

Weber Lake

Cheboygan County, T34N, R3W, Sec. 31

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Environment

Weber Lake is a 28.5-acre natural lake located approximately six miles west of the village of Wolverine (Figure 1). The lake has a single basin with no inlets or outlets and reaches a maximum depth of 40 feet (Figure 2). Weber Lake is in the West Branch Sturgeon River watershed, which is primarily forested and contains a mixture of public and private land. The geology of the watershed is composed primarily of coarse material, such as end moraines of coarse-textured till, and glacial outwash sand and gravel. The West Branch Sturgeon River flows into the Sturgeon River, which flows into Burt Lake. These waterbodies are all within the Cheboygan River watershed, which empties into Lake Huron at Cheboygan.

Water temperature and dissolved oxygen were measured along a profile in 22 feet of water in August 2011 (Table 1). This profile showed that the lake stratifies, and that the thermocline was established between 16 and 20 feet in depth.

Weber Lake is entirely surrounded by state forest land, including a state forest campground at the northeast corner of the lake. Primary access points for the lake are at the state forest campground and at a parking area/carry-in boat access location at the southwest corner of the lake.

History

Fisheries management on Weber Lake dates back to 1934, with the earliest stocking of fish taking place that year. From 1934-1941, species such as bluegill, yellow perch, smallmouth bass, and largemouth bass were stocked at varying numbers and life stages.

Weber Lake was first surveyed in 1943, when yellow perch, pumpkinseed sunfish, rock bass, and largemouth bass, and bluntnose minnows were encountered. It was also noted that emerald shiners had been planted previously. The 1943 survey prompted the recommendation to stock brook trout starting in 1944. It was recognized at the time that the food supply was poor, and that the introduction of emerald shiners had a poor chance of success due to the abundant, stunted yellow perch population.

Weber Lake has been managed by DNR Fisheries Division (Fisheries Division) as a trout lake since 1944. Brook trout of varying sizes and life stages were stocked annually through 1960. From 1961 to 1965, brown trout were stocked in the lake. Stocking returned to brook trout in 1967, and continued on a regular basis through 1987. Rainbow trout and brown trout were stocked instead of brook trout in 1974 and 1975, respectively. Weber Lake has been stocked with yearling brown trout annually since 1988. Additionally, fall fingerling brook trout were stocked in 2009 (Table 2).

Since Weber Lake has been managed as a trout lake, it has been treated periodically with rotenone to reduce the competition of other species with the stocked trout. These chemical reclamations were done

in 1948, 1966, and 1973. Manual removal of yellow perch was also done in 1983, and a manual removal of multiple species was done in 1986.

The excellent perch population noted in a 1964 survey prompted the opening of the lake to winter fishing. Brown trout were reported to be in average condition.

A 1966 survey found the typical Weber Lake fish community, comprised of yellow perch, pumpkinseed sunfish, green sunfish, brown trout, and golden shiners. Weber Lake was treated with rotenone in 1966 to reduce competition with trout. A 1970 survey, which used only gill nets, documented brown trout, rainbow trout, and yellow perch.

Weber Lake was treated with rotenone in September 1973 to remove panfish and minnows, reducing trout competition. Fish collected during the reclamation include rainbow trout, bluntnose minnows, common shiners, golden shiners, bluegill, yellow perch, pumpkinseed sunfish, and hybrid sunfish. Rainbow trout were stocked in the spring of 1974, and were in good condition when the lake was surveyed that fall.

The lake was next surveyed in 1979 using gill nets. Brook trout were growing very well, with five age classes present which were, on average, 1.9 inches larger than the statewide average length at age for that species. Yellow perch were also growing slightly above average at that time. The Natural Resources Commission gave Weber Lake the status of a Trophy Brook Trout Lake in 1979. Another survey in 1981 again found very good brook trout growth, but yellow perch growth had slowed to slightly below average.

A small fish kill was noted in June of 1982. It was limited to pumpkinseed sunfish, and was attributed to high water temperatures and post-spawning stress.

