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DUMONT LAKE

Allegan County (T2N, R13W, Sec. 4, 5 and T3N, R13W, Sec. 32, 33)

Surveyed April and May 1995

Jay K. Wesley

Environment

Dumont Lake lies in central Allegan County, southwestern Michigan, about 4 miles north of the City of Allegan. The lake is natural, having been formed during the Wisconsinan glacial stage (10,000 to 75,000 years ago). The 9-square-mile watershed contains the Big and Little Spectacle Lake, Wetmore Lake, and an unnamed stream. Dumont Creek is the major outlet, which flows southwest and joins Lake Allegan and the Kalamazoo River of Lake Michigan.

The topography of the watershed is that of nearly flat to gently rolling hills made up of moderately well drained ground moraines and sandy outwash plains. The soils are classified as Chelsea-Ockley-Oshtemo associations, which are well to excessively drained sandy and loamy soils. The watershed is primarily used for agriculture with wetlands and scattered woodlots and residential homes.

Dumont Lake is 215 acres in size and up to 50 feet deep (Figure 1). Shoal areas (less than 20 feet deep) account for only about 12% of the surface area of the lake. Aquatic vegetation is common and primarily made up of bladder-wort, Chara, and various pondweeds. The substrate is mostly made up of sand, marl, and organic material.

Water quality conditions were surveyed August 24, 1995. The water was green in color with a Secchi disc reading of only 5.0 feet. Within the water column, alkalinity ranged from 146 to 199, and acidity (pH) was 8.7. These values indicate that the water is very hard and well buffered. Water temperature varied from 81°F at the surface to 51°F at the bottom (47 feet), with a thermocline occurring between 14 and 24 feet. Dissolved oxygen levels dropped below 3 ppm between 15-16 feet, effectively prohibiting most fish from using the water column deeper than 15 feet.

There are historical water quality data from July 1937 (Perry 1942), August 1985, and July 1990. The water was colorless with a Secchi disc reading of 15 feet in 1937, much higher than recent measurements. The thermocline was between 12 and 33 feet. Dissolved oxygen ranged from 7.8 ppm at the surface to 0.7 ppm at 27 feet (no measurements were taken through the thermocline). Alkalinity ranged from 157 to 178, and pH ranged from 7.4 to 8.4. Secchi disk readings taken in August in 1985 and 1995 were shallower than readings taken in July in 1937 and 1990. That suggests the lake may be becoming more eutrophic, or that an algae bloom may be occurring in August.

Dumont Lake is a popular fishing and boating lake. Only about 40% of the shoreline is lined with cottages and homes, while wetlands and wooded areas make up the rest. Allegan County operates a public boat launch on the north side of the lake that can accommodate 15 vehicles with trailers.

Fishery Resource

The first fishery survey of Dumont Lake was conducted in 1891. Gill nets were used for one night. The lake bottom had a clay, sand, and marl substrate, and the shore was described as being marshy with wooded areas. Bluegills, yellow perch, pumpkinseed, and rock bass were noted as present. An abundance of crustacean shrimp and aquatic insects were also noted. Yellow perch were reported as large in size.

Fish stocking occurred as early as 1934 according to Michigan Fish Commission reports. Between 1934 and 1941 various combinations of bluegill, largemouth bass, black crappie, and yellow perch were stocked (Appendix 1). Dumont Lake may have been stocked earlier (late 1800s and early 1900s) along with many other lakes in Michigan. The lake was mapped and assessed biologically by the Institute for Fisheries Research in 1937 (Perry 1942). Twenty-eight species of fish were observed, which included a thorough listing of darters, shiners, and minnows. Bluegill, black crappie, largemouth bass, and yellow perch were commonly caught by anglers at that time.

