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THE RANGE AND DISTRIBUTION OF SHORLEAF PINE IN MISSOURI

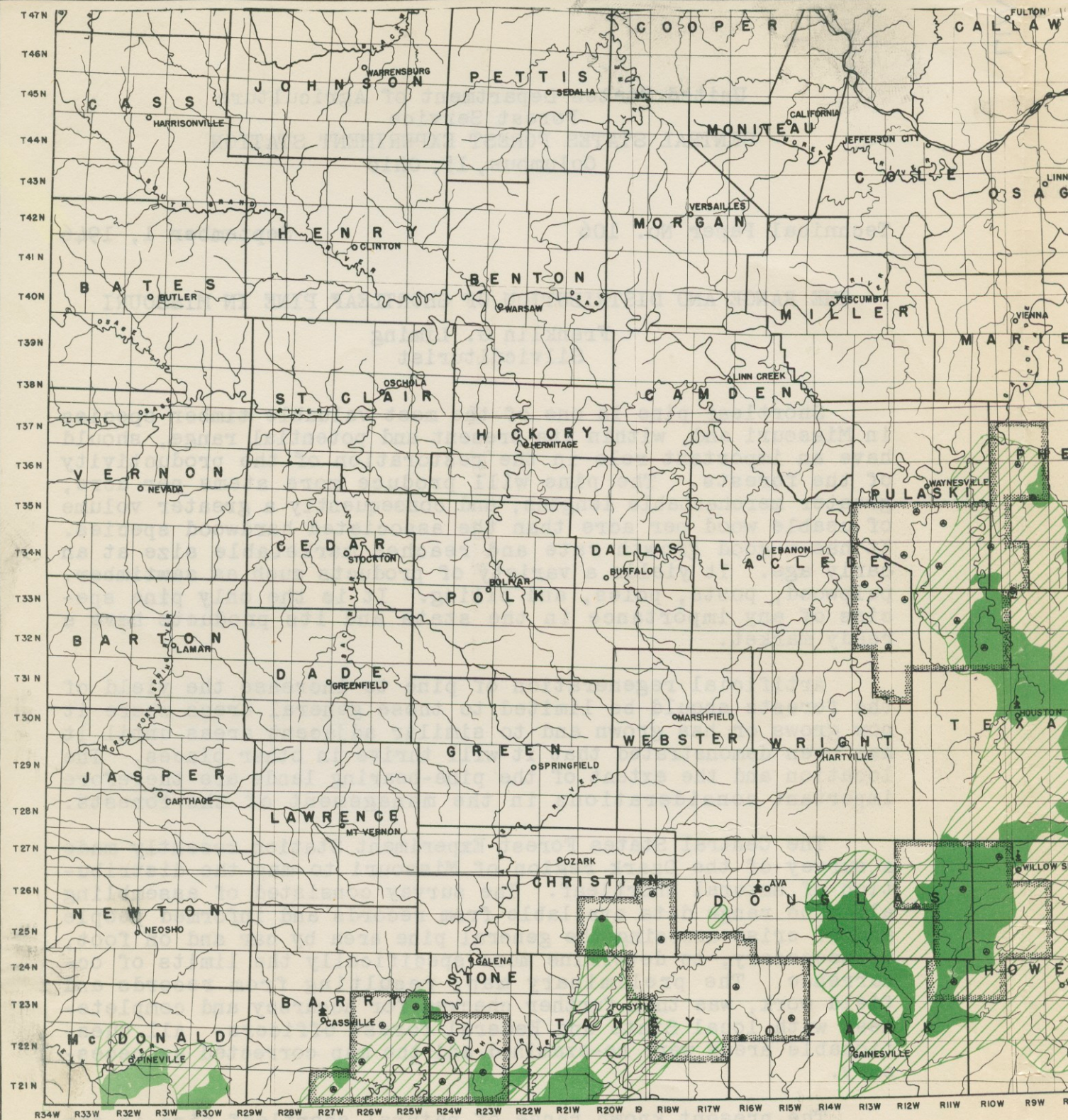
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Shortleaf pine is one of the most valuable timber species in Missouri and, within its present and potential range, should have an important role in the restoration of the productivity of the forests. The pine will produce more stems per acre, greater merchantable lengths, and consequently a greater volume of usable wood per acre than the associated hardwood species. It has a good growth rate and reaches marketable size at an early age. It yields a variety of products such as sawtimber, pulpwood, posts, poles, and piling. It is the only pine species of any importance in the state and its products have a ready market.

