DISTRIBUTION OF TREE SPECIES IN KENTUCKY

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FOREWORD

The Forest Survey is a Nation-wide activity of the Forest Service. The fivefold purpose of the Forest Survey is: (1) to make a field inventory of the present supply of standing timber; (2) to find out how fast this supply is being increased through growth; (3) to find out how fast it is being diminished through industrial and domestic uses, windfall, fire, disease, and other causes; (4) to determine the present consumption and the probable future trend in requirements for forest products, and (5) to interpret and correlate these findings with existing and anticipated economic conditions as an aid in formulating both private and public policies for use of land suitable for forest production.

The Forest Survey is conducted in the various regions by the forest experiment stations of the Forest Service. In Kentucky the project was directed by the Central States Forest Experiment Station with headquarters in Columbus, Ohio.

C O N T E N T S

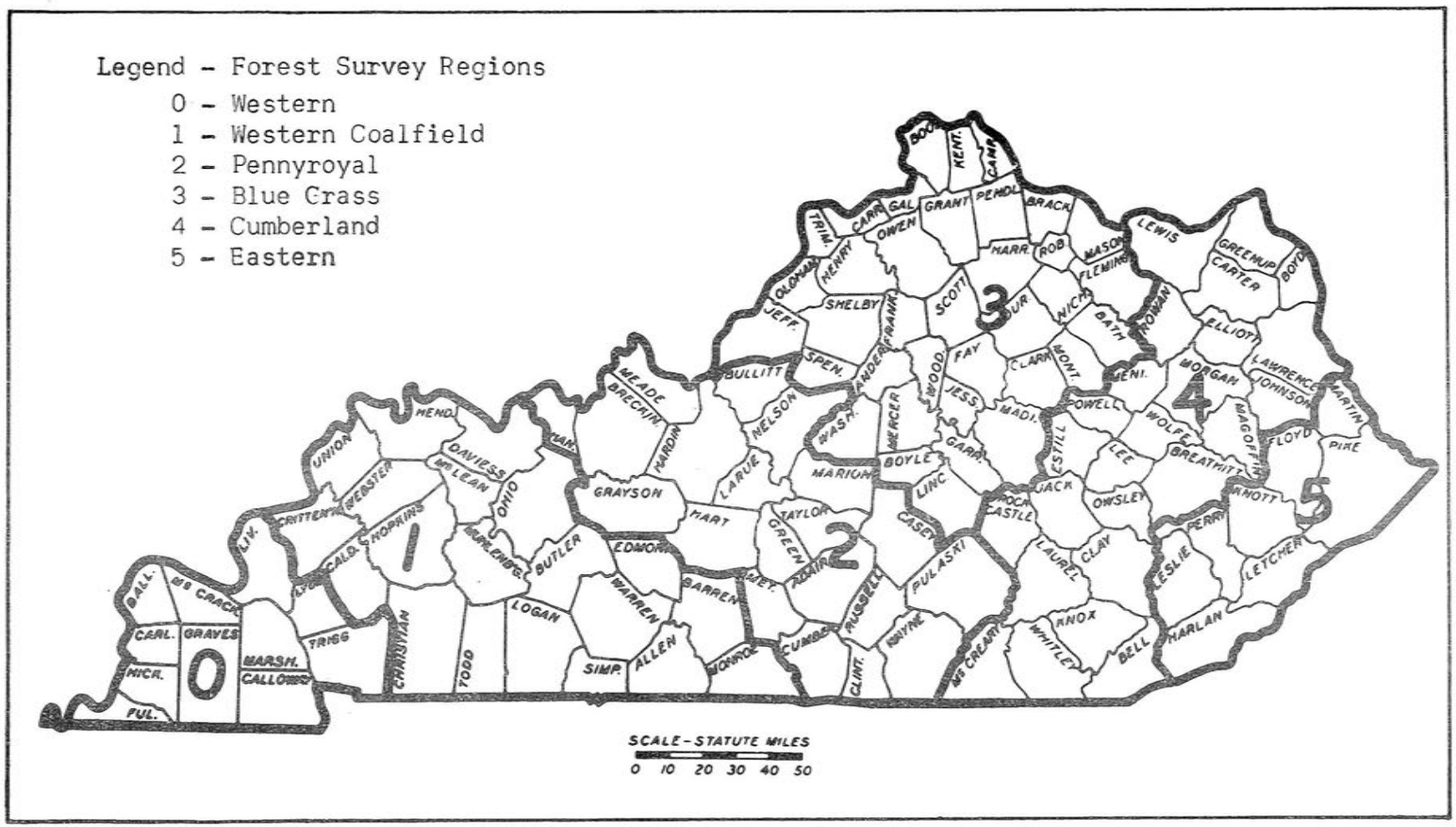

Figure 1.--Forest Survey regions in Kentucky.

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Information on the distribution and concentration of commercial tree species is frequently needed by forest industry operators, Chambers of Commerce, railroads, scientists, and others. To meet this need the 12 species distribution maps in this report were compiled from Forest Survey data for the several regions in Kentucky (fig. 1). The 12 species were selected because of their abundance or their commercial importance. The maps indicate the approximate range and frequency of these species.

Procedure

During the period 1948 to 1951, Forest Survey field men tallied trees by species on 2,584 plots in Kentucky. The approximate location of each plot is shown in figure 2. These plots were randomly selected from a much larger number of plots that had been examined on aerial photographs and classified as forest and, if forest, as saw timber, pole timber, or seedling and sapling. Accordingly, the concentration of plots in figure 2 indicates in a general way the concentration of forest area throughout the State.

