

# PRESETTLEMENT VEGETATION OF KALAMAZOO COUNTY, MICHIGAN

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This map represents the vegetation of Kalamazoo County as of the years 1825-1830, just prior to settlement. It is based on the notes of the original land surveys. These surveys, a part of the U.S. Public Land Survey of 1785, are a rich source of information on the primeval vegetation of large parts of the United States. Probably the earliest published regional map using such data is one of Kalamazoo County prepared by Leslie A. Kenoyer (1929, *Papers of the Michigan Academy of Science, Arts, and Letters* 11:211-217), who later mapped nine other southwestern Michigan counties in the same way.

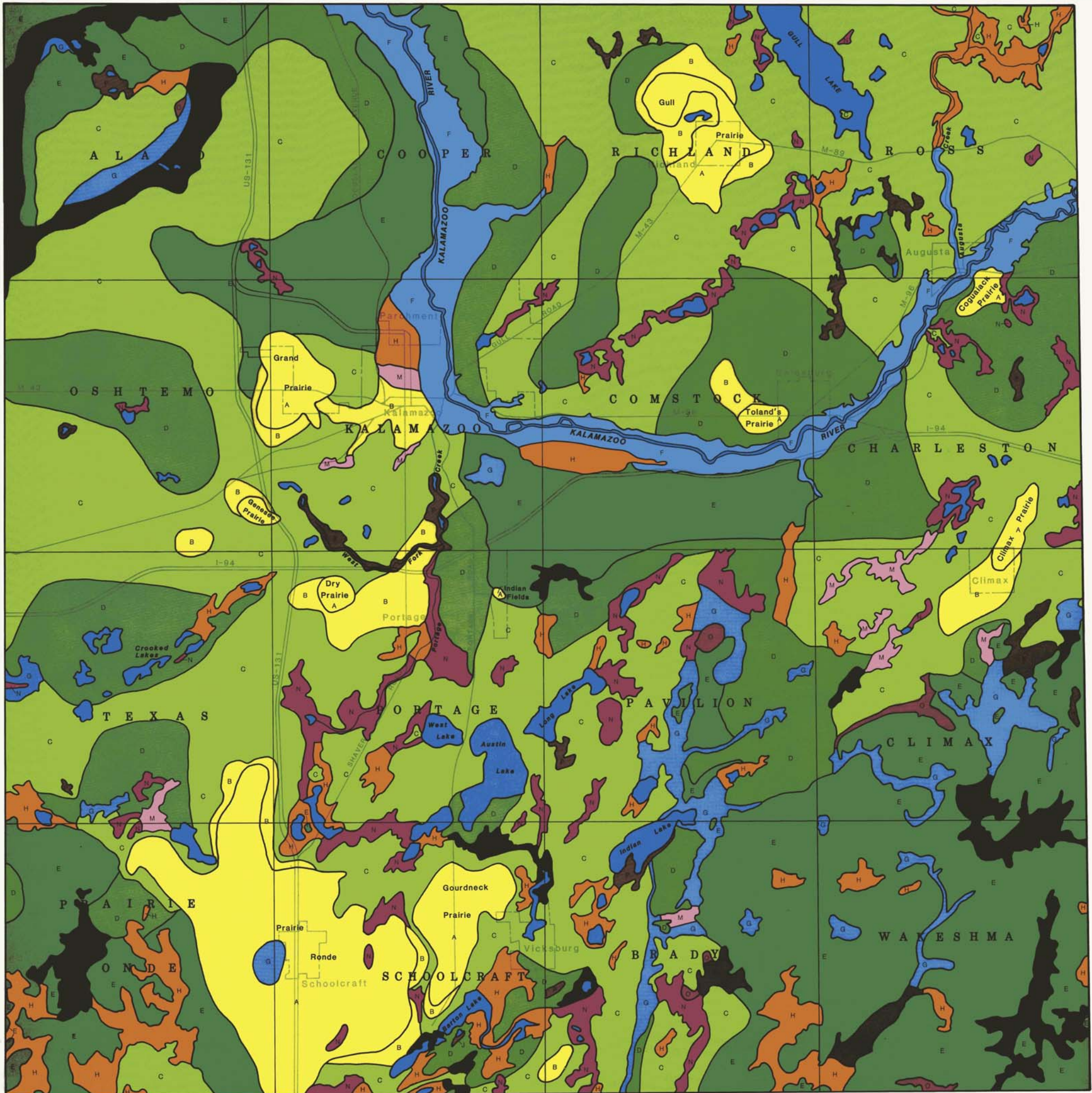
It has seemed desirable to re-map the original vegetation of Kalamazoo County for several reasons. In view of the importance of this information for environmental planning and the design of ecological research, a large-scale map produced by modern cartographic techniques was needed. Also, it seemed feasible to produce a map that would improve upon Kenoyer's pioneer effort. The organization of the vegetation of the midwestern United States is now better understood, so it has been possible to recognize slightly finer subdivisions. We were also able to map vegetational boundaries more precisely by making use of data contained in the surveyors' notes that were not employed by Kenoyer.

Survey of Kalamazoo County townships took place from 1826 through 1830, as follows: 1826—Ross, Charleston, Richland, Climax, Wakeshma, Brady, and Schoolcraft; 1827—Cooper, Kalamazoo, Comstock, Pavilion, and Portage; 1829—Texas and Prairie Ronde; and 1830—Alamo and Oshtemo.

