

# 11,000 Lakes in Michigan: Fact or Fiction?

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We often hear that Michigan has 11,000 inland lakes. But is that an accurate number? Breck (2004) described how that number of 11,000 lakes likely came to be:

There have been several attempts to count or compile a master list of lakes in Michigan. The Michigan Lakes and Streams Directory of 1941 reported that there were 6,454 water bodies “large enough to be lakes” (quoted in Brown 1943a). Brown (1943a) attempted to determine the total number of lakes in Michigan. Before counting the number of lakes one must decide on the definition of the term “lake.” Brown (1943a, page 1) wrote that he used “the definition of Forel, the founder of modern limnology, who described a lake as ‘a body of standing water occupying a basin and lacking continuity with the sea.’ According to this definition

all standing waters are lakes regardless of size, depth or origin. Ponds, bogs, swamps, reservoirs, etc. are just special kinds of lakes.” Brown used the best available maps of the time: county master-plan maps from the Department of Conservation and the newly available polyconic projection maps from the State Highway Department. Brown (1943a) reported a count of 11,037 lakes, of which over half were less than 10 acres in surface area. This appears to be the source of the widely reported “fact” that Michigan has 11,000 lakes.

With the advent of geographic information system (GIS) and remote sensing technologies, it is now possible to get a much more accurate count of the number and size of lakes in Michigan (Figure 1).