On each forest plot, 1/5-acre in area, field men recorded the number of trees by species and 2-inch diameter classes. Sawtimber stands (as photo interpreted) were purposely sampled more heavily than pole-timber stands, and pole-timber stands more heavily than seedling and sapling stands. Also, river bottoms were purposely sampled more heavily than upper slopes. In preparing the following maps only hardwood trees 11.0 or more inches in diameter were considered. Pine trees 9.0 inches and larger and redcedar trees 5.0 inches and larger were also included.

The species distribution maps, figures 3 through 14, show the approximate distribution and concentration of trees of various species. Each dot on these maps indicates one or more trees of a given species (the number is specified on each map). In general, each dot is located in the part of the county in which the tree or trees were found. On some maps the dots are conspicuously clustered. This clustering is, in part, due to the differential sampling referred to above; the number of trees on the less-intensively sampled plots were increased by appropriate conversion factors to compensate for the differential sampling. In attempting to place

the dots as near the point of sampling as possible, clusters were formed. This does not mean that the species distribution is actually as clustered as it looks. It does mean, however, that one or more trees of the species were found at that location.

Results

Figures 3 through 14 show that pine species (shortleaf and Virginia pine) are for the most part confined to the two survey units in the rough to mountainous eastern part of the State. Practically no redcedar was found in this area. With the exception of the Kentucky Blue Grass region in the north central part of the State, the oaks and hickories are well distributed. Black oak appears to be the most abundant species. Ash occurs sparingly throughout the State and its distribution pattern indicates that it is found in river bottoms. Yellow-poplar is most abundant in the eastern and south central part of the State and sweetgum in the western part.

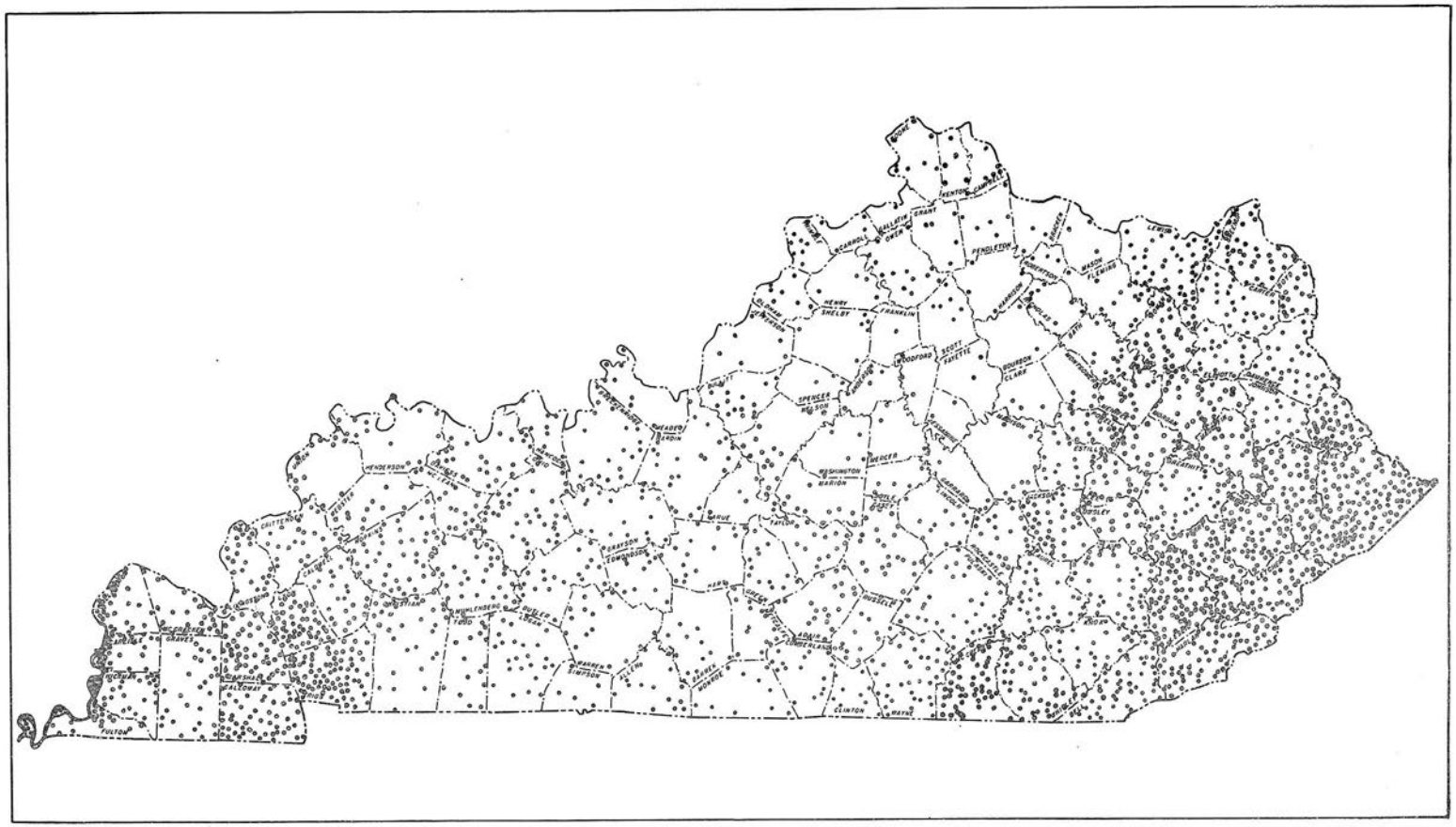

Figure 2.--Sample plot locations in Kentucky.

