measured in 2012 found characteristics of a beginning eutrophic lake. Measurements of secchi disk, a black and white disk used to measure water clarity, (7 ft.), total phosphorus (0.0385 mg/l), and total chlorophyll-a (4.2 ug/l) yielded a Carlson Trophic Status Index of 50.16. Trophic status parameters collected show Smallwood impoundment to be a eutrophic lake

(Fuller and Minnerick 2008). Eutrophic lakes are typically more turbid, may go anoxic in the hypolimnion (without oxygen at the bottom), and there may be problems with excessive macrophyte (rooted aquatic plant) growth. They are typically high in productivity and are dominated by warmwater fisheries. The conditions reflect the age of the impoundment, the relative productivity of the drainage basin, and the development around it. This also helps to explain the increased demand for vegetation management. pH ranged from 7.3 in the lower water column to 8.0 at the surface. Alkalinity was 152 mg/l indicating excellent capacity to buffer or neutralize acids. Temperatures were fairly uniform at 71-69 °F and the dissolved oxygen was 9.54 to below 3 ppm (critical depth or fish limiting) below 27 feet at the very bottom.

A total of 1,516 fish representing 19 species and one hybrid were collected in this assessment (Table 2). Bluegill were the most abundant species collected comprising 40.7 % of the total catch. Yellow and Brown bullhead comprised 13.4% of the catch, black crappie 11.4%, pumpkinseed sunfish 9%, and rock bass 5.1%. All other species were represented in low numbers.

A total of 617 bluegill averaging 4.8 inches were collected with all survey gear (Table 2). Bluegills ranged from 1 to 8 inches. Twenty-four percent of bluegills captured were of acceptable harvest size of 6-inches or larger. Age and growth analysis indicated bluegill were growing above state average having a mean growth index of 0.2. Multiple year classes (ages 1-7) were found suggesting acceptable recruitment to the harvestable fishery.

A total of 174 yellow bullheads averaging 11.2 inches and 29 brown bullheads averaging 12.3 inches were collected in this assessment (Table 2). Ninety-eight percent of the total bullhead catch was captured with large mesh trap and fyke net gear. Ninety-nine percent of the bullhead catch met or exceeded the acceptable harvest size of 7 inches. Age and growth analysis was not conducted for these species.

A total of 136 pumpkinseed sunfish averaging 5.5 inches were collected (Table 2). Twenty-seven percent of the survey catch met or exceeded the acceptable harvest size of 6 inches. Age and growth analysis indicated pumpkinseed sunfish were growing near state average having a mean growth index of -0.4 (Table 3). Multiple year classes (ages 1-6) were found suggesting acceptable recruitment into the harvestable fishery.

A total of 120 yellow perch averaging 4.2 inches were collected (Table 2). Six percent of the catch met or exceeded the acceptable harvest size of 7 inches. Age and growth analysis indicated yellow perch were growing slightly below state average having a mean growth index of -0.5 (Table 3). The catch was dominated by young age fish.

A total of 77 rock bass averaging 8.1inches were collected (Table 2). Eighty-eight percent of the rock bass collected met or exceeded the acceptable harvest size of 6 inches. Age and growth analysis indicated rock bass were growing somewhat above state average having a mean growth index of 0.3 (Table 3). Multiple year classes were found (ages 2-10) suggesting acceptable recruitment into the harvestable fishery.

One-hundred and seventy-three black crappie were captured averaging 7.8 inches (Table 2). Crappies represented 11.4% of the total catch. Sixty percent of the total catch met or exceeded the acceptable

harvest size of 7 inches. Age growth analysis indicated that black crappie were growing somewhat below state average having a mean growth index of -0.7 (Table 3).

Sixteen largemouth bass averaging 13.0 inches and fourteen smallmouth bass averaging 12.2 inches were collected (Table 2). Together they represented 2% of the survey catch. Thirty-one percent of largemouth bass and forty-three percent of the smallmouth bass catch met or exceeded the legal harvest size of 14 inches. Age and growth analysis indicated largemouth bass and smallmouth bass were growing above state average having mean growth indices of +1.4 and +2.0, respectively (Table 3). Multiple year classes were found of both species were found suggesting acceptable recruitment into the harvestable fishery.