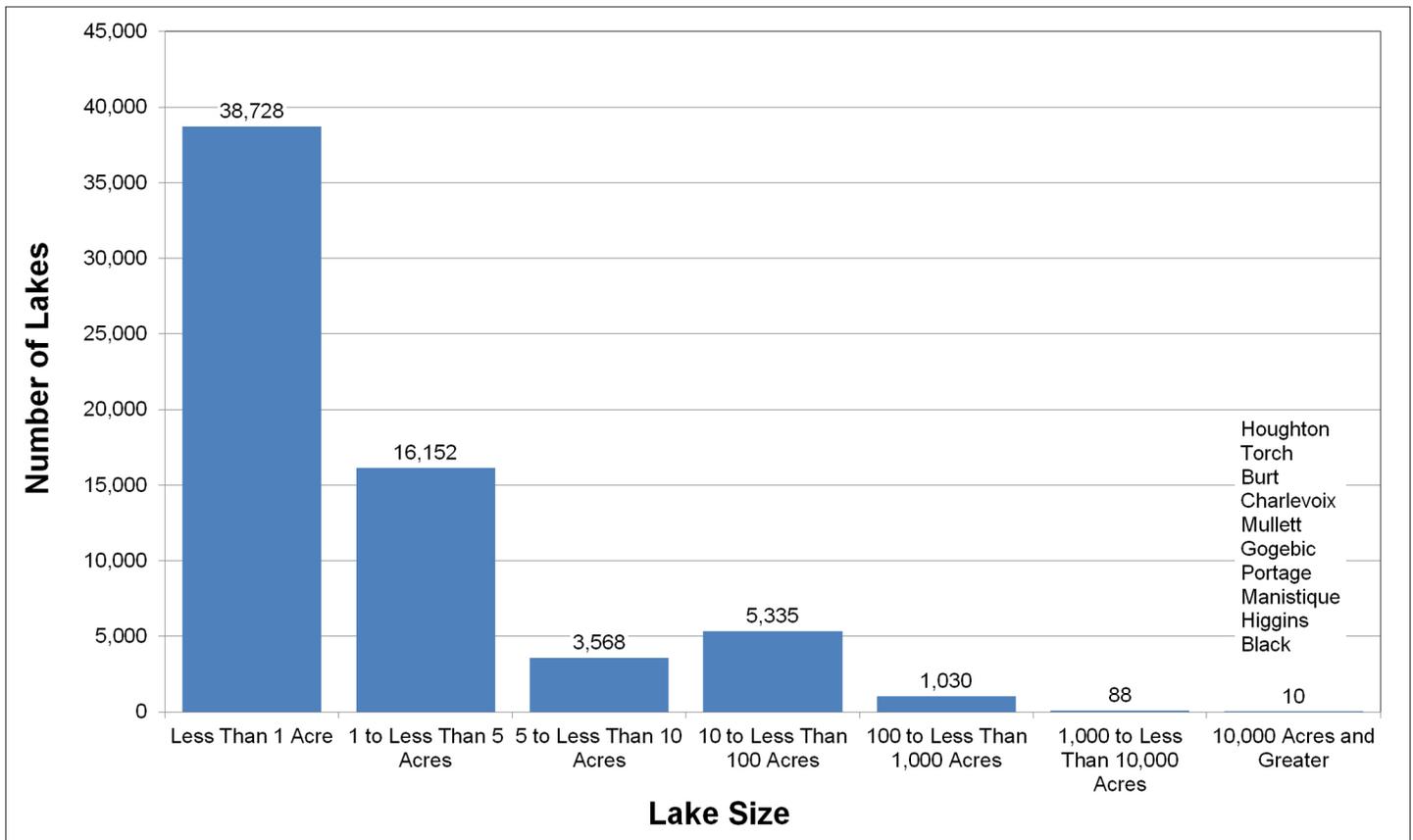


Figure 1. The number of Michigan inland lakes by size (in acres). Source: Michigan GIS Open Data.

The state of Michigan information database contains records for a total of 64,911 lakes and ponds statewide (Table 1). This number includes all lakes from the state's largest lakes to ponds only a fraction of an acre. Using the definition from Michigan's Inland Lakes and Streams Act, lakes are 5 acres and greater; therefore, Michigan contains 10,031 lakes. Of those 10,031 lakes, 89% are less than 100 acres and 1,128 (11%) are 100 acres or larger. With a surface area of 20,075 acres, Houghton Lake in Roscommon County is the largest lake in Michigan.

Table 1  
Number of Michigan Inland Lakes By Size

Size Category	Number	Cumulative Number of Lakes
10,000 Acres and Greater	10	10
1,000 to Less Than 10,000 Acres	88	98
100 to Less Than 1,000 Acres	1,030	1,128
10 to Less Than 100 Acres	5,335	6,463
5 to Less Than 10 Acres	3,568	10,031
1 to Less Than 5 Acres	16,152	26,183
Less Than 1 Acre	38,728	64,911

Figure 2 shows the distribution and size of lakes across Michigan. Most lakes in Michigan were formed as the result of glacial activity. The largest lakes in the state are located in the northern portion of the lower peninsula and the upper peninsula. Lakes are common throughout much of the state, but portions of the central lower peninsula and the thumb area are nearly devoid of lakes.

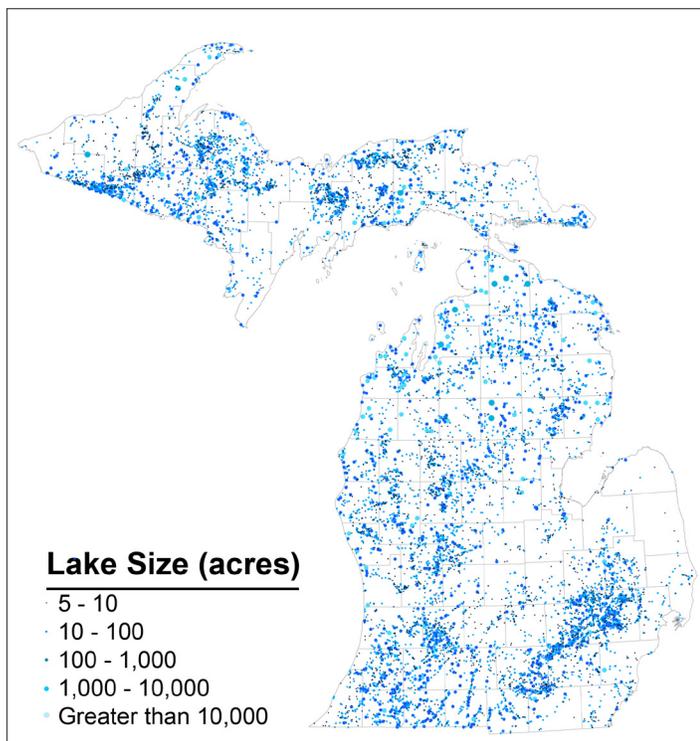


Figure 2. Statewide distribution of Michigan inland lakes greater than five acres. Source: Michigan GIS Open Data.

According to Breck (2004), depth contour maps are available for about 2,600 Michigan inland lakes. Many of the maps were created from data collected by Michigan's Institute for Fisheries Research. In addition to depth contours, these maps often show bottom types, aquatic plant distribution, and other features (Figure 3). Scanned images of the maps can be freely downloaded from the Michigan Department of Natural Resources website.



Figure 3. Barlow Lake, Barry County (1954). Modified from: Michigan Department of Natural Resources.

Reference:

Breck, J.E. 2004. Compilation of Databases on Michigan Lakes. Fisheries Technical Report 2004-2. Michigan Department of Natural Resources Fisheries Division.