Netting surveys were conducted in 1955 and 1965. The fish community was similar to the 1937 survey except for the addition of alewife and northern muskellunge in 1965. Alewife may have been transferred into the lake, by an angler's bait bucket, from Lake Michigan or the lower Kalamazoo River. Dams on the Kalamazoo River prevent alewife from migrating up Dumont Creek from Lake Michigan. Creel surveys between 1954 and 1964 observed good catches of largemouth bass, bluegill, black crappie, yellow perch, and northern pike. In 1955, the local paper reported that a 16.5-inch yellow perch was taken from the lake. Northern muskellunge were stocked in 1965 and 1970; they were replaced with tiger muskellunge in 1971-1991 stocked at a rate of 4 to 13 fall fingerlings per acre. A spearing ban and a size limit increase to 30 inches for both northern pike and muskellunge went into effect in 1968 to protect the muskellunge fishery from overexploitation. The spearing ban is still in effect. Dumont Lake was used for northern muskellunge and northern pike broodstock collections between 1969 and 1975.

In 1979, Dumont Lake was electroshocked for 2.6 hrs to evaluate the game fish population after several written complaints. Thousands of forage fish were reported, but game fish numbers were poor. Bluegill and yellow perch were most abundant. Despite low numbers, all sportfish were growing at or above their state average growth rates. Low fish catches may have been associated with low shocking efficiency due to a steep drop off with a very shallow littoral zone.

Dumont Lake and Round Lake (Van Buren County) were used as part of a study to determine the survival of stocked tiger muskellunge using two different rearing methods (Beyerle 1984). Minnow-reared tigers were stocked in both lakes in 1971, 1972, and 1973 and pellet-reared fish were stocked in 1976, 1977, and 1978. Survival estimates were made in 1980 and 1981. Minnow-reared fish survival was 26.3% for Dumont Lake and 45.5% for Round Lake. Pellet-reared tiger muskellunge survival was 3.4% for Dumont Lake and 5.5% for Round Lake. Regardless of the rearing method, survival of stocked tiger muskellunge was considerably less in Dumont Lake compared to Round Lake.

A general survey was conducted September 1985 using two standard trap nets, one standard fyke net, one small mesh fyke net, two experimental gill nets, and 220-V AC electroshocker. Good numbers of acceptable size game fish were collected. Forty-four percent of the bluegill exceeded 6 inches. Several large northern pike were collected, and one was over the legal size (30 inches). Sixty-one tiger muskellunge were collected ranging from 8-26 inches in length. Most fish were growing at the state average rates except yellow perch, which were growing 3.2 inches above the state average. One yellow perch was over 14 inches in length.

Tiger muskellunge stocking was evaluated in 1990 using four standard trap nets, two mini-maxi fyke nets, and four experimental gill nets. Only six tiger muskellunge were collected, but they were averaging 1.5 inches above the Michigan average length for their age. Bluegills were small (averaging 4.2 inches) but growing at the Michigan average rate. Forage was abundant and consisted of alewives, shiners, minnows, and white suckers. Rock bass, yellow perch, and largemouth bass also contributed to the fishery, and anglers reported good catches of northern pike.

The most recent survey was conducted in May, 1995 using four 6'x3'x1.5" mesh standard trap nets (8 net lifts), four 125' experimental gill nets (8 net lifts), and 250-V DC electroshocker (1.5 hr, night-time). Netting was conducted for 2 nights.

The fish community found in 1995 did not differ from any previous survey except for the absence of longear sunfish and alewife and the addition of smallmouth bass (Table 1). Tiger muskellunge and yellow perch numbers were down compared to past surveys, but northern pike, largemouth bass, and bluegills still have good populations.