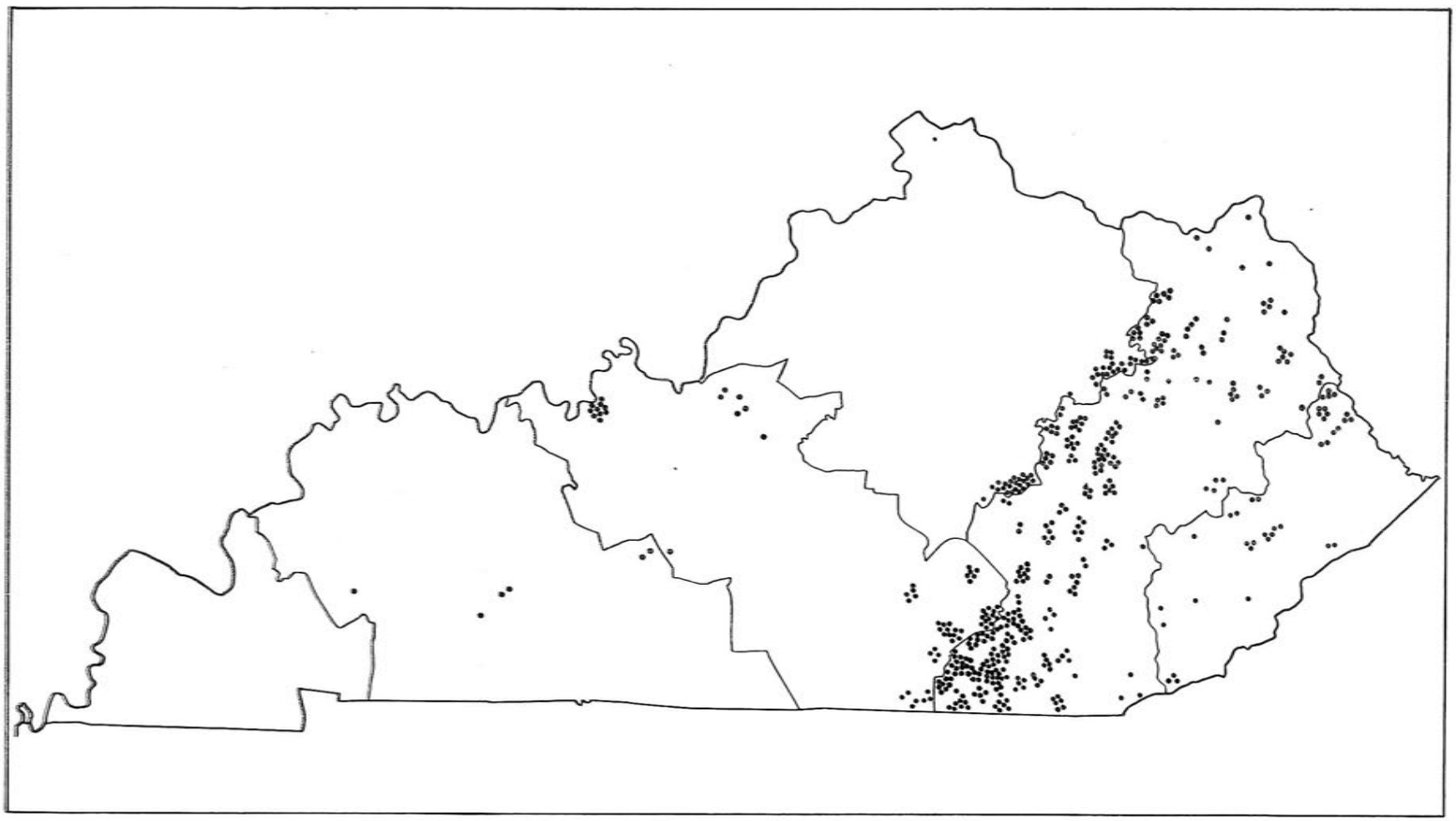

Figure 3.--Distribution of pine in Kentucky. Each dot represents four saw-timber trees measured on Forest Survey plots.