Brook trout growth declined based on samples collected in 1983, but fish were still at the statewide average length-at-age. Creek chubs and shiners were also reported in the catch of that survey. A manual removal of yellow perch was done in 1983, removing 16 pounds per acre of yellow perch.

A 1985 survey found yellow perch, pumpkinseed sunfish, brook trout, largemouth bass, and green sunfish. Only two brook trout were captured. This survey prompted a manual fish removal in 1986. Fine mesh fyke nets were used to remove a total of 20.9 pounds per acre of yellow perch, pumpkinseed sunfish, and green sunfish.

A 1988 fishery management prescription called for the discontinuation of brook trout plants in Weber Lake. Slow growth and a poor brook trout fishery were cited. The stocking of brown trout was recommended, acknowledging the potential for a two-story fishery.

Weber Lake was surveyed again in 1992. The survey showed good survival of stocked brown trout, and anglers reported good catches of brown trout at the time. The yellow perch population was improving. The lake was opened to year-round fishing in 1990.

Weber Lake is currently managed as a Type B trout lake, which has a year-round fishing and possession season, and minimum size limits of 10 inches for brook trout, and 12 inches for rainbow

trout or brown trout. The possession limit is five fish, with no more than 3 trout 15 inches or greater. The current fishery management prescription calls for the annual stocking of 2,500 yearling brown trout. Fall fingerling trout and adult trout are also allowed in the prescription, to be stocked when surplus fish are available from the hatcheries.

Current Status

Weber Lake was surveyed by Fisheries Division personnel May 31-June 2, 2011. Effort consisted of four large mesh trap net lifts, four large mesh fyke net lifts, two fine mesh (3/16") fyke net lifts, three inland gill net lifts, and three seine hauls. The purpose of the survey was to evaluate trout stocking efforts in Weber Lake, and to assess the general fish community.

A total of 441 fish representing nine species were collected in the May-June 2011 survey (Table 3). Pumpkinseed sunfish dominated the catch abundance (74.6%) and biomass (60.3%). Yellow perch and largemouth bass also represented a large portion of the catch, comprising 17.2% of abundance.

Other sportfish represented in the catch included brook trout, brown trout, and walleye. Brown trout, which ranged from 6 to 12 inches in total length, were the fourth most abundant fish in the catch by both number and weight. Three age groups of brown trout were represented, including age-1, age-2, and age-3. The walleye, greater than 21 inches in total length, was likely stocked illegally in the lake.

Trout growth differed between the brook trout and brown trout. Brown trout were growing slowly, and averaged 2.3 inches smaller than the statewide average. Although we didn't collect enough brook trout to calculate a growth index, the one fish we did collect was growing very well; it was more than three inches larger than the statewide average length at age for that species.

A nighttime electrofishing survey of the entire shoreline was conducted on October 12, 2011. One brown trout measuring 13.3 inches was collected during the October 2011 electrofishing survey. One or two other trout were observed but avoided capture.

Analysis and Discussion

Weber Lake's history as a trout lake has been interesting. There has been a battle to keep other species out of the lake, evidenced by several chemical reclamations and manual fish removals. The presence of species other than trout not only provide diversity to the fishery, they have also resulted in increased fishing opportunity on the lake (see above, where the yellow perch population prompted the opening of the lake to year-round fishing). The lake has been stocked with three species of trout at various times in history, with brook trout, rainbow trout, and brown trout all having some success at one time or another.

Growth rates of stocked fish also present mixed results. Brown trout growth rates (-2.3) were poor, but reports from anglers indicate that the brown trout fishing has been good on this lake. The one brook trout we did capture in this survey showed it was growing well, but the small sample size from our survey and poor angler reports for brook trout indicate that survival from that plant was likely low.

Growth rates of other species in the fish community were generally good, with pumpkinseed sunfish and yellow perch having growth rates above state average (+1.6 and +1.7, respectively). Largemouth bass was the exception, with growth rates below state average (-1.3).

Yellow perch and pumpkinseed sunfish were present in good numbers, with a fairly good distribution of sizes. These species provide diversity to the fishery, and can create some fun angling opportunity for campers at the adjacent campground.

