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## **Where are the black walnut trees in Michigan?**

J. Michael Vasievich and Neal P. Kingsley<sup>1</sup>

In the last issue, we profiled the black walnut resource in Minnesota. In this issue, we focus on Michigan. The latest Michigan forest inventory was completed in 1993 by the North Central Forest Experiment Station and the Michigan DNR, Forest Management Division. In total, 18,484 sample points were examined on aerial photographs to identify ground sample plots. Of these, 10,849 forest plots were visited and measured on the ground by field crews. These plot measurements included 357 thousand trees across the whole State, of which 226 were black walnut. Each sample plot represents many acres across the whole state, so, we estimate that about 8.5 million walnut trees could be in Michigan's forests, give or take a few. We found that most of these, 84 percent, are less than 12 inches in diameter at breast height (DBH). Based on the sample, our estimates show that walnut could be found on 207 thousand acres in Michigan or roughly 1 percent of the 18.4 million timberland acres. The location of plots with walnut trees are shown in figure 1. Of course, there are many more places with walnut trees, but they were not sampled. Walnut trees in fence rows and open fields and landscape trees in cities and towns are not included in the forest inventory. Crews only sample forest land, so we can't estimate where these non-forest trees might be or how many there are.

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<sup>1</sup> The authors are project leaders of forest economics research, and forest inventory and analysis, North Central Forest Experiment Station, USDA-Forest Service, East Lansing, MI, and St. Paul, MN, respectively.

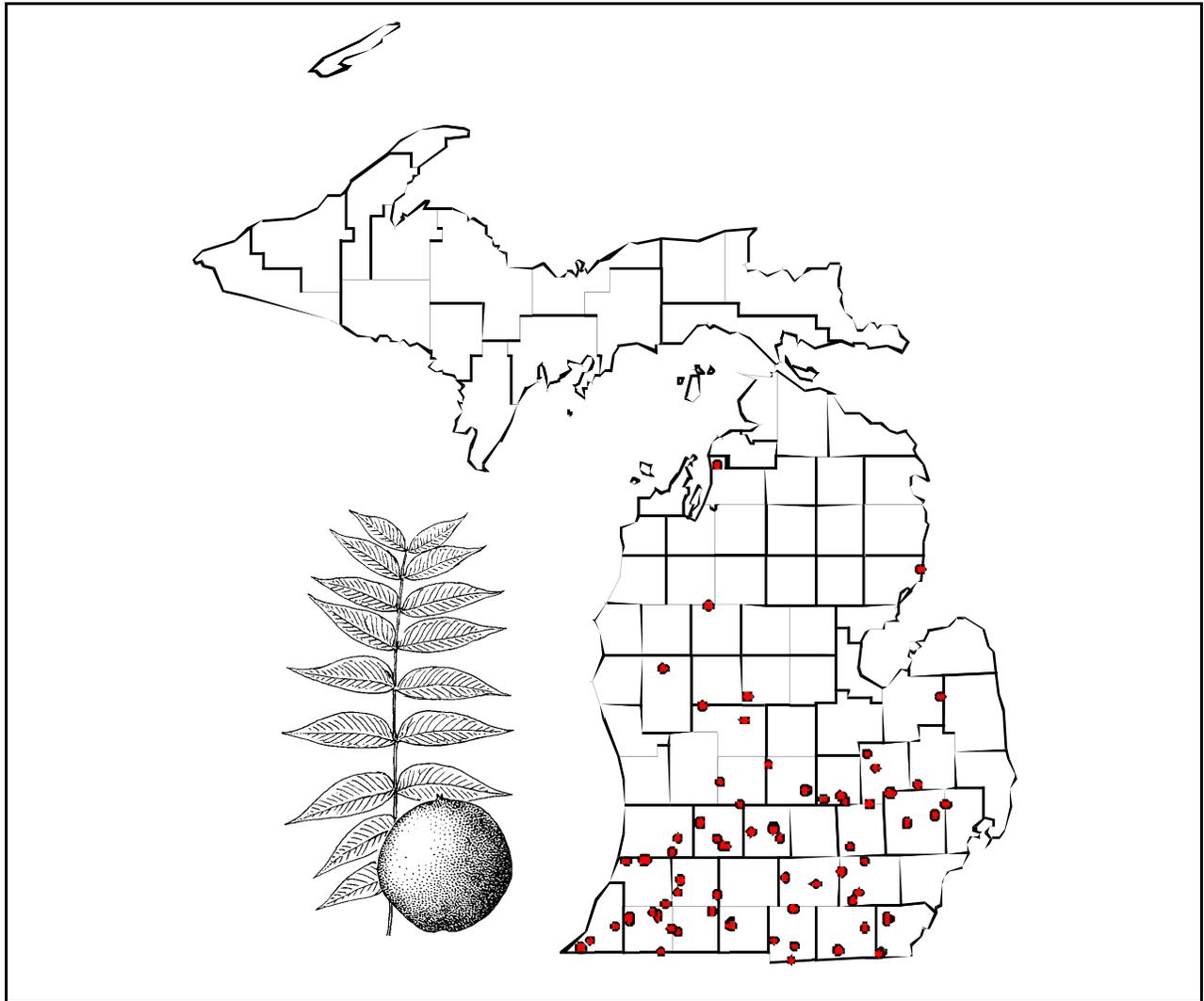
The forest inventory provides information to characterize the walnut resource. Survey crews measured trees one-inch in DBH and larger. The largest walnut tree found was 34 inches. The diameter distribution of Michigan's black walnuts is shown in figure 2. It's no surprise that most walnut trees were found in the southern lower peninsula, or that most, 90 percent, were found on private lands. The total net board-foot volume of sawtimber-sized walnut trees was about 173 million board-feet<sup>2</sup>. Based on tree quality measurements, the percent of cull was greatest in the largest trees. Maybe that's why they survived the saw to get so large. One, or only a few, walnut trees were found on most of the one-acre plots. The survey data shows that 14 plots had five or more walnut trees found together on the same plot, representing about 55,000 acres in the State. Five plots, representing 17,500 acres, had 10 or more walnut trees per acre.