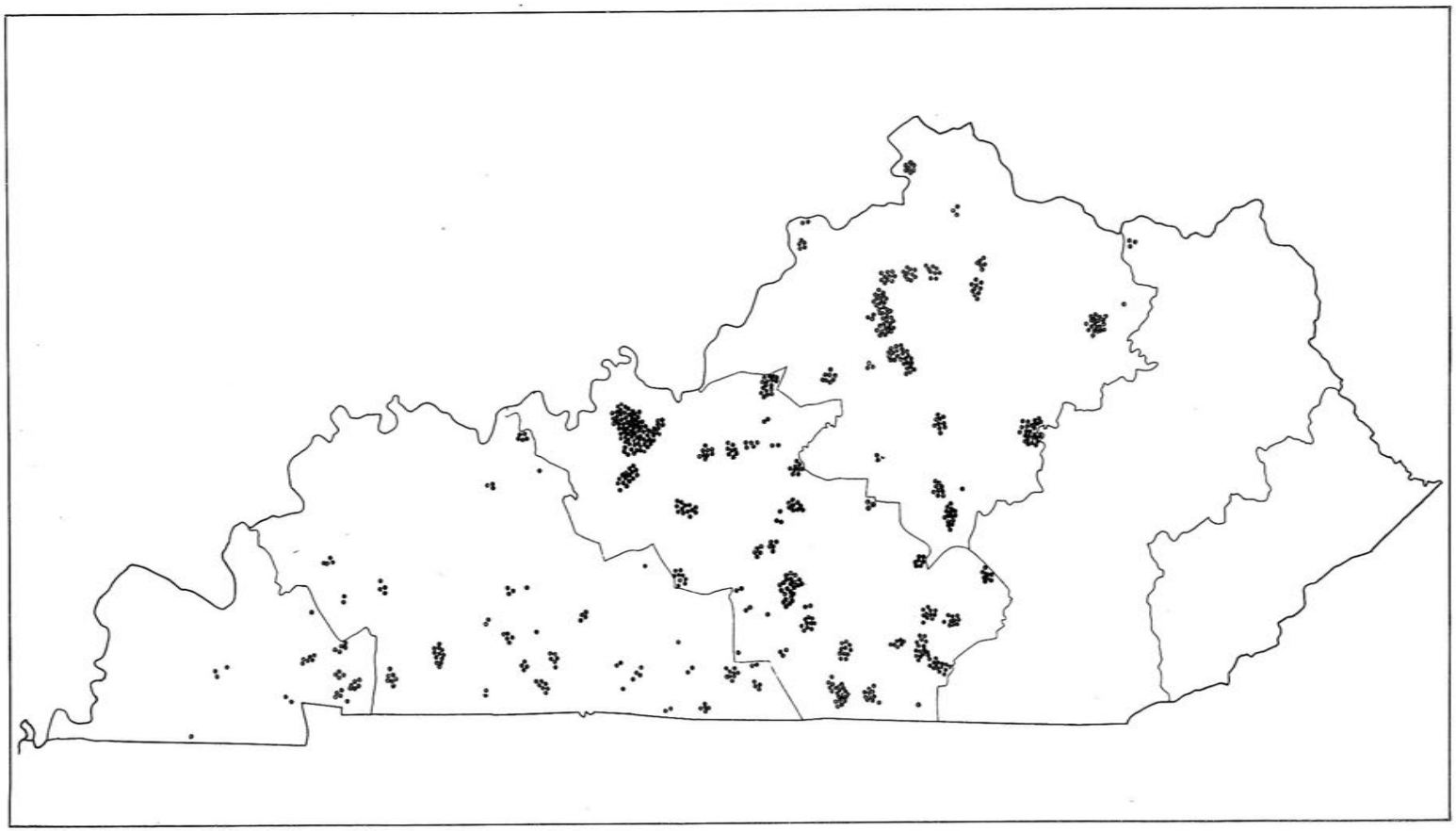

Figure 4.--Distribution of redcedar in Kentucky. Each dot represents three saw-timber or pole-size trees measured on Forest Survey plots.