The lake is near the Tomahawk Motorcycle Trail, and there were some issues with illegal ORV access to the lake, causing erosion and increased sedimentation on the southwest shore. A cooperative project was undertaken in 2010 between Fisheries Division and Forest Resources Division to restore this bank and block off illegal access using off-road vehicle (ORV) Restoration Funding (~\$10,000). Boulders were placed along the top of the slope to block illegal ORV access, and the slope was graded and seeded. A primitive ramp (blocked by a gate) was installed to allow for official access by DNR survey boats, hatchery trucks, and fire trucks.

During the planning for the restoration project, consideration was given to including an improved ramp for public use. The cost to construct a durable ramp and the desire to limit the use of personal watercraft (jet skis) and large motor boats on this small lake led to the decision to keep it as a carry-in access site.

Presently, Weber Lake supports good opportunities for brown trout, pumpkinseed sunfish, and yellow perch. Although brown trout growth is slow, survival appears to be high, and anecdotal reports indicate it is providing a satisfactory fishery.

Management Direction

1. Continue stocking brown trout in Weber Lake on annual basis.
2. Continue to stock surplus trout of other species/sizes as available from the hatcheries.

References

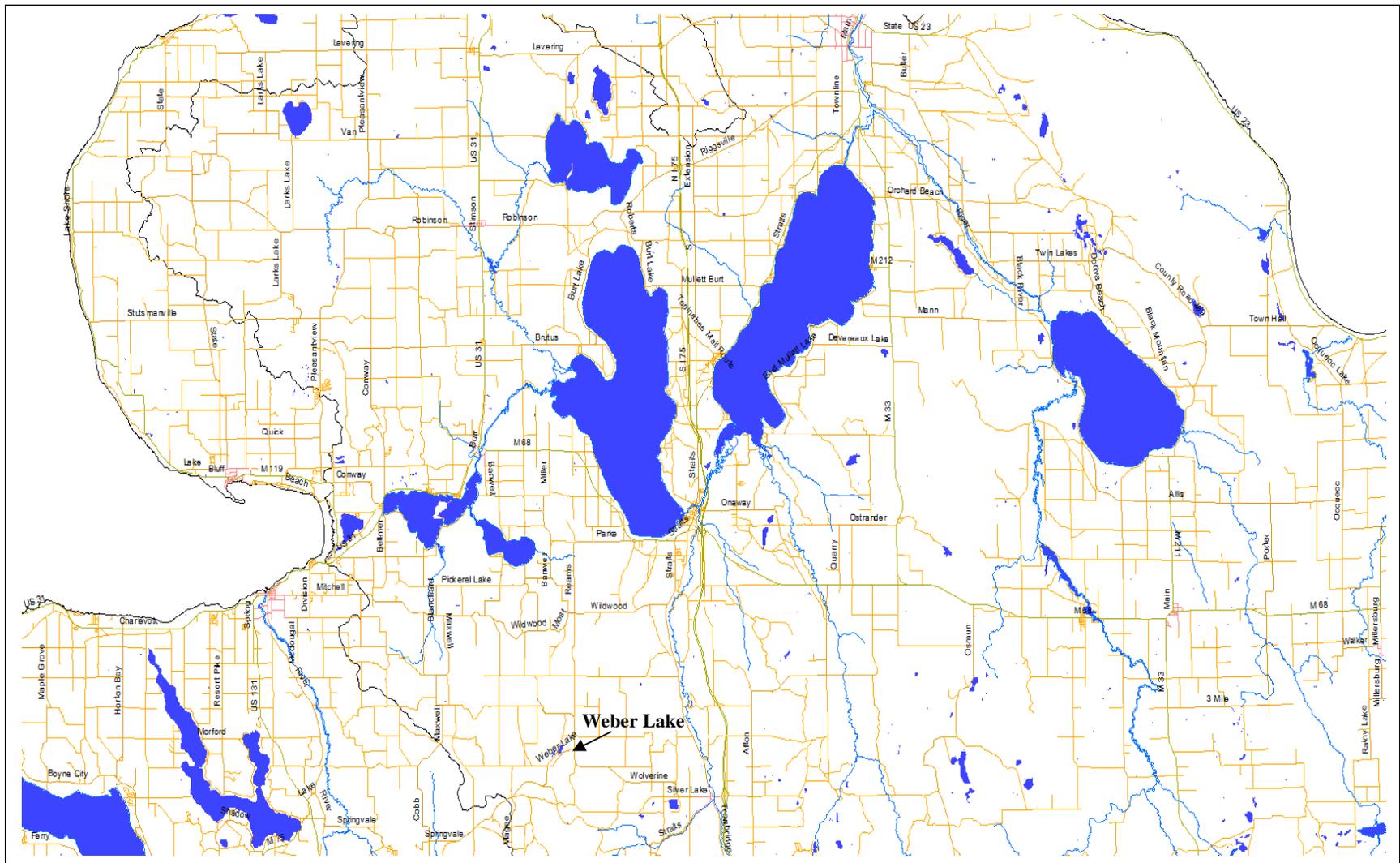


Figure 1. Location of Weber Lake, Cheboygan County.