Twenty-nine northern pike averaging 21.1 inches were collected (Table 2). Seven percent of the total catch met or exceeded the legal harvest size of 24 inches. Age and growth analysis indicated northern pike were growing below State average having a mean growth index of -0.3 (Table 3). Multiple year classes (ages 1-6) were found suggesting acceptable reproduction but poor growth and longevity appear to suggest less than acceptable recruitment into the harvestable fishery.

Only 6 walleye ranging from 7 to 26 inches and averaging 19.8 inches were collected. They were represented by 5 year classes indicating some contribution and survival of stocked fish, most recently stocked in 2005, 2006, and 2011. Contribution of natural reproduction is difficult to evaluate given such a low survey catch. To get better information specific to the walleye population, netting or shocking should be conducted immediately after ice out. Not enough walleye were captured to generate a meaningful growth index.

Other fish sport fish collected in this assessment were in low abundance and do not allow for detailed analysis. These include a few large channel catfish. Additional non-game species captured include carp, white sucker, and golden redhorse.

Forage species were represented by bluntnose minnow, golden shiner, and johnny darter (Table 2).

Samples of fish from Smallwood Impoundment were also collected for Viral Hemorrhagic Septicemia (VHS) and contaminant analysis. Smallwood Impoundment tested negative for VHS in the black crappie, bluegill and pumpkinseed sunfish specimens collected. Fish contaminant results were not available at the time of this report.

Analysis and Discussion

The limnological characteristics and early eutrophic status of Smallwood Impoundment present a base view of available habitat for fish species. As an early characteristic eutrophic lake, high productivity typically results in higher overall biomass of fish and other aquatic organisms. These impoundments are now between 80 and 90 years old and enrichment has occurred.

Temperature characteristics of Smallwood Impoundment also influence the fish community. The lack of strong summer thermocline development can influence fish that require a cooler thermal refuge such as northern pike. This may limit growth of these species. Oxygen limitations may also occur.

The bluegill population of Smallwood impoundment displayed a good size structure and growth. Using the Schneider Index (Schneider 1990) for classifying bluegill populations, Smallwood Impounment scored 3.75 for a satisfactory to acceptable rating (Table 4). Bluegill appear to be fairly long lived with several specimens aged beyond 7 years.

The pumpkinseed population displayed good size structure and growth and constitutes a reasonably good sport fishery. Longevity of pumpkinseeds was good with several specimens aged beyond 7 years allowing them to attain larger sizes.

The sample of largemouth and smallmouth bass collected in this survey indicates the availability of a very good sport fishing opportunity. Relative abundance was very good and the size structure was dominated by bass, >14 inches, with good representation of younger fish which should recruit into the legal size fishery. Longevity was very good with several specimens aged beyond 9 years allowing them to achieve a large size. Bass growth was good and many reach large sizes.

Northern pike were found in appreciable numbers and their size structure and age distribution was good. Seven percent of the northern pike exceeded the legal harvest size of 24 inches. Growth was slightly below state average and age distribution indicates good survival to older ages.

No muskellunge were captured which suggests that the stocking program is not producing a sizeable population. However, muskellunge are notoriously difficult to sample in standardized netting surveys Stocked muskellunge may also move down the series of four impoundments. It is not unusual to fail to see muskellunge in survey catches later in spring.

Walleye stocking has been another fisheries management action taken on Smallwood Impoundment in recent years (Table 2). Walleye were not well represented in this survey, and evaluations of stocked walleye have not indicated high survival rates for these fish. However, angling reports indicate walleye show up in the fishery later as adults. Additional fall recruitment surveys, and subsequent surveys targeting adult walleye may be necessary to determine if the recruitment surveys are good indicators of walleye stocking success. The current fishery offers potential for incidental catch or perhaps more frequent catch for those anglers specifically targeting walleye. Walleye are known to exhibit some predatory control on abundant panfish but prefer feeding on other forage items including abundant minnows and small suckers.