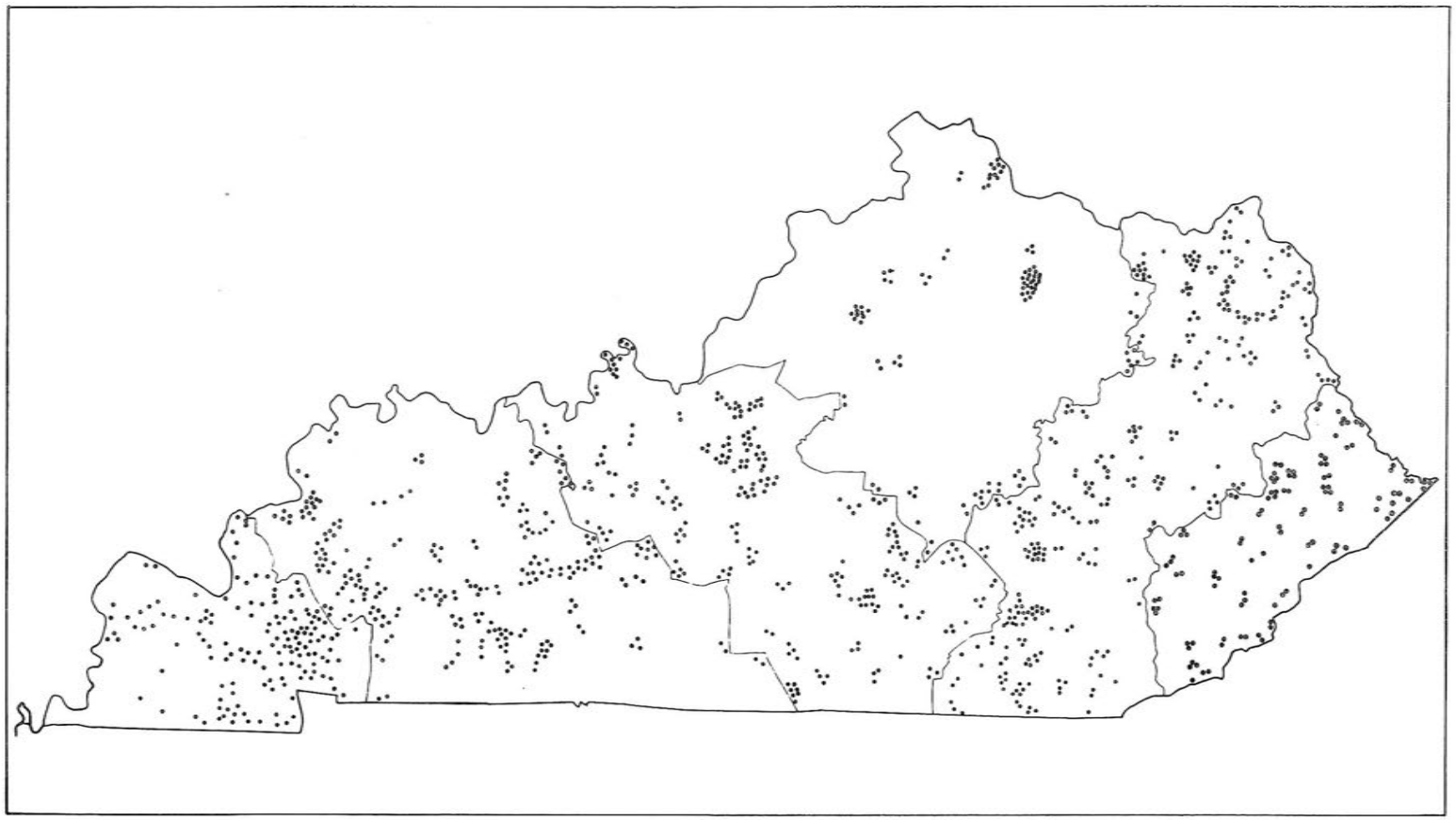

Figure 5.--Distribution of white oak in Kentucky. Each dot represents two saw-timber trees measured on Forest Survey plots.

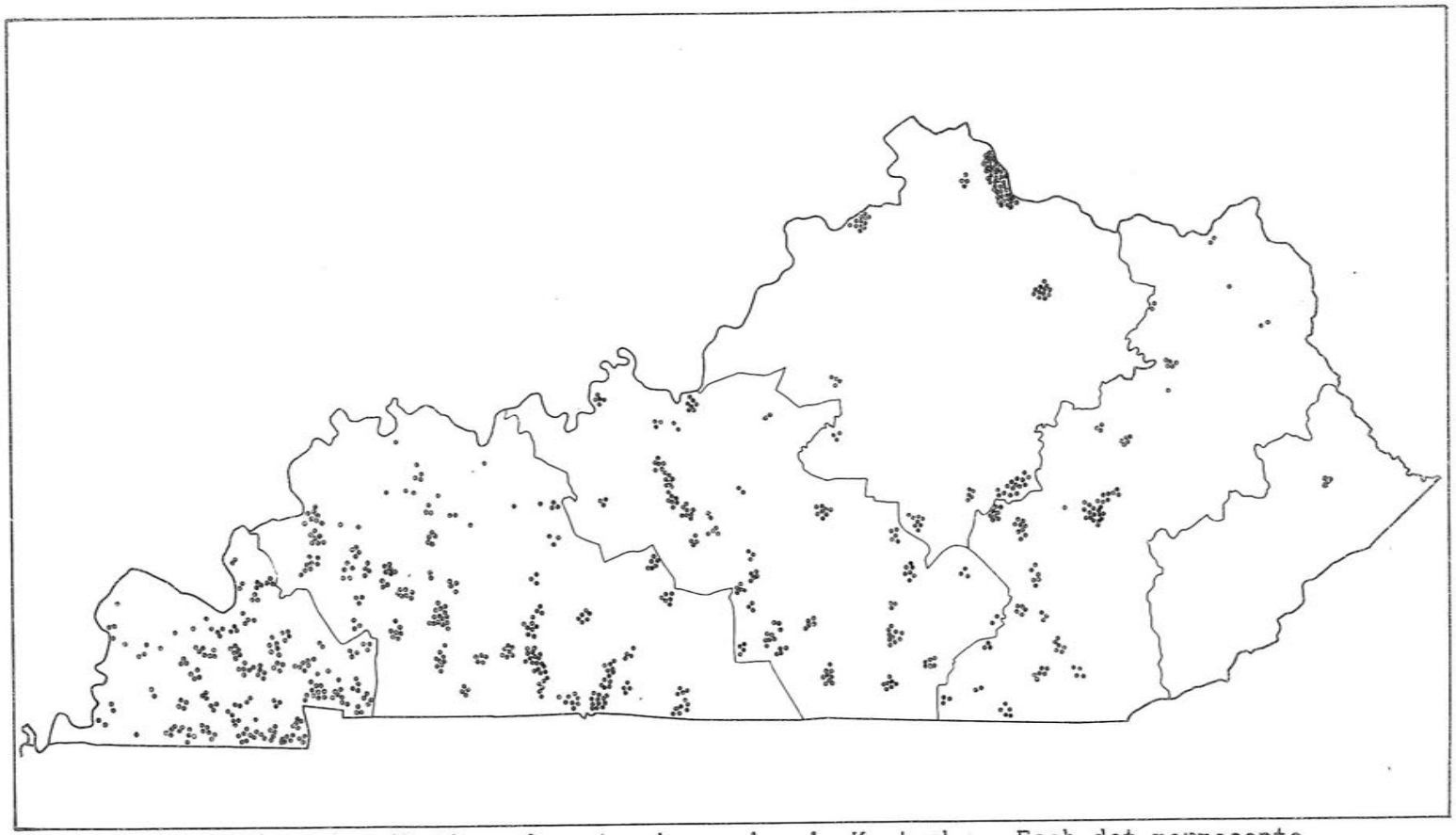

Figure 6.--Distribution of post-oak species in Kentucky. Each dot represents one saw-timber tree measured on Forest Survey plots.