Michigan's walnut resource is valuable, even if standing timber prices are highly variable because of quality. We don't have enough private stumpage sale prices to judge the going market, but a rough estimate of the standing walnut sawtimber value is about \$86 million, based on \$500 per MBF, as shown in figure 3. Some smaller and poorer quality walnuts are worth much less, and some of the best quality walnuts are worth a lot more, so this estimate can vary. Many trees in the 12-inch diameter class or smaller now have low volumes, but the best growth potential. Even at a rough estimate, Michigan's walnut resource is worth a lot.

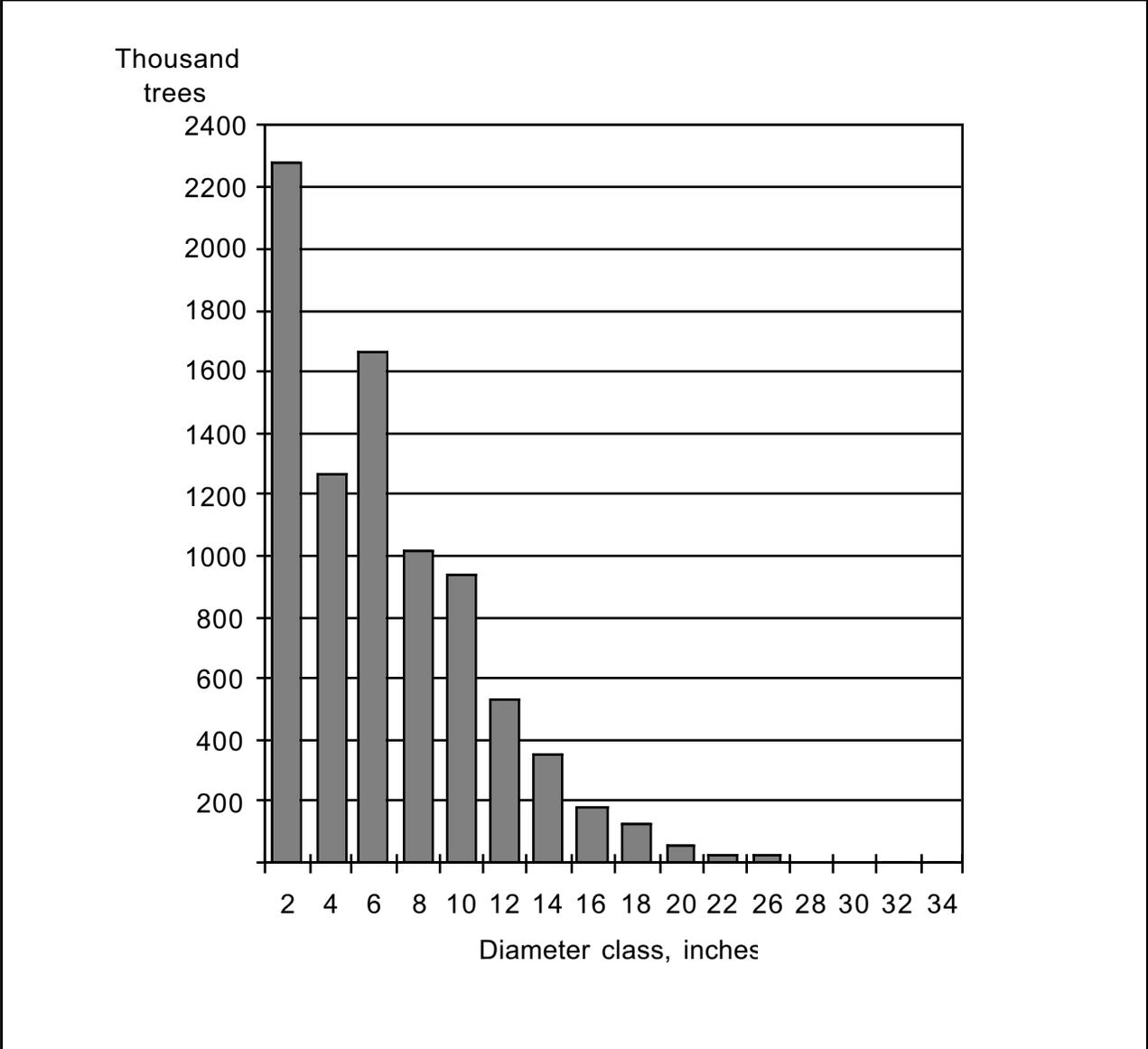
For more information on forest inventory in your state, contact your State Forester or the Forest Inventory and Analysis Unit, North Central Forest Experiment Station, 1992 Folwell Avenue, St. Paul, MN 55108, phone 612-649-5139. To find out where walnut trees are located in your state, watch future issues of the Bulletin. Reports giving details of the timber resource in each of the four forest survey units in Michigan are available from the above address.

