

Cedar Hedge Lake
Grand Traverse County
Last Surveyed 2017

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Environment

Cedar Hedge Lake (Figure 1) is 195 acres in size and is located near Interlochen in Grand Traverse County, just southwest of Traverse City. An oblong lake which contains one island, Cedar Hedge Lake is located immediately south of Lake Dubonnet, and just to the southwest of Long Lake. Public access is provided by the Michigan Department of Natural Resources (MDNR) on the south end of the lake via Gonder Road.

Cedar Hedge Lake has multiple small inlets and seeps that flow into it, including one that connects Cedar Hedge to nearby Round Lake. There is also one larger outlet that flows south out of the lake and connects Cedar Hedge to Tullers Lake, then Bridge Lake, and finally Green Lake, making Cedar Hedge Lake part of the Betsie River watershed.

The substrate of Cedar Lake is composed primarily of sand and marl, with some muck areas around the northeast shoreline, the island, and within the deepest basin. On the southwest side of the lake, just north of the boat launch, there is a 70-foot hole which is the deepest spot in the lake. The majority of the lake is less than 10 feet deep, especially on the northeast end of the lake which is very flat and less than five feet deep (Figure 2). Aquatic vegetation is typical for a lake of this size and depth, and includes species such as chara, bulrush, coontail, longstem pond weed, cattails, and waterlilies.

The land around Cedar Lake is mostly lowland cedar swamp with a few developed residential areas. The southwest shore is mostly undeveloped and backs up to the Interlochen Golf Course property. The most northeastern portion of the lake is also undeveloped, while the remaining areas are lightly developed with subdivisions of homes that are occupied year-round.

History

Fish stocking in Cedar Hedge Lake began in 1910 when the Michigan Department of Conservation (Precursor to the Michigan Department of Natural Resources) first stocked the lake with Walleye and Smallmouth Bass fry (Table 1). No fish were stocked again in Cedar Hedge Lake until 1940, when a mixture of panfish, black bass, and even Lake Trout were stocked until 1944. No fish have been stocked in Cedar Hedge Lake since a one-time stocking of Brook Trout in 1964.

The first documented survey of Cedar Hedge Lake was a site investigation and temperature and water chemistry collected on August 1950 conducted by the Michigan Department of Conservation. At this time, it was determined that the lake was not to be stocked with trout due to the semi-private nature of the lake (an access site was not established here until 1960), and the water chemistry showed limited dissolved oxygen at deeper depths (Fisheries Division files, Traverse City).

By 1967 a State-owned access site had been developed on Cedar Hedge Lake, angler interest had increased, and the lake needed to have a fisheries survey conducted. Four fyke nets, three experimental gill nets, and two trap nets were set for a total of 10 net nights in May 1967. The survey crew reported a "well balanced population for this type of lake", with 170 Bluegill, 120 Rock Bass, 34 Cisco (Lake Herring), 26 Largemouth Bass, 16 Northern Pike, seven Brown Bullhead, six Pumpkinseed Sunfish, six Yellow Perch, six Yellow Bullhead, six Longnose Gar, three White Sucker, and one Bowfin collected in the effort (Fisheries Division files, Traverse City).

The lake was surveyed again in August 1976. This survey was at the request of local anglers and was comprised of trap nets set for nine net nights, and experimental gill nets set for 18 net nights. Fish collected in this survey included 132 Bluegill, 28 Pumpkinseed Sunfish, 23 Northern Pike, 17 Largemouth Bass, 12 Rock Bass, six Cisco, five Bullhead, four Bowfin, two Smallmouth Bass, and one Yellow Perch.

The MDNR Fisheries Division Master Angler program has had five entries from Cedar Lake since 1994. These entries have included one 14" Black Crappie, one 40" Northern Pike, one 21" Smallmouth Bass, and two 10" Bluegill.

Current Status

MDNR most recently surveyed Cedar Hedge Lake in 2017 as a discretionary survey looking at the whole fish community, since the lake had not been surveyed in many years. Net sampling occurred from June 5 through June 9 and included the use of one small-mesh fyke net (3 net nights), two trap nets (8 net nights), two large-mesh fyke nets (8 net nights), and two experimental gill nets (6 net nights). The electrofishing component and seine hauls were conducted on June 21. Three ten-minute transects were shocked along the shoreline in 2-8 feet of water, and four seine hauls were made along the water's edge.