Bluegill were the most abundant species collected by number (Table 1). Over 39% of those collected were of acceptable size (>6 inches). Growth rates were at the state average (Table 2), which is similar to past surveys. Six year classes were present in the survey, and most (42%) of the bluegill collected were age 4 (Table 3). Recruitment was fairly consistent each year except the 1992 year class (age 3) was poorly represented. Bluegill reproduction may have been poor that year due to cold weather caused by the eruption of Mount Pinatubo, Philippines. Using Schneider's index of bluegill populations (1990), this population ranked poor (2.8) to average (3.2) on a scale of 1-7, using trap net and electroshocker length-frequency data, respectively. The trap net index of 2.8 is considered to be the more reliable because catches by electrofishing tend to be less

consistent. Comparing the 1995 trap net index (2.8) to trap net indices calculated for 1965 (4), 1985 (3), and 1990 (3.2), it appears that the bluegill size structure has declined in recent years. Angler reports were "fair" for bluegill.

Largemouth bass were the second most abundant species collected by number with 39% of acceptable size (>14 inches). However, the total catch of largemouth bass (65) was low compared to other lake surveys in the area. Six-year classes of largemouth bass were present, and growth was equal to the state average (Table 2). It appears that survival decreased after age 5, perhaps due to angling harvest when bass reached the 14-inch minimum size limit (Table 3).

A total of 39 rock bass ranging from 2 to 10 inches was collected (Table 1). Seventy-eight percent were of acceptable size (>6 inches). Anglers do not seek rock bass often, but they are frequently caught.

Eighteen northern pike were collected ranging from 15 to 29 inches (Table 1). Growth rates were at the state average, and 32% of the catch was over legal size. The northern pike legal size limit was reduced from 30 inches to 24 inches in 1993 to match the new coolwater regulations for the state. No legal-sized northern pike would have been collected in this survey if the limit was still 30 inches. Recruitment appeared to be low with only 6% of the catch represented by age 1 fish, but this could also result from the selectivity of our sampling gear for larger and older pike. Five-year classes were present. Northern pike can spawn in wetland areas at the south part of the lake and in wetlands between Dumont and Wetmore lakes to the east. We believe that natural recruitment is sufficient to maintain the pike population.

Only one tiger muskellunge was collected, a 32-inch remnant from the 1990 stocking. None had been stocked between 1991 and 1995 due to rearing problems at the Wolf Lake State Fish Hatchery and subsequent dropping of that rearing program. Some anglers were actually pleased that no muskies were stocked. Two groups of anglers have developed on Dumont Lake in recent years - those that want muskies and those that don't!

A total of 18 yellow perch was collected ranging from 6 to 11 inches. Eighty percent were of acceptable size (>7 inches). Only three age groups were collected, and 89% were age 7 from the 1988-year class. Growth rates were at the state average. Anglers reported that the yellow perch fishery had declined in the last 5 years. No yellow perch were collected in 1990.

The forage base is good and diverse. We collected golden and common shiners, bluntnose minnow, common carp, central mudminnow, white sucker, and johnny darter (Table 1). The abundance of top predators such as northern pike, tiger muskellunge, largemouth bass, bowfin, and longnose gar apparently have not suppressed forage fishes.

The overall fish population of this lake is good. Northern pike numbers appear to be increasing while yellow perch appear to be on the decline. There have been written complaints about the lack of panfish, the musky stocking program, and the spearing ban on this lake. However, angler reports are excellent for northern pike.

Management Direction

Dumont Lake used to be stocked with approximately 1,000 to 3,000 tiger muskellunge fingerlings annually. No tiger muskellunge have been stocked since 1991, and very few have been reported caught by anglers in recent years. Of the 158 card returns from a musky post card creel survey of area lakes in 1993-1995, no cards were returned from Dumont Lake. The 1995 survey also indicated an increased northern pike population. It is recommended that tiger muskellunge stocking not be reinstated. This will provide more muskies for a more suitable lake once the rearing facility is restored at Wolf Lake State Fish Hatchery. Many area tiger muskellunge lakes have been switched to northern muskellunge stocking. This is not recommended for Dumont Lake at this time due to the abundance and popularity of the pike population. The expanding northern pike population will give anglers an opportunity to continue to catch a large predator. In order to maintain northern pike numbers at a high level for hook and line fishing, Dumont Lake should remain closed to spearing for all species except for carp between May 1 and August 15th.