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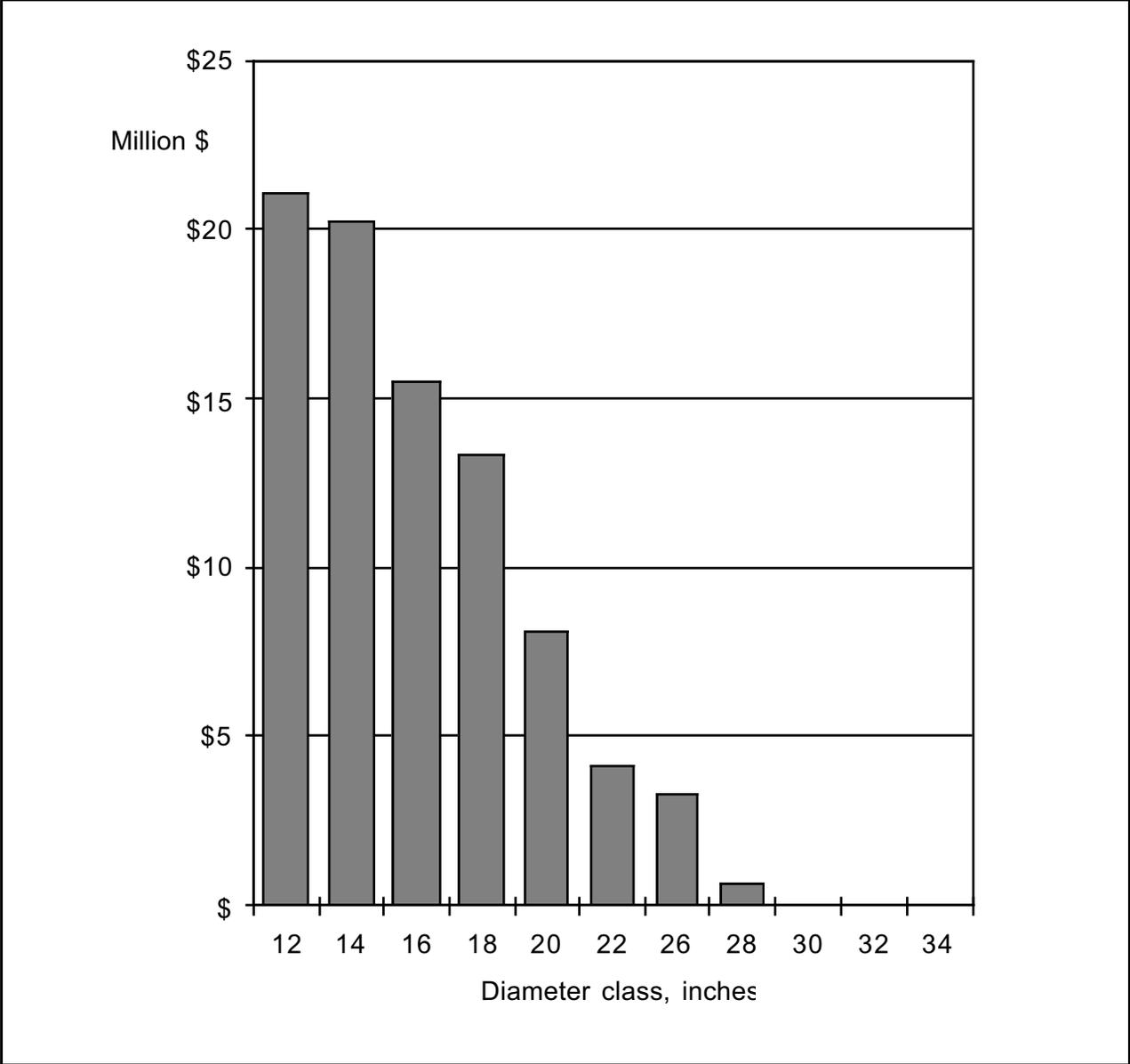
<sup>2</sup> International 1/4 scale



**Figure 1. Location of forest inventory plots on timberland in Michigan where black walnut trees were found in the 1993 forest survey.**



**Figure 2. Estimated number of black walnut trees in Michigan, 1993, by diameter class.**



**Figure 3. Estimated value of black walnut sawtimber on timberland in Michigan, by diameter class, based on \$500 per MBF.**