A total of 1,391 fish were collected representing 24 different species (Table 2). Bluegill, Rock Bass, Largemouth Bass, and Yellow Perch comprised the largest portion of the catch. A total of 627 Bluegill made up 45.1% of the total catch by number. Northern Pike made up 20.6% of the catch by weight with 117.7 pounds in fish ranging from 14-34 inches in length. Black Crappie, Banded Killifish, Bluntnose Minnow, Bowfin, Brown Bullhead, Brook Silverside, Cisco, Common Shiner, White Sucker, Green Sunfish, Iowa Darter, Longnose Gar, Logperch, Longear Sunfish, Pumpkinseed Sunfish, Smallmouth Bass, Tadpole Madtom, Walleye, and Yellow Bullhead were also observed during the survey.

Of the panfish collected during the survey, 75% of the Rock Bass, 51% of the Pumpkinseed Sunfish, and 30% of Bluegill were 6 inches or above, which is considered to be an acceptable size to harvest by most anglers. While only two Smallmouth Bass were collected, both fish were of legal size (14" and 17"). Good numbers of Northern Pike were collected (58), however only 14% of pike were of legal size.

Scales and fin rays (aging structures) were collected according to protocol from all components of the survey. Aging structures are analyzed to determine age and growth of individual fishes for comparison with other fish populations within the state (Table 3). All species collected in this survey that had

enough samples to age were found to be growing below the statewide average length at age. Not enough Crappie or Cisco were collected from any age group to statistically compare, however individuals of these two species appear to be growing at or near the state average length at age. Northern Pike were found to be the slowest growing species in the lake, at 2.9 inches below average, with Largemouth Bass not too far behind at 1.5 inches below the state average. Even the panfish species, which appears to be creating a robust fishery, seem to be growing at a slower pace than expected. Rock Bass are only slightly below average (-0.1 inches), while Pumpkinseed (-0.5) and Bluegill (-0.7) are further below average.

Analysis and Discussion

The 2017 MDNR fisheries survey showed Cedar Hedge Lake to have a relatively stable fish community and includes some species that are somewhat unique in comparison to other inland lakes in Grand Traverse County. Inland lake fisheries for Black Crappie and Cisco are not common, particularly on a smaller acreage lakes such as Cedar Hedge.

Fish caught in the 2017 survey that had not been collected in prior surveys included Iowa Darter, Banded Killifish, Common Shiner, Brook Silverside, Bluntnose Minnow, Black Crappie, green Sunfish, Longear Sunfish, Madtom, and Walleye. Many of the minnow species were most likely not encountered in past surveys simply because nets intended to target these small forage fish were not used. These species are certainly indicative of a healthy forage base, though it is interesting that the majority of piscivorous fish species found in this lake are growing below the state average length at age. Aside from slow growth, fish found in Cedar Hedge Lake appear to be healthy.

One Walleye was captured, most likely the result of an angler transfer; in the past anglers have expressed a desire to have Walleye in Cedar Hedge Lake. However, given the close proximity to Long Lake which has a robust Walleye fishery, and the presences of Cisco in this lake, Cedar Hedge would not be a suitable candidate for Walleye stockings. Cisco are currently listed as a State "Threatened Species" (Derosier et al. 2015).

Angler reports from Cedar Hedge Lake are generally positive. This a popular lake to ice fish during the winter months, particularly for anglers who like to target Bluegill, Cisco, Crappie, and Yellow Perch. Summer months see a lot of bass angling effort, along with the panfish fishery. Property owners and anglers who made contact with the survey crew during this effort were happy with the quality of the fishery here but did note that Cedar Hedge Lake seems to be becoming more heavily used than in the past.