Dumont Lake will continue to be managed as a warmwater fishery. Our goal into the next century will be to maintain the good fish community. Full surveys with standard trap nets, experimental gill nets, and nighttime electroshocking are recommended every 10 to 20 years to monitor the overall fish community.

Report completed: May 2000.

References

Beyerle, G.B. 1984. An evaluation of the tiger muskellunge stocking program in Michigan. Michigan Department of Natural Resources, Fisheries Research Report 1924, Ann Arbor.

Perry, L.E. 1942. A fisheries survey of Dumont, Round, Ely, and Little Tom lakes, Allegan County. Michigan Department of Conservation, Institute for Fisheries Research Report 813, Ann Arbor.

Schneider, J.C. 1990. Classifying bluegill populations from lake survey data. Michigan Department of Natural Resources, Fisheries Technical Report 90-10, Ann Arbor.

Figure 1

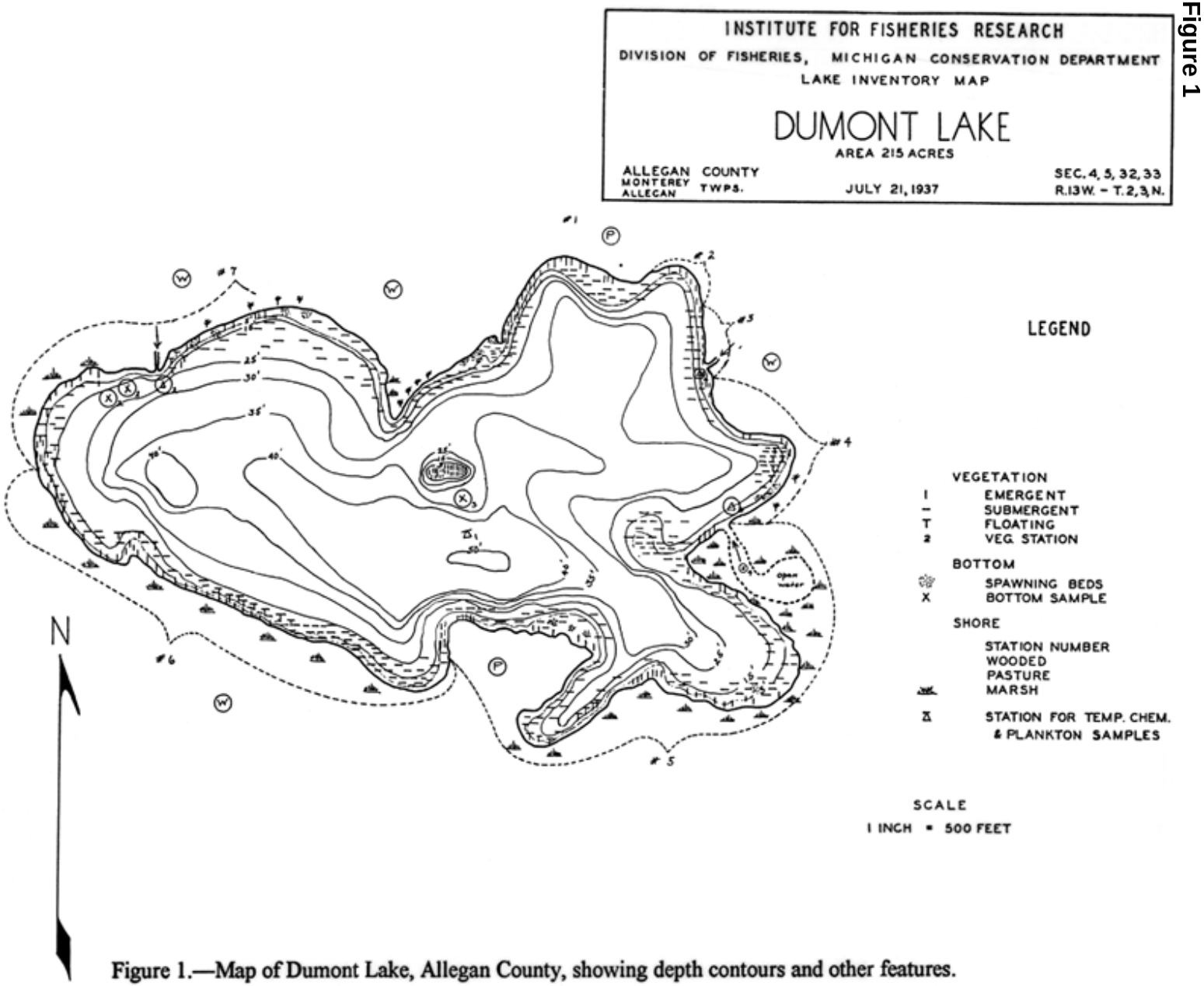

Figure 1.—Map of Dumont Lake, Allegan County, showing depth contours and other features.

Table 1.-Number, weight, and length (inches) of fish collected from Dumont Lake with trap nets, gill nets, and DC electroshocker, April 26 - May 22, 1995.

Species	Number	Percent by number	Weight (pounds)	Percent by weight	Length range (inches)[1]	Average length	Percent legal size[2]
Bluegill	279	41.9	30.8	8.5	2-7	5.3	39 (6")
Pumpkinseed	9	1.4	0.4	0.1	3-5	3.8	0 (6")