Although yellow perch were found in appreciable numbers, their size structure and age distribution was poor. Only 6% of the 120 yellow perch collected in this survey were > 7 inches. Age distribution indicates a high mortality after age 3 or this could be a function of sampling locations and methods. The survey captured a disproportional amount of young perch which is not uncommon. At best, the current fishery only offers an opportunity for incidental catch of yellow perch of harvestable size.

Another bright spot for the fishery of Smallwood Impoundment are black crappie. Black crappie appeared in appreciable abundance. Their size distribution and relative abundance should provide for a quality fishing opportunity for anglers.

Rock bass also provide recreational opportunities for anglers. They are fairly abundant and exhibit good growth and sizes, as well as being fun to catch.

A few large channel catfish are also available for anglers.

Smallwood Impoundment also offers a diversity of non-game species for potential angler use, including carp, suckers, bullhead, and redhorse species. It is unknown how much targeted angling effort these species generate.

Management Direction

Bluegill, pumpkinseed, crappies, rock bass, northern pike, bass, and bullheads dominate the fish community in Smallwood Impoundment and provide acceptable recreational fisheries. No management recommendations are suggest for them.

The current fisheries management prescription for Smallwood Impoundment requests spring fingerling walleye stocking on a biennial schedule at a rate of 50/acre (~11,600 fish) with the next scheduled plant occurring in 2013. The goal of this stocking effort is to create a more significant walleye fishery and to provide an additional and highly desirable sport fish for recreational angling opportunities.

Muskellunge management is another goal for Smallwood Impoundment, and also the entire system of impoundments on the Tittabawassee River. The prescription calls for stocking 560 fall fingerling Great Lakes muskellunge (or 560 fall fingerling northern muskellunge as an alternative) in odd years. The present program has been inconsistent and evaluations have not shown a developing muskellunge population or fishery to date. All four of the impoundments on the Tittabwassee are stocked with muskellunge and most of the muskellunge caught by sport anglers are captured in the two lower impoundments, Wixom and Sanford Lakes.

Smallwood Impoundment lacks public access for boat launching and fishing. Paying at a private marina or entering from a private resort are the only options at present. Access at the power dam is available for shore fishing but is still fairly limited.

References

Fuller, L.M., and Minnerick, R.J., 2008. State and regional water-quality characteristics and trophic conditions of Michigan's inland lakes, 2001-2005: U.S. Geological Survey Scientific Investigations Report 2008-5188, 58 p.

Schneider, J.C., 1990. Classifying bluegill populations from lake survey data. Michigan Department of Natural Resources, Fisheries Technical Report No. 90-10. Ann Arbor, Michigan.

WRC (Water Resources Commission). 1960. Water resource conditions and uses in the Tittabawassee River basin. State of Michigan, Water Resources Commission, Lansing.

Figure 1 Map of Smallwood Impoundment, complete with sampling locations.