Management Direction

Cedar Hedge Lake is a high-quality inland lake that offers a healthy and diverse fishery. Wetlands, undeveloped shoreline, and the tributaries to Cedar Hedge Lake are critical components of the lake's ecosystem and should be protected through the review of Department of Environmental Quality permits and best management practices. Guidelines for protecting fisheries habitat in inland lakes can be found in Fisheries Division Special Report 38 (O'Neal and Soulliire 2006).

MDNR Fisheries Division should survey Cedar Hedge Lake within to the next ten years (or when feasible) to continue to monitor and assess the fish community and water quality. An effort should also be made to specifically monitor the Cisco population in this lake, as inland Cisco lakes are of significant interest. Of the nearly 11,000 inland lakes found in Michigan, less than 200 lakes are believed to still support Cisco populations (Derosier et al. 2015).

References

Derosier, A.L., S.K. Hanshue, K.E. Wehrly, J.K. Farkas, and M.J. Nichols. 2015. Michigan's Wildlife Action Plan. Michigan Department of Natural Resources, Lansing, MI. www.michigan.gov/dnrwildlifeactionplan

O'Neal, R.P., and G. J. Soulliere. 2006. Conservation guidelines for Michigan lakes and associated natural resources. Michigan Department of Natural Resources, Fisheries Special Report 38, Ann Arbor.