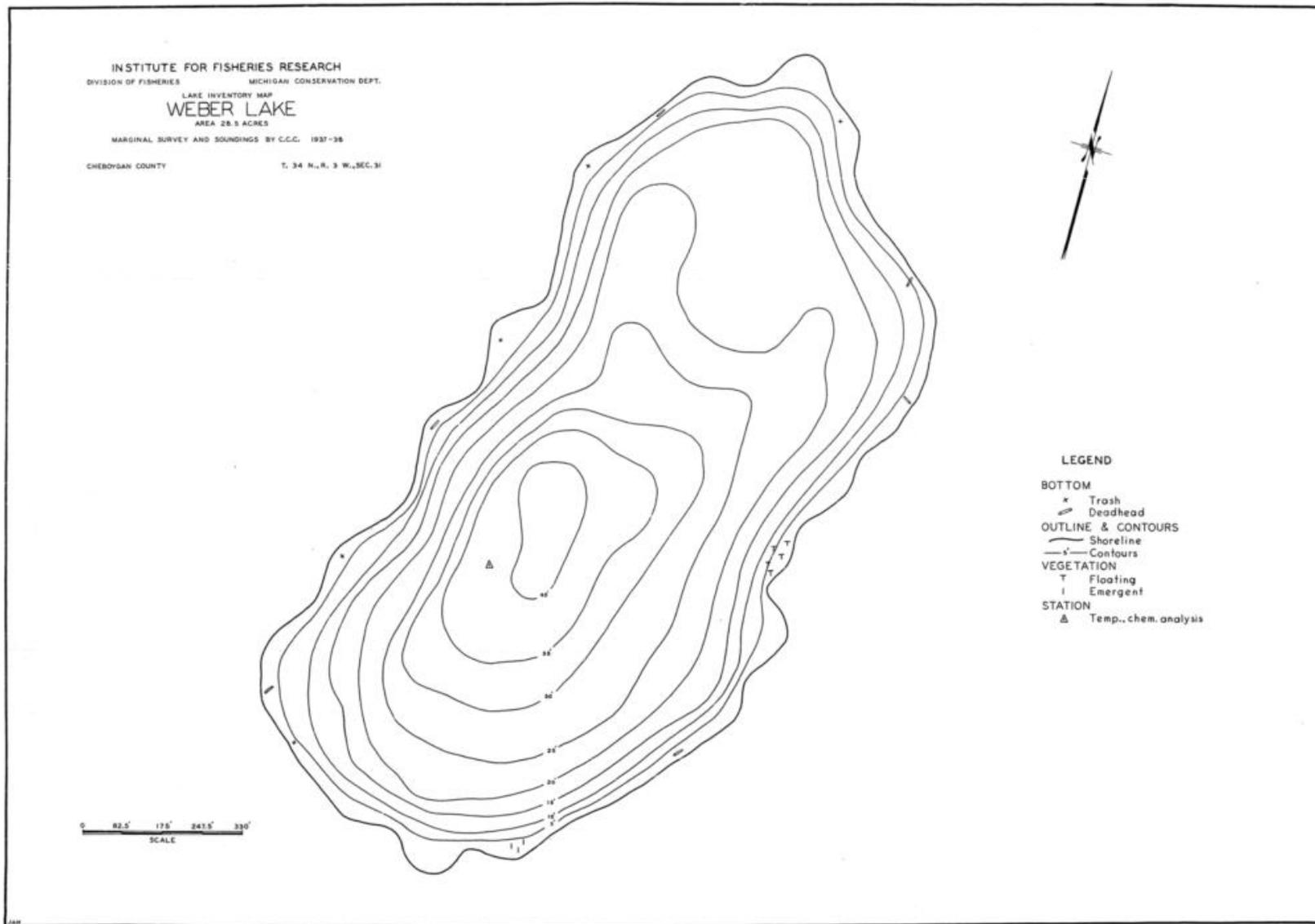


Figure 2. Bathymetric map of Weber Lake.

Table 1. Temperature and dissolved oxygen profile of Weber Lake, measured on August 11, 2011.

Depth	Temperature (°F)	Dissolved Oxygen Concentration (ppm)
Surface	76.7	8.63
2.1	76.8	8.66
4.1	76.8	8.69
6.0	76.8	8.67
8.2	76.8	8.65
10.1	76.7	8.55
12.0	76.5	8.37
14.4	76.1	8.94
16.0	70.8	12.24
18.0	63.3	12.78
20.1	57.5	8.11
21.9	53.9	4.49

Table 2. Trout stocking in Weber Lake, Cheboygan County, 2000-present.

Year	Species/strain	Life Stage	Number	Average Length (in.)
2000	Brown Trout (Wild Rose)	Yearling	3,000	6.3
2001	Brown Trout (Wild Rose)	Yearling	2,500	6.6
2002	Brown Trout (Gilchrist Cr)	Yearling	2,810	4.9
2003	Brown Trout (Wild Rose)	Yearling	2,500	7.2
2004	Brown Trout (Gilchrist Cr)	Yearling	2,500	4.7
2005	Brown Trout (Gilchrist Cr)	Yearling	2,500	6.5
2006	Brown Trout (Seeforellen)	Yearling	2,900	4.8
2007	Brown Trout (Wild Rose)	Yearling	2,300	6.6
2008	Brown Trout (Wild Rose)	Yearling	2,500	7.3
2009	Brown Trout (Seeforellen)	Yearling	2,610	5.8
2009	Brook Trout (Assinica)	Fall Fingerling	9,000	6.2
2010	Brown Trout (Wild Rose)	Yearling	2,900	7.8