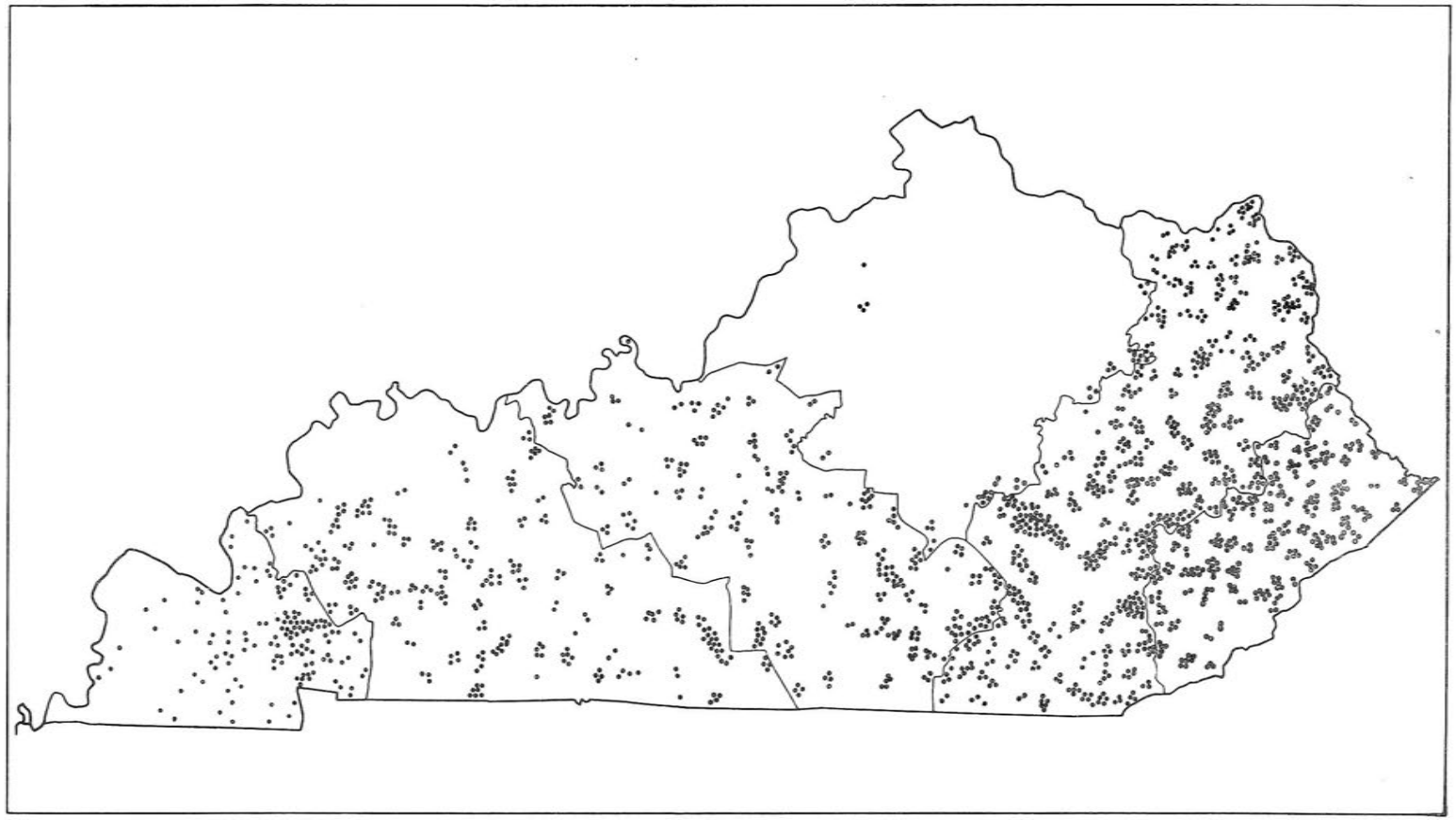

Figure 7.—Distribution of black oak in Kentucky. Each dot represents two saw-timber trees measured on Forest Survey plots.

