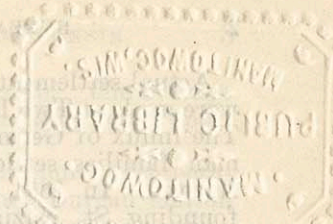


# SOIL SURVEY OF MANITOWOC COUNTY, WISCONSIN



By A. C. ANDERSON, in Charge, W. J. GEIB, and M. J. EDWARDS, U. S. Department of Agriculture, and H. H. HULL and MERRITT WHITSON, Wisconsin Geological and Natural History Survey

## COUNTY SURVEYED

Manitowoc County is in the east-central part of Wisconsin, bordering Lake Michigan. The county comprises an area of 590 square miles or 377,600 acres. Manitowoc, the county seat, is 159 miles by rail from Madison and 77 miles from Milwaukee.

The land surface ranges from level to rough and hilly. The most conspicuous physiographic feature is the Kettle Range or Kettle Moraine, a belt of irregular hills, ridges, and depressions which crosses the county from southwest to northeast. Along Lake Michigan there is a level area, several miles wide, which grades into gently rolling country before the moraine is reached. This level area is chiefly a lake terrace formation, although it merges with river terraces on Manitowoc and the Twin Rivers in the northeastern part of the county. To the west of the moraine the relief ranges from level to gently rolling, with most of the land surface gently rolling.

The highest point in the county is in T. 17 N., R. 21 E., where an elevation of 359 feet above Lake Michigan is attained. Average elevations of various towns<sup>1</sup> above the lake are given as follows: Mishicott 60 feet, Maplegrove 200 feet, Cooperstown 210 feet, Two Rivers 29 feet, Cato 250 feet, Manitowoc Rapids 120 feet, Manitowoc 50 feet, Meeme 200 feet, Schleswig 290 feet, and Centerville 60 feet. Numerous water-power units have been at various times developed on the various rivers and creeks.

History indicates that the Fox and Sac Indians were the first to occupy the part of Wisconsin in which Manitowoc County occurs, but these tribes were driven out by the Menominees. Within what is now Manitowoc County it seems there were representatives of many Indian tribes, including the Ottawa, Menominee, Winnebago, and Potawatami. All except the Winnebagos were of Algonquian stock. Before 1830 the Winnebagos had disappeared and other tribes had mingled to a great extent.



FIGURE 1.—Sketch map showing location of Manitowoc County, Wis.

<sup>1</sup> "Town" as used in this report is synonymous with "township."



Actual settlement of the county dates from 1833, when settlements were made at Two Rivers, Manitowoc, Manitowoc Rapids, and Shoto. The influx of German settlers started about 1846. In 1847, 15 German families settled at Mishicott and more than 40 families in Newton. In 1854 a colony of Badenese settled in Eaton Town, founding St. Nazianz under the leadership of Father Oschwald. Many Norwegians were among the early settlers. They first settled in 1843 at Manitowoc Rapids. The Irish settled mostly in Maplegrove, Rockland, Cato, Meeme, and Franklin Towns. Several English settlements were made in Kossuth and Manitowoc Towns. In 1850 the population of the county was 3,720, of which 1,378 were Germans, 246 Norwegians, 175 Irish, 129 British, 165 Canadians, and 255 other foreign-born people of different nationalities. Of the native born 409 came from Wisconsin, 376 from New York, and the remainder from several other States.

The cities of Manitowoc and Two Rivers and the smaller towns and villages of the county afford local markets for considerable farm produce, but the greater part is shipped out of the county. The largest items in the merchantable produce are the dairy products.

The Minneapolis, St. Paul & Sault Ste. Marie Railway, the Chicago & North Western Railway, and the Chicago, Milwaukee, St. Paul & Pacific Railroad systems furnish good transportation facilities. Car ferries cross Lake Michigan from Manitowoc to Ludington and Frankfort, Mich., where they join with the Pere Marquette Railway and the Ann Arbor Railroad.

The wagon roads and highways within the county are being improved under a joint State and county system, and 75 miles of improved concrete highways have been constructed representing about one-fifth of the main system. Good road-building material is abundant in the county, and poor roads are yearly becoming scarcer. County and State trunk highways are graded and crowned with gravel, crushed rock, or cement, and most of the side roads are also graveled.

#### CLIMATE

The climate of Manitowoc County is typical of the eastern part of Wisconsin. Climatic conditions along the lake are somewhat different from those 20 to 30 miles distant from it.

The region covered by this report is included in the "Michigan shore," which is one of eight climatic provinces in Wisconsin.<sup>2</sup> This province stretches along the western shore of Lake Michigan and extends inland as far as the influence of the lake modifies the climate to any appreciable extent, in few places more than the width of a county.

The Michigan shore possesses the most equable climate in Wisconsin. The winters are mild and somewhat more moist than elsewhere in the State, spring is retarded and cool, summer is mild and pleasant, and autumn is warmer than it is farther west. The lake shore is not especially a corn region but is excellent for pasture grasses, peas, and hay. The average frost-free season extends from May 2 to October 11, and the latest and earliest recorded killing

<sup>2</sup> WHITSON, A. R., and BAKER, O. E. THE CLIMATE OF WISCONSIN AND ITS RELATION TO AGRICULTURE. Wis. Agr. Expt. Sta. Bul. 223, 65 p., illus. 1912.