Black crappie	1	0.2	0.7	0.2	10-10	10.5	100 (7")
Hybrid sunfish	1	0.2	0.2	0.1	6-6	6.5	100 (6")
Green sunfish	1	0.2	0.2	0.1	6-6	6.5	100 (6")
Rock bass	39	5.9	13.9	3.8	2-10	7.3	78 (6")
Largemouth bass	65	9.8	74.2	20.4	4-18	12.5	39 (14")
Smallmouth bass	1	0.2	3.3	0.9	18-18	18.5	100 (14")
Yellow perch	18	2.7	5.8	1.6	6-11	8.9	80 (7")
Northern pike	16	2.4	49.3	13.6	15-29	23.6	32 (24")
Tiger muskellunge	1	0.2	6.6	1.8	32-32	32.5	100(42")
Bullhead species	16	2.4	0.0	0.0	8-13	11.4	...
Bowfin	9	1.4	31.5	8.7	14-26	21.1	...
Longnose gar	3	0.5	12.7	3.5	34-35	35.2	...
White sucker	76	11.4	132.1	36.4	5-22	14.8	...
Common carp	9	1.4	0.0	0.0	19-26	23.6	...
Central mudminnow	2	0.3	0.0	0.0	2-2	2.5	...
Common shiner	6	0.9	0.4	0.1	4-6	5.2	...
Bluntnose minnow	105	15.8	0.1	0.0	2-4	2.8	...
Golden shiner	5	0.8	0.7	0.2	6-8	7.5	...
Johnny darter	4	0.6	0.0	0.0	1-2	2.3	...
Total	666	100.0	362.8	100.0			

[1] Note some fish were measured to 0.1 inch, others to inch group: e.g., "5"=5.0 to 5.9 inch; "12"=12.0 to 12.9 inches, etc.
[2] Percent legal size or acceptable size for angling. Legal size or acceptable size for angling is given in parentheses.

Table 2.-Average total weighted length (inches) at age, and growth relative to the state average, for fish sampled from Dumont Lake with trap nets, gill nets, and DC electroshocker, April 26-May 22, 1995. Number of fish aged is given in parentheses.

