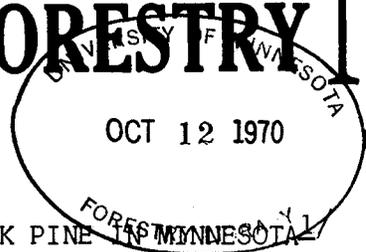


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MINNESOTA FORESTRY NOTES

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A REVISED RANGE MAP FOR JACK PINE

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Accurate range maps for forest-tree species are needed by forest research workers and botanists engaged in ecological, genetical, and phytogeographical studies. Many present forest-tree range maps have been criticized by a prominent botanist (1) for being too generalized, full of errors, and as showing carelessness on the part of authors. The reason for this is partly due to the lack of knowledge concerning local distribution, which can only be obtained by intensive field work. Partly this is also due to the failure to examine the already considerable body of literature that has been built up by research workers in many fields. At the national level, Little (2) is presently engaged in revising range maps of important tree species, but if the maps are to be much improvement over present ones, more local assistance by interested persons is necessary. It is with these facts in mind that a range map showing the distribution of jack pine (*Pinus banksiana* Lamb.) in Minnesota has been prepared. The accuracy of depicting tree ranges on maps is dependent upon the scale being used. The scale of accuracy represented in the Figure is aimed at being suitable for forest synecologists, phytogeographers, forest survey economists, forest geneticists, and workers in related fields such as botany, soils, and geology. It is not as suitable for forest managers, or for ecologists and soils specialists wanting information on specific areas. For these latter, local type maps, forest cruise sheets, and aerial photographs are needed.

The present range maps (3) of jack pine in Minnesota are derived largely from the written description given by Upham (4) who was associated with the Minnesota Geological and Natural History Survey. The map prepared in the Figure is based on five kinds of information: examination of known herbarium specimens, review of pertinent literature, examination of the records of the Second Minnesota Forest Survey, personal correspondence, and field investigations. A copy of the full report is on file at the Library, School of Forestry, University of Minnesota.

As here outlined, the range of jack pine in Minnesota differs in three important respects from previously published maps. Each of these represents a reduction in the species' range. They are: 1--a complete break in the species' range in northern Beltrami and northwestern Koochiching Counties, a region characterized by extensive bogs and swamps with little relief. The little jack pine occurring within this area appears only on ancient sandy beaches associated with old glacial lakes, and on small sandy islands; 2--a large area of infrequent occurrence in east central Minnesota centering about Mille Lacs Lake and Kanabec County. This is a region of moderately heavy soils covered with predominantly hardwood vegetation. Jack pine encroaches upon this area mainly in the south where the sandy soils of the Anoka sand plain are found; 3--absence of the species along Lake Superior from northeast Duluth to Hovland and for distances varying from 5 to 20 miles inland. This is a region formerly occupied by Glacial Lake Duluth and is characterized by heavy clay soils and a predominantly spruce-fir forest cover. In addition to these deletions, a few minor range extensions may be noted. Jack pine is presently known to occur in 35 Minnesota counties.

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Figure. The Range of Jack Pine (*PINUS BANKSIANA*) in Minnesota.

X Species once reported but now believed extinct.

- (1) Fernald, M. L. 1950. *Rhodora* 52:272-279.
- (2) Little, E. L. Jr. 1959. *Proc. IXth Intl. Congr. Botany, Montreal* 2:31-32.
- (3) Rudolph, T. D. et al 1957. *Minnesota Forestry Note* 58.
- (4) Upham, W. 1884. *Geol. and Nat. History Survey of Minnesota* 6:131.