Information from the surveyors' notes was entered on U.S. Geological Survey topographic maps. Two kinds of data were used: (1) surveyors' comments of entering and leaving certain vegetation types and (2) information on individual trees in-

cluding two witness trees at each section corner, two additional bearing trees at the halfway mark along each section line, line trees (trees intersected by section line), and two trees at the point where the line entered and left a stream or lake. Species, diameter, and distance from the line were recorded in the survey notes for each tree. Along section lines, vegetational boundaries could be located with a precision of  $\pm 1/4$  mile or less, depending upon how informative the line trees or the surveyors' additional comments were. Away from section lines, accuracy was increased by use of contour lines and other information from the topographic base maps.

Vegetation types were chosen for mapping based on our ability to recognize them from land survey data. Brief descriptions of the vegetation types are given below. Essentially no information is available in the survey notes on the identities of herbaceous plant species. We have not tried to supply these, although many can probably be inferred with reasonable accuracy from modern studies in the region. We have listed characteristic tree species for the forest and savanna types and in a few cases have supplied (in parentheses) our inferences as to the species involved when the survey notes provide identification only to genus. Plant names follow H. A. Gleason and A. Cronquist (1963, *Manual of Vascular Plants of Northeastern United States and Adjacent Canada*, Van Nostrand Reinhold, New York). The names applied to the vegetation types are those which seemed most descriptive for Kalamazoo County. Our conception of the plant communities of the region follows in many features the system of J. T. Curtis given in *The Vegetation of Wisconsin* (1959, University of Wisconsin Press, Madison). In the descriptions that follow we have tried to point out equivalencies where the correspondence or the name is not identical.



Vegetation Type	Recognition	Comments
<b>A</b> Prairie	Fewer than 1 mature tree per acre (dominated by prairie grasses and forbs).	Most of the mapped areas were mesic prairie but probably included patches of dry and wet prairie. Boundaries of prairies are as given in surveyors' notes except Coguaick Prairie (which was probably dry prairie and oak barrens) approximated from historical writings.
<b>B</b> Bur Oak Opening	Between 1 and 15 trees per acre, mostly bur oak (herbaceous vegetation presumably similar to prairie).	Bur oak tended to grow in pure stands, often as a fringe around mesic prairies.
<b>C</b> Oak Savanna	Between 1 and 15 trees per acre, mostly white oak. Small numbers of yellow oak, (pignut and shagbark) hickory, black oak, and bur oak.	Includes small areas that Curtis would differentiate as oak barrens; also probably included patches of dry prairie. Both the oak savannas and the relatively small areas considered oak forest were heavily dominated by white oak. Yellow oak was second in abundance; black oak was much rarer.
<b>D</b> Oak Forest	More than 15 trees per acre; composition similar to oak savanna but with less bur oak and the addition of small amounts of red oak.	See comment above on yellow and black oak.
<b>E</b> Beech-Sugar Maple Forest	Beech and sugar maple with smaller numbers of basswood, ironwood, white ash, tulip-tree, and (bitternut and shagbark) hickory.	Approximately mesic southern hardwoods of Curtis but includes at least part of his dry-mesic southern hardwoods.
<b>F</b> Southern Floodplain Forest	Major river bottoms dominated by (American or slippery) elm, silver maple, and red maple. Several less abundant species, notably sycamore, hackberry, honey locust, and black maple.	The floodplain as a physiographic unit is distinct but the vegetation is not uniform, varying from early successional stages of black willow or cottonwood to patches on the highest areas where beech and sugar maple were dominant.
<b>G</b> Southern Swamp Forest	Forested wetlands away from river bottoms; dominated by (American or slippery) elm and red maple. Small numbers of several species, notably black gum.	These two southern wetland forest types (which include Curtis's wet and wet-mesic southern hardwoods) share a number of species, several of which are not obviously more abundant in one community or the other. Examples are swamp white oak, butternut, black walnut, and green ash.
<b>H</b> Tamarack Swamp	Dominated by tamarack.	This and the next three vegetation types represent stages in succession from open bog or fen to forest. They include Curtis's wet and wet-mesic northern forests.
<b>J</b> Pine Swamp	Wetlands dominated by white pine.	
<b>K</b> Black Ash Swamp	Wetlands dominated by black ash.	
<b>L</b> Northern Mixed Swamp Forest	Wetlands with several species sharing dominance including black ash, red maple, yellow birch, white pine, tamarack, and (American or slippery) elm.	Gradations with the southern swamp types occur.
<b>M</b> Wet Prairie	The areas designated "wet prairie" by the surveyors probably included not only wet prairies as they would be recognized today but also fens and some of the drier marshes and sedge meadows.	
<b>N</b> Marsh	The areas designated "marsh" by the surveyors probably included cat-tail and bulrush marshes and open bog and also some of the wetter sedge meadows.	
<b>O</b> Shrub-Carr	Thickets such as dogwood, willow, and alder.	Doubtless many of the marshes, wet meadows, and even tamarack swamps were mosaics that included patches of shrub-carr and alder thicket.
<b>P</b> Undifferentiated Wetland	Areas indicated as wetlands on the U.S.G.S. topographic maps but survey data insufficient to categorize.	