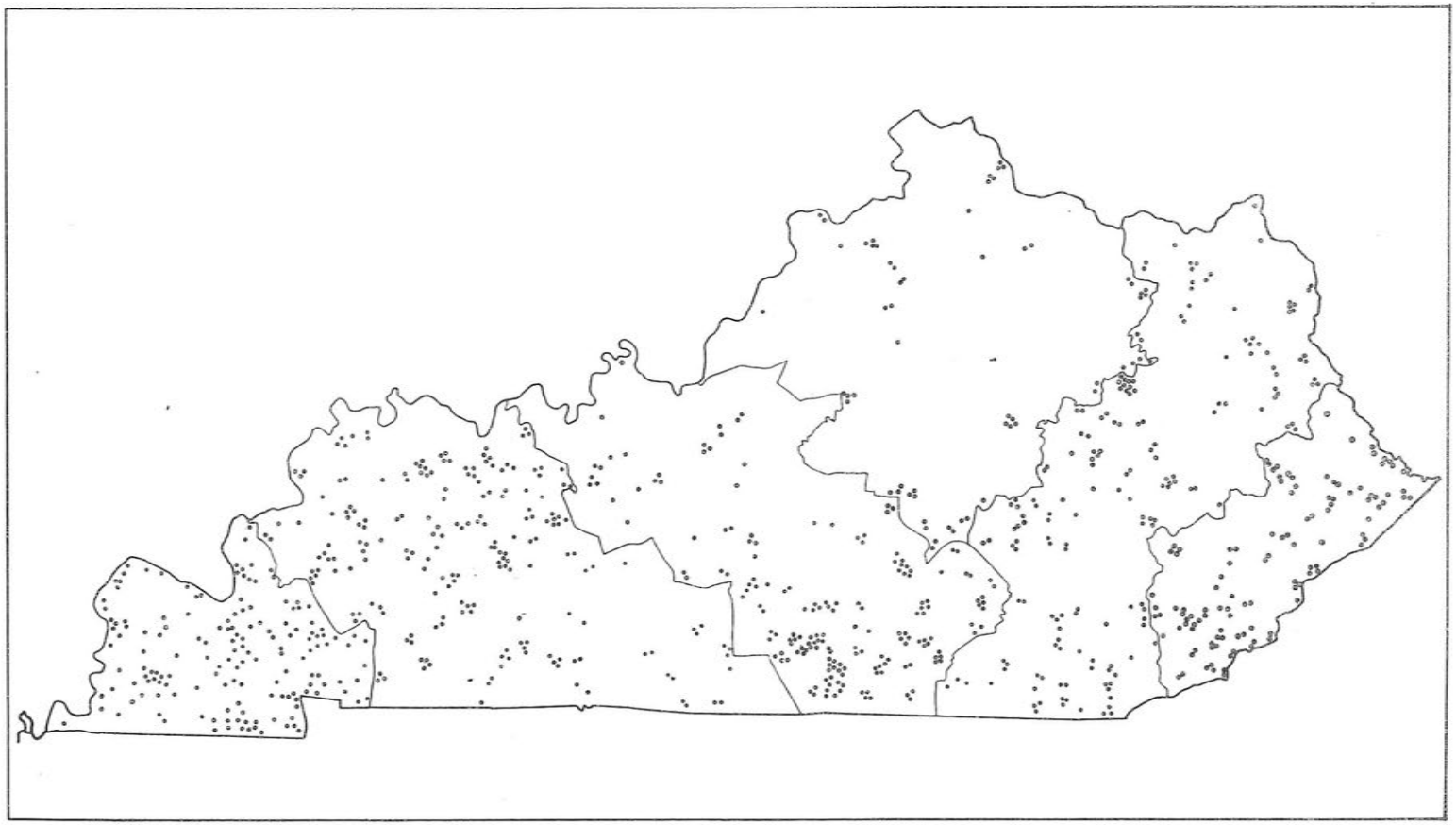

Figure 8.--Distribution of the red oaks in Kentucky. Each dot represents two saw-timber trees measured on Forest Survey plots.