Species	Age 1	2	3	4	5	6	7	Mean growth index[1]
Black crappie	...	...	10.1 (1)	...	...	...	...	...
Bluegill	2.3 (4)	3.5 (10)	4.2 (1)	5.4 (23)	6.4 (11)	7.1 (6)	...	-0.3
Largemouth bass	4.8 (1)	7.6 (5)	10.5 (11)	12.3 (23)	14.0 (7)	14.7 (2)	...	+0.8
Northern pike	11.7 (1)	17.7 (3)	20.8 (4)	23.4 (1)	25.5 (9)	...	...	+0.5
Tiger muskellunge	...	...	...	...	32.4 (1)	...	...	...
Yellow perch	...	6.6 (1)	...	...	...	9.0 (16)	9.4 (1)	-0.4

[1] Mean growth index is the average deviation from the state average length at age.

Table 3.-Estimated age frequency (percent) of fish caught from Dumont Lake with trap nets, gill nets, and DC electroshocker, April 26-May 22, 1995.

Species	Age 1	2	3	4	5	6	7	Number aged
Black crappie	...	...	100	...	...	...	...	1
Bluegill	7	18	2	42	20	11	...	55
Largemouth bass	2	10	22	47	14	4	...	49
Tiger muskellunge	...	...	...	...	100	...	...	1
Northern pike	6	17	22	6	50	...	...	18
Yellow perch	...	6	...	...	...	89	6	18

Appendix 1.-History of fish stocking in Dumont Lake, Allegan County.

Year	Species	Number	Size
1934	Bluegill	15,000	Fall fingerlings
	Largemouth bass	2,000	Fall fingerlings
1935	Bluegill	30,000	Fall fingerlings
	Largemouth bass	500	Fall fingerlings
	Yellow perch	10,000	Fall fingerlings
1936	Bluegill	20,000	Fall fingerlings
	Largemouth bass	1,000	Fall fingerlings
1937	Bluegill	30,000	Fall fingerlings
1938	Bluegill	150,000	Fall fingerlings
	Largemouth bass	2,000	Fall fingerlings
	Yellow perch	40,000	Fall fingerlings
1939	Bluegill	155,000	Fall fingerlings
	Largemouth bass	2,000	Fall fingerlings
	Yellow perch	20,000	Fall fingerlings
	Black crappie	20,000	Spring fingerlings
1940	Largemouth bass	2,000	Fall fingerlings
	Largemouth bass	3,500	Yearlings
	Yellow perch	500	Yearlings
	Bluegill	50,000	Fall fingerlings
	Bluegill	1,500	Yearlings
1941	Bluegill	100,000	Fall fingerlings
	Largemouth bass	1,000	Fall fingerlings
1960	Northern pike	4,000	Fall fingerlings
1965	Northern muskellunge	2,000	Fall fingerlings
1970	Northern muskellunge	1,500	Fall fingerlings
1971	Tiger muskellunge	92	Yearlings

1972	Tiger muskellunge	900	Fall fingerlings
1974	Tiger muskellunge	700	Fall fingerlings
1976	Tiger muskellunge	900	Fall fingerlings
1977	Tiger muskellunge	900	Fall fingerlings
1978	Tiger muskellunge	900	Fall fingerlings
1979	Tiger muskellunge	450	Spring fingerlings
	Tiger muskellunge	450	Yearlings
1980	Tiger muskellunge	348	Fall fingerlings
1981	Tiger muskellunge	900	Fall fingerlings
1983	Tiger muskellunge	5,400	Fall fingerlings
1984	Tiger muskellunge	2,700	Spring fingerlings
1985	Tiger muskellunge	2,500	Fall fingerlings
1986	Tiger muskellunge	2,700	Fall fingerlings
1987	Tiger muskellunge	2,750	Fall fingerlings
1988	Tiger muskellunge	2,700	Fall fingerlings
1989	Tiger muskellunge	2,700	Fall fingerlings
1990	Tiger muskellunge	3,000	Fall fingerlings
1991	Tiger muskellunge	1,100	Fall fingerlings

Web Author:*Tina M. Tincher, Librarian*

Questions, comments and suggestions are always welcome! Send them to tinchert@michigan.gov