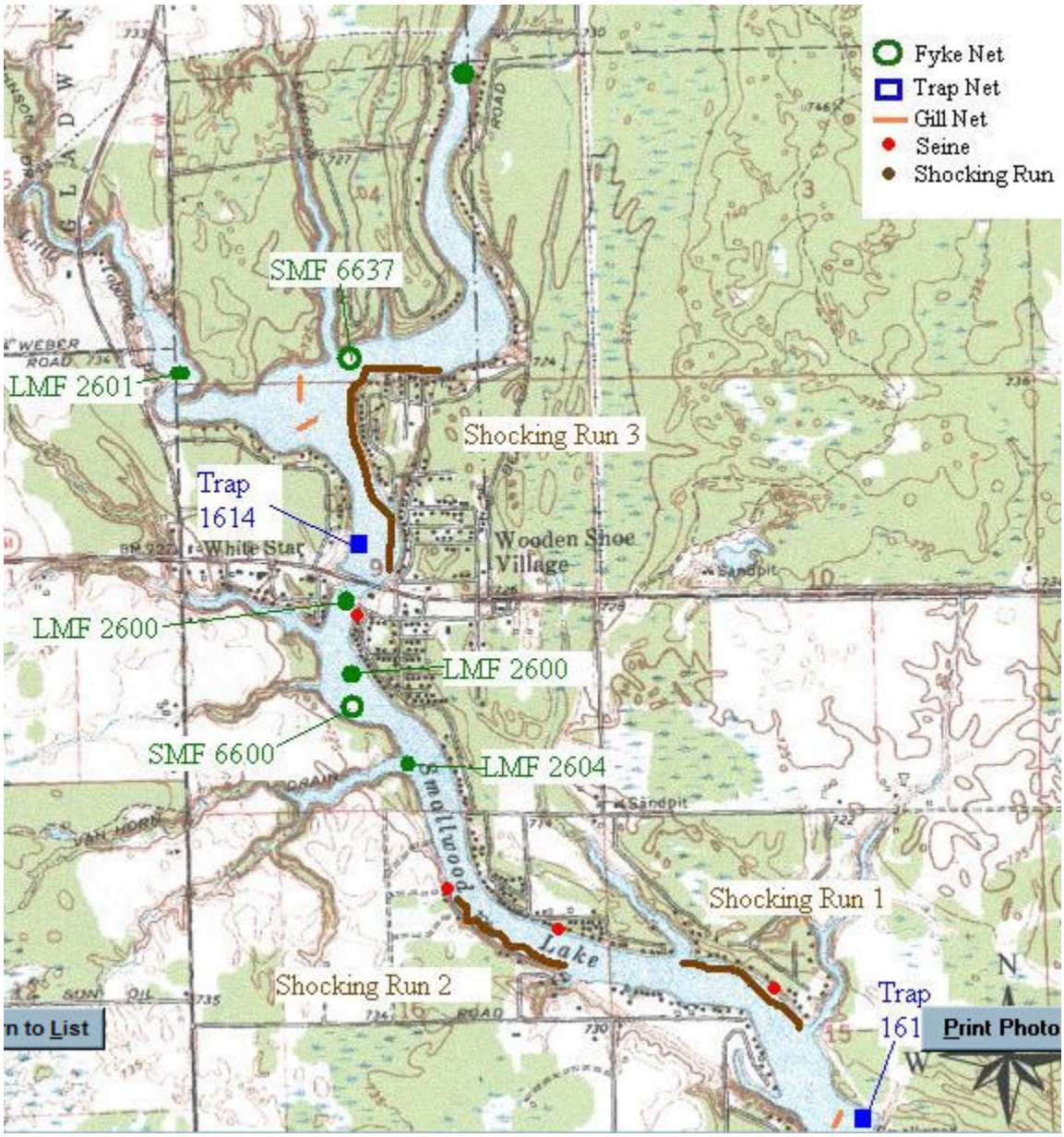

Table 1. Stocking History of Smallwood Impoundment from 1979 to Present.

Date	Species (Strain)	Number	Average Length (in)
1979	Northern Pike	5,500	--
1980	Northern Pike	2,000	--
1981	Northern Pike	6,500	3.16
1982	Northern Pike	10,000	3.36
1983	Northern Pike	10,000	4.08
1984	Northern Pike	5,000	3.80
1985	Northern Pike	1,238	3.04
1985	Walleye	24,015	2.28
1986	Northern Pike	1,000	3.96
1987	Northern Pike	1,932	2.88
1988	Northern Pike	1,304	4.56
1989	Northern Pike	500	3.52
1989	Walleye (Muskegon)	12,178	1.84
1990	Northern Pike	1,000	5.56
1992	Walleye (Bay DeNoc)	12,933	2.00
1994	Muskellunge (Northern)	1,680	2.00
1994	Walleye (Muskegon)	12,042	1.76
1995	Muskellunge (Northern)	400	2.56
1995	Walleye (Muskegon)	30,000	1.84
1996	Walleye (Muskegon)	133,079	1.76
1996	Muskellunge (Northern)	100	3.04
1996	Muskellunge (Northern)	550	9.44
1997	Muskellunge (Northern)	3,000	3.40
1998	Walleye (Muskegon)	5,000	1.44
2000	Walleye (Tittabawassee)	17,655	1.28
2001	Muskellunge (Northern)	46	3.24
2001	Northern Pike	44	5.56
2003	Walleye (Tittabawassee)	15,548	1.32
2004	Muskellunge (Northern)	950	7.1
2005	Walleye (Tittabawassee)	43,158	1.16
2006	Walleye (Tittabawassee)	23,940	1.68
2006	Walleye (Tittabawassee)	29,400	1.32
2006	Muskellunge (Iowa)	450	10.88
2011	Walleye (Muskegon)	1,828	1.82
2012	Muskellunge (Great Lakes)	300	9,628