2011	Brown Trout (Wild Rose)	Yearling	2,500	7.1

Table 3. Number, percent, length range, and growth of fish species found in Weber Lake, Cheboygan County, May 31 – June 2, 2011. Growth is not reported for non-game fish and for species having a small sample size in our collection.

Common Name	Number	Percent by Number	Percent by Weight	Length Range (in.)	Growth
Brook trout	1	0.2	0.7	12-12	--
Brown trout	15	3.4	8.4	6-12	-2.3
White sucker	9	2.0	4.2	4-21	--
Emerald shiner	1	0.2	0.0	2-2	--

Green sunfish	9	2.0	0.6	3-6	--
Largemouth bass	20	4.5	9.7	6-17	-1.3
Pumpkinseed	329	74.6	60.3	2-8	+1.6
Walleye	1	0.2	2.9	21-21	--
Yellow perch	56	12.7	13.3	5-13	+1.7

Table 4. Length-frequency distribution of sportfish collected at Weber Lake during the 2011 survey.

Length Group (in.)	Brook Trout	Brown Trout	Green sunfish	Large-mouth bass	Pumpkinseed	Walleye	Yellow Perch
1							
2					2		
3			5		2		
4			1		87		
5			2		79		2
6		1	1	5	46		27
7				3	110		8
8				3	3		6
9		1		4			3
10		1		1			2
11		9		1			3
12	1	3					4
13				1			1
14				1			
15							
16							
17				1			
18							
19							
20							
21						1	