Artificial regeneration of pine to increase the yield of the forests should be limited to those general areas where it now grows or has grown and to similar adjacent areas until it has been demonstrated that it will thrive in other places. The location and the extent of the pine-bearing lands are therefore important considerations in the management of the forests.

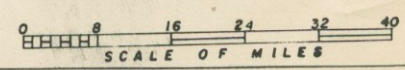
The Central States Forest Experiment Station recently made a survey of the Ozark region of Missouri to map the distribution of natural shortleaf. The survey consisted of assembling all pine range data available from records and informed people and of criss-crossing the general pine area by car and on foot, as necessary, to determine more specifically the limits of occurrence. The preliminary map, resulting from records and field work, was then further checked for accuracy and completeness with local State and Federal forest officers. All questionable areas were re-examined and the map corrected as necessary.

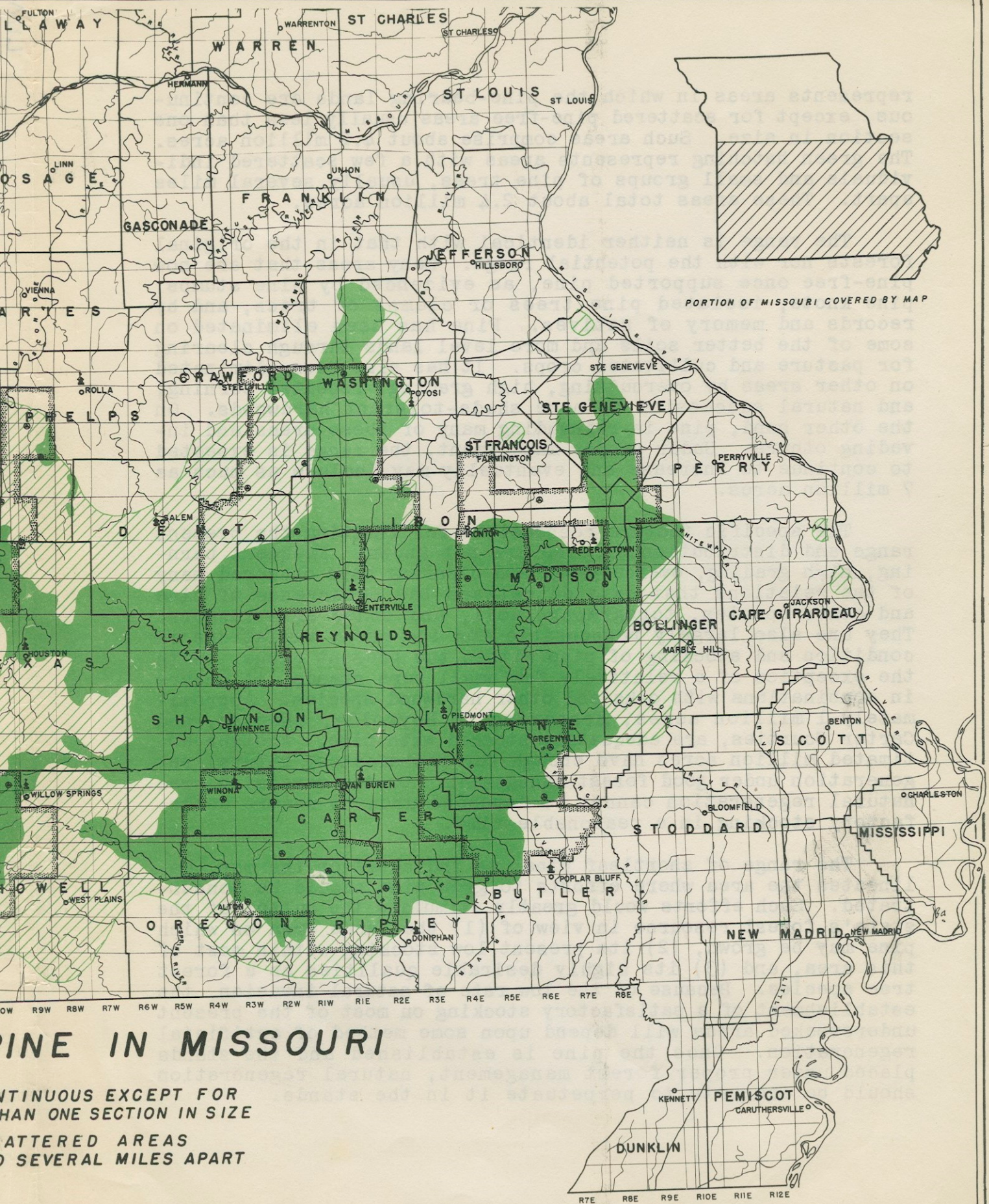
The present known range of natural shortleaf pine in the state is entirely within the Ozark region and is shown in green on the accompanying map. Most of it is in the drainages of the rivers flowing to the South. It is also limited largely to Clarksville stony loam soils and the more hilly portions of the area but is not present on all such sites. The solid green