Figure 1. Location of Cedar Hedge Lake

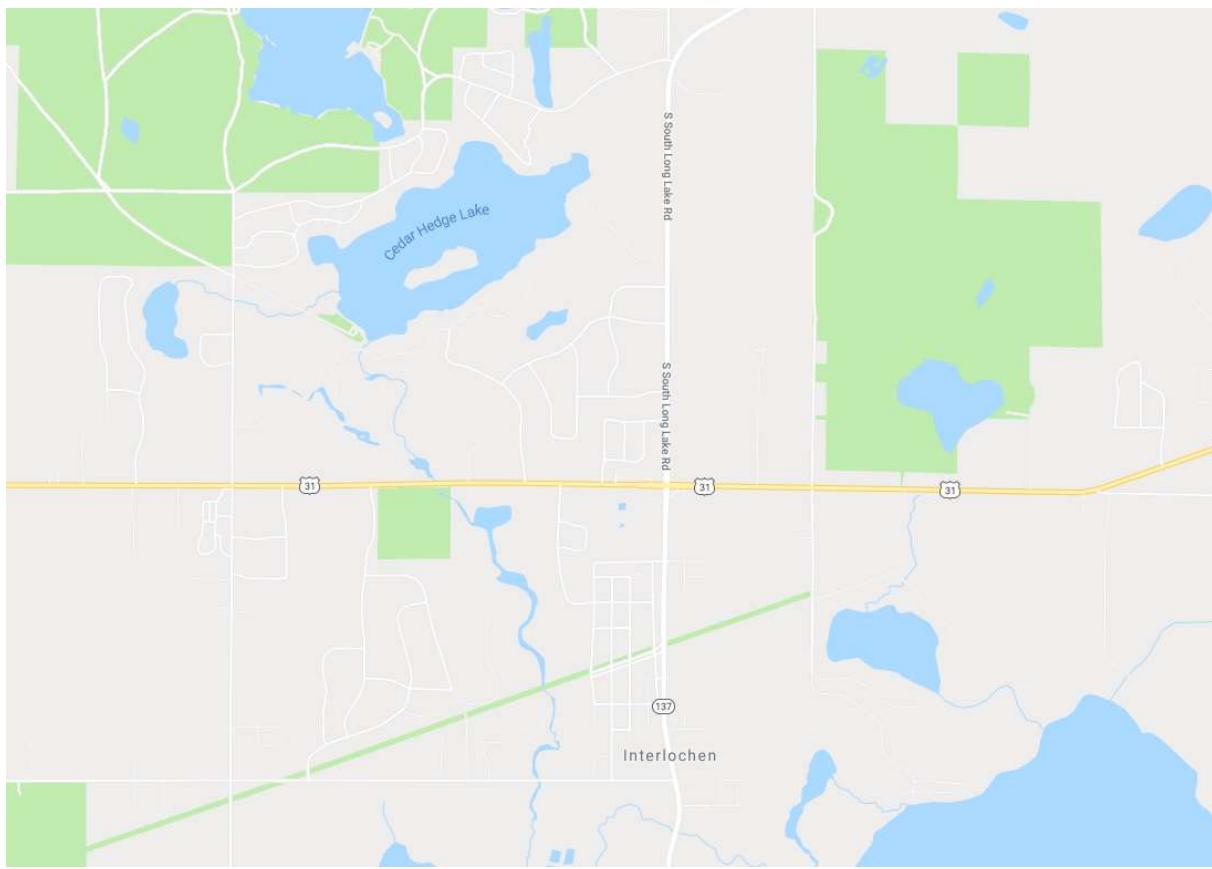


Figure 2. Bathymetry map of Cedar Hedge Lake.