Table 2. Total catch (all gear) from Smallwood Impoundment, June, 2012.

Species	Number	Percent by number	Weight (lb.)	Percent by weight	Length range (in.)*	Average length (in.)	Percent legal size**
Black crappie	173	11.4	54.8	9.2	3-13	7.8	60
Bluegill	617	40.7	61.5	10.4	1-8	4.8	24
Bluntnose minnow	20	1.3	0.1	0	2-2	2.5	100
Brown bullhead	29	1.9	25.7	4.3	8-14	12.3	100
Common carp	8	0.5	56.9	9.6	16-34	23.5	100
Channel catfish	2	0.1	11	1.9	25-25	25.5	100
White sucker	10	0.7	15.9	2.7	9-20	15.3	100
Golden redhorse	41	2.7	68.4	11.5	6-20	16.3	100
Golden shiner	38	2.5	1.8	0.3	2-8	5.1	100
Green sunfish	4	0.3	0.2	0	2-4	4	0
Hybrid Sunfish Hybrid	1	0.1	0.3	0.1	7-7	7.5	100
Johnny darter	1	0.1	0	0	1-1	1.5	100
Largemouth bass	16	1.1	23.8	4	7-19	13	31
Northern pike	29	1.9	55.9	9.4	12-27	20.1	7
Pumpkinseed	136	9	21.8	3.7	2-9	5.5	27
Rock bass	77	5.1	32.6	5.5	4-10	8.1	88
Smallmouth bass	14	0.9	16.9	2.9	3-17	12.2	43
Walleye	6	0.4	19.5	3.3	7-26	19.8	83
Yellow Perch	120	7.9	5.4	0.9	2-11	4.2	6
Yellow bullhead	174	11.5	119.8	20.2	6-14	11.2	99
All species totals:	1,516	100	592.4	100			

Table 3. Age and growth for gamefish species, Smallwood Impoundment, June 2012.

Species / Age	No. aged	Length range (in.)	State avg. length (in.)	Weighted mean len. (in.)	Weighted age freq.	Mean growth index*
Black crappie						-0.7
Age I:	6	3.40-3.70	4.2	3.52	1.76%	
Age II:	13	4.20-5.90	6	5.6	26.47%	
Age III:	19	6.10-8.30	7.5	7	22.86%	
Age IV:	7	7.00-8.60	8.6	7.98	9.49%	
Age V:	6	8.30-9.30	9.4	8.79	9.98%	
Age VI:	10	8.50-11.00	10.2	9.41	13.74%	
Age VII:	8	9.20-10.60	10.8	9.89	8.80%	
Age VIII:	7	9.00-12.10	11.4	10.33	5.72%	
Age IX:	2	11.30-11.40	11.9	11.35	1.18%	
Bluegill						0.2
Age I:	23	1.50-2.70	1.8	2.16	15.88%	
Age II:	14	3.00-3.90	3.8	3.63	11.50%	
Age III:	23	3.80-6.20	5	4.94	50.97%	
Age IV:	12	5.80-8.50	5.9	6.32	15.77%	
Age V:	4	7.20-8.00	6.7	7.38	2.06%	
Age VI:	11	7.00-8.80	7.3	7.66	3.66%	
Age VII:	1	8.20-8.20	7.8	8.2	0.16%	
Largemouth bass						1.4
Age II:	3	5.80-10.10	7.1	9.53	21.43%	
Age III:	6	8.00-12.70	9.4	10.78	42.86%	
Age VI:	2	17.00-17.80	14.7	17.4	7.14%	
Age VIII:	3	16.10-19.00	17.4	17.77	21.43%	
Age IX:	1	19.00-19.00	18.3	19	7.14%	
Northern pike						-0.3
Age I:	5	12.80-16.20	11.7	14.32	17.24%	
Age II:	5	17.90-20.20	17.7	19.08	18.97%	
Age III:	5	18.50-23.50	20.8	22.06	17.24%	
Age IV:	5	17.60-21.60	23.4	20.46	17.24%	