THE RANGE OF SHORTLEAF PINE

-  AREA IN WHICH PINE-BEARING LANDS ARE CONTINUOUS
SCATTERED PINE-FREE AREAS USUALLY LESS THAN ONE SECTION
-  AREA IN WHICH PINE-BEARING LANDS ARE SCATTERED
USUALLY LESS THAN ONE SECTION IN SIZE AND SEVERITY





represents areas in which the pine-bearing lands are continuous, except for scattered pine-free areas usually less than one section in size. Such areas comprise about 4.2 million acres. The green hatching represents areas with a few scattered individuals and small groups of pine trees, usually several miles apart. These areas total about 2.4 million acres.

The range is neither identical with that in the original forests nor with the potential range. Many areas that are now pine-free once supported pine, as evidenced by pine stumps, pine knots, isolated pine trees or clumps of trees, and by records and memory of natives. Pine has been eliminated on some of the better soils and more level lands through clearing for pasture and cultivated crops. It has also been eliminated on other areas by overcutting, high grading, repeated burning, and natural succession to more shade-tolerant hardwoods. On the other hand, pine is reinvading many of these areas and invading others. Under proper management, the range is expected to continue to increase and eventually may include as much as 7 million acres.

The specific factors responsible for limiting the present range and distribution of pine are not known. Frequent burning, high grading, overcutting, and clearing have obscured many of the relations that existed between the occurrence of pine and other species, topography, soil, and other site factors. They are also largely responsible for the great variations in condition and stocking of pine within the present range. With the exception of a relatively few small pure stands, it occurs in combinations with oaks and other hardwood species. Approximately 1 million acres, centering in Reynolds, Shannon, and Carter Counties, are adequately stocked with pine. Another estimated million acres have enough for satisfactory natural regeneration under good forest management. On the remaining area natural regeneration cannot be depended upon to secure satisfactory stocking in a reasonable time.

The range of shortleaf pine, as indicated on the map, delineates the area where efforts to grow pine should be concentrated. Such efforts would greatly stimulate the output of the state's forest resource in view of (1) the large area on which pine may be grown, (2) its present low stocking within most of this area, and (3) its highly desirable qualities as a forest tree species. Because of the low rate of natural invasion, the establishment of a satisfactory stocking on most of the present understocked areas will depend upon some method of artificial regeneration. Once the pine is established and the stands placed under proper forest management, natural regeneration should be adequate to perpetuate it in the stands.