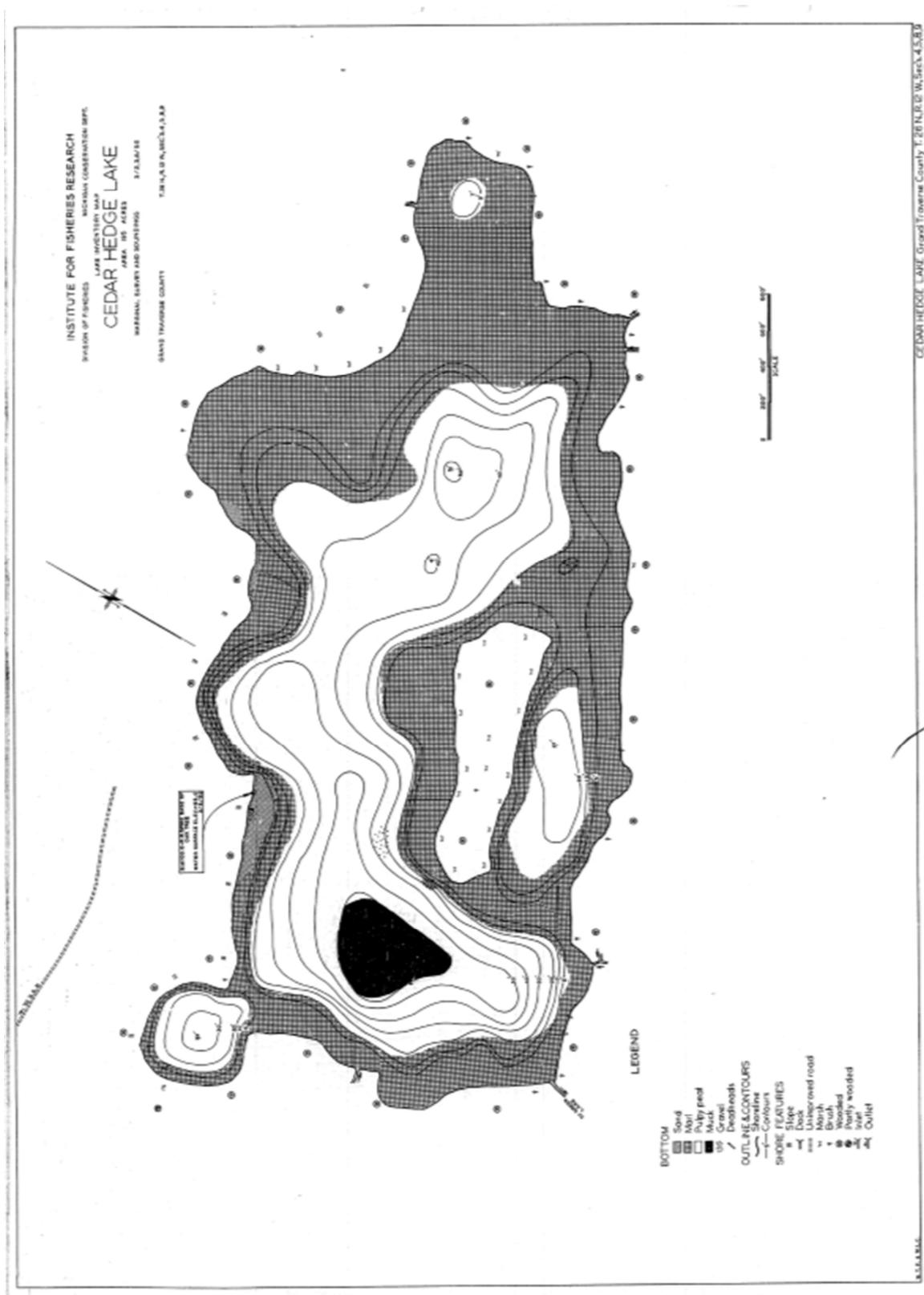


Table 1. Cedar Hedge Lake fish stocking 1910-Present.

Year	Species	Number of fish stocked	Life Stage
1910	Walleye	75,000	Fry
	Smallmouth bass	4,000	Fry
1940	Bluegill	200	Yearling
	Large/smallmouth bass	250	3 month
	Large/smallmouth bass	200	4 month
1941	Bluegill	500	15 month
	Lake trout	2,500	Adults
	Large/smallmouth bass	250	4 month
1942	Bluegill	8,000	4 month
	Large/smallmouth bass	200	4 month
1943	Bluegill	300	Yearling
	Large/smallmouth bass	200	4 month
	Large/smallmouth bass	800	4 month
1944	Bluegill	300	Yearling
	Large/smallmouth bass	200	3 month
1964	Brook trout	6,000	Sub-legal

Table 2. Number, weight, and length of fish collected from Cedar Hedge Lake with large mesh fyke nets, small mesh fyke nets, trap nets, and experimental gill nets June 5-June 9, 2017.

Species	Number	Percent by number	Weight (Pounds)	Percent by weight	Length range (inches) ¹	Percent legal size ²
Black crappie	4	0.3%	1.5	0.3%	7-10	100 (6")
Banded killifish	17	1.2%	0.1	0.0%	1-2	
Bluegill	627	45.1%	79.4	13.9%	1-9	30 (6")
Bluntnose minnow	47	3.4%	0.3	0.1%	1-3	
Bowfin	13	0.9%	50.3	8.8%	18-26	
Brown bullhead	12	0.9%	6.6	1.2%	8-12	100
Brook silversides	30	2.2%	0.0	0.0%	2-4	
Cisco (lake herring)	9	0.6%	12.4	2.2%	11-20	100
Common shiner	14	1.0%	0.2	0.0%	2-4	
White sucker	10	0.7%	26.7	4.7%	17-20	100
Green sunfish	12	0.9%	0.5	0.1%	2-5	0 (6")
Iowa darter	16	1.2%	0.1	0.0%	1-2	
Largemouth bass	135	9.7%	116.2	20.3%	1-19	11 (14")
Longnose gar	23	1.7%	63.7	11.2%	26-40	100
Logperch	5	0.4%	0.1	0.0%	3-4	
Longear sunfish	8	0.6%	0.3	0.0%	3-4	0 (6")
Northern pike	58	4.2%	117.7	20.6%	14-34	14 (24")
Pumpkinseed	72	50.0%	15.2	0.2%	1-3	
Rock bass	149	10.7%	62.0	10.9%	1-10	75 (6")
Smallmouth bass	2	0.1%	4.3	0.8%	14-17	100 (14")
Tadpole madtom	1	0.1%	0.0	0.0%	1	
Walleye	1	0.1%	6.9	1.2%	27	100 (15")
Yellow perch	120	8.6%	3.6	0.6%	2-8	6 (8")
Yellow bullhead	6	0.4%	3.0	0.5%	8-11	100
Total	1,391	100.0%	571.1	100%		

¹Note 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.

²Percent legal size or acceptable size for angling. Legal size or acceptable size for angling is given in parentheses.

Table 3. Average total weighted length (inches) at age, and growth relative to the state average, for fish sampled from Cedar Hedge Lake with trap nets, fyke nets, inland gill nets, and via electrofishing, June 5-21, 2017. Number of fish aged is given in parenthesis. A minimum of five fish per age group is statistically necessary for calculating a Mean Growth Index, which is a comparison to the State of Michigan average.