Age V:	3	20.30-23.40	25.5	21.53	10.34%	
Age VI:	5	19.80-27.50	27.3	23.64	18.97%	
Pumpkinseed						0.4
Age I:	2	2.60-3.10	1.8	2.85	1.47%	
Age II:	8	3.40-4.60	3.8	4.1	9.56%	
Age III:	18	3.20-6.80	4.9	5.06	45.22%	
Age IV:	17	5.00-9.50	5.6	6.32	37.13%	
Age V:	3	6.20-8.20	6.2	7.22	4.23%	
Age VI:	2	7.10-8.60	6.6	8.02	2.39%	
Rock bass						0.3
Age II:	1	4.40-4.40	3.9	4.4	1.73%	
Age III:	7	4.50-5.50	5.1	5.08	9.96%	
Age IV:	4	6.10-7.20	6.1	6.69	4.91%	
Age V:	5	7.40-8.10	6.9	7.77	13.13%	
Age VI:	8	7.60-9.70	7.8	8.61	21.97%	
Age VII:	9	7.30-9.40	8.6	8.26	27.88%	
Age VIII:	6	8.60-9.80	9.3	8.97	15.35%	
Age IX:	2	9.80-9.80	9.8	9.8	3.78%	
Age X:	1	10.20-10.20		10.2	1.30%	
Smallmouth bass						2
Age I:	1	3.60-3.60	3.8	3.6	8.33%	
Age II:	3	8.20-8.50	7.5	8.37	25.00%	
Age III:	1	10.90-10.90	10.8	10.9	8.33%	
Age IV:	5	13.50-15.80	12.6	14.6	41.67%	
Age V:	3	15.60-16.40	14.4	15.98	16.67%	
Walleye						--
Age V:	1	18.50-18.50	17.6	18.5	20.00%	
Age VI:	1	19.20-19.20	19.2	19.2	20.00%	
Age X:	2	21.70-25.10	23.1	23.4	40.00%	
Age XII:	1	26.60-26.60		26.6	20.00%	
Yellow Perch						-0.5
Age I:	12	2.90-3.60	3.3	3.32	69.17%	
Age II:	13	4.10-5.40	5.2	4.56	20.00%	
Age III:	6	5.20-7.40	6.5	6.08	5.42%	
Age IV:	1	7.60-7.60	7.5	7.6	1.25%	
Age V:	2	8.30-10.70	8.5	9.1	1.25%	
Age VI:	2	6.80-11.20	9.4	9	1.67%	
Age VII:	1	11.70-11.70	10.3	11.7	0.83%	
Age VIII:	1	10.50-10.50	11.1	10.5	0.42%	

Table 4. Smallwood Impoundment bluegill classification using large mesh fyke net data and the Schneider Index (Schneider 1990). Size score is given in parentheses.

Sample date	June 2012
Sample size	410
Average length (inches)	5.5 (3)
% ≥ 6 inches	31.9 (3)
% ≥ 7 inches	11.2 (4)
% ≥ 8 inches	2.1 (5)
Schneider Index	3.75
Rank[1]	Accept./Satisfactory

[1]Rank: 1 = Very poor, 2 = Poor, 3 = Acceptable, 4=Satisfactory, 5 = Good, 6 = Excellent, 7 = Superior