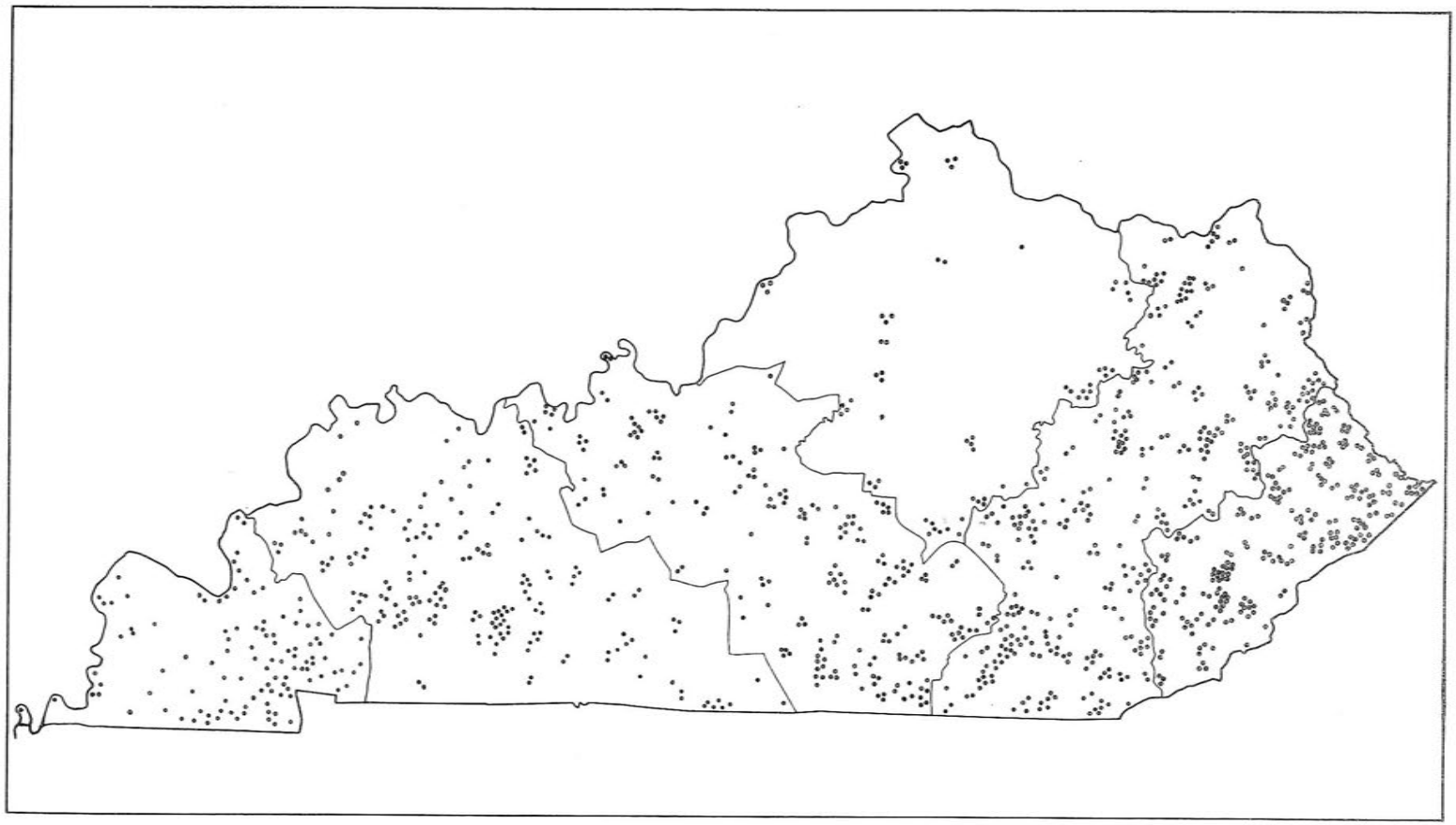

Figure 9.--Distribution of hickory in Kentucky. Each dot represents two saw-timber trees measured on Forest Survey plots.

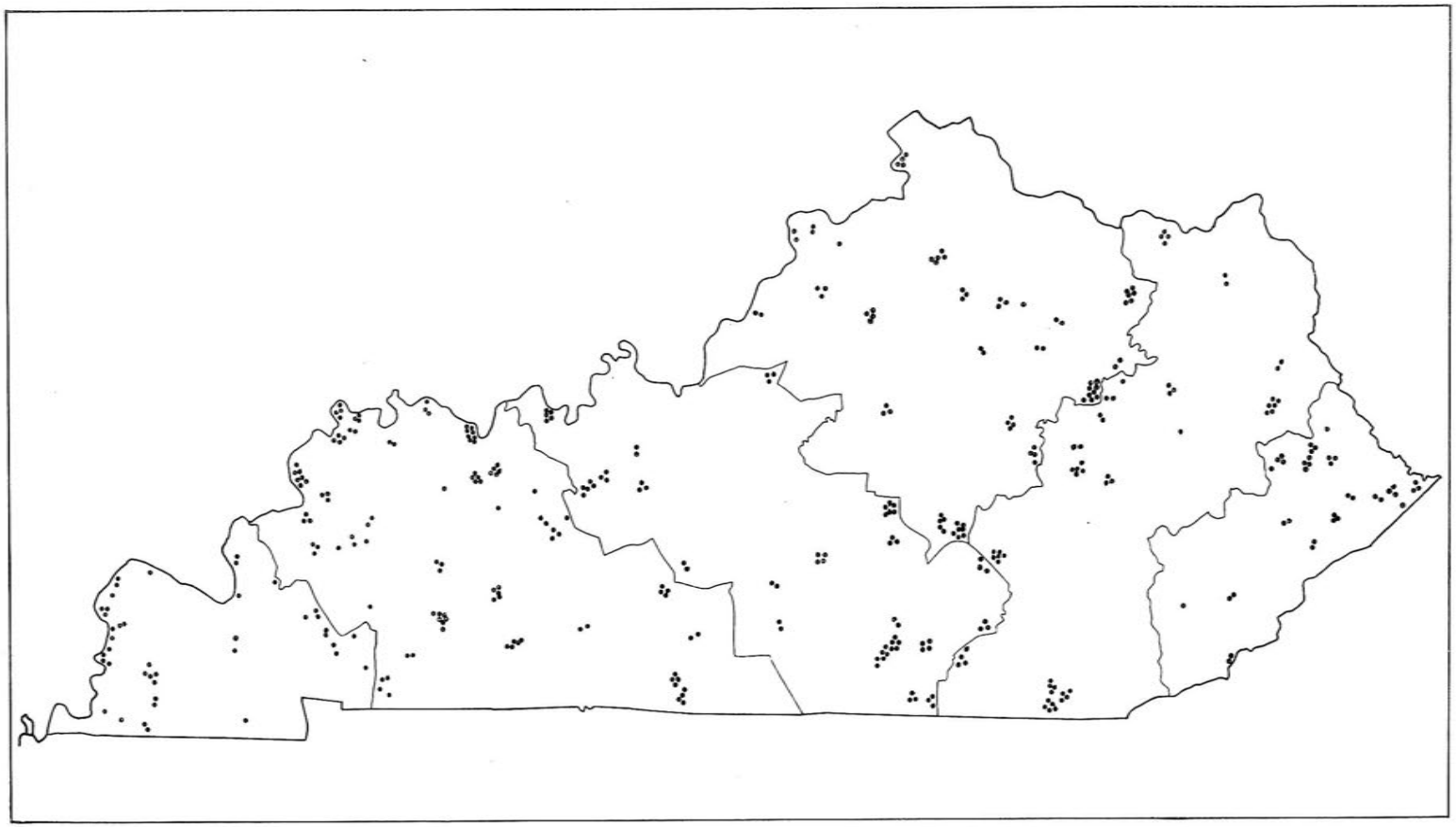

Figure 10.--Distribution of ash in Kentucky. Each dot represents one saw-timber tree measured on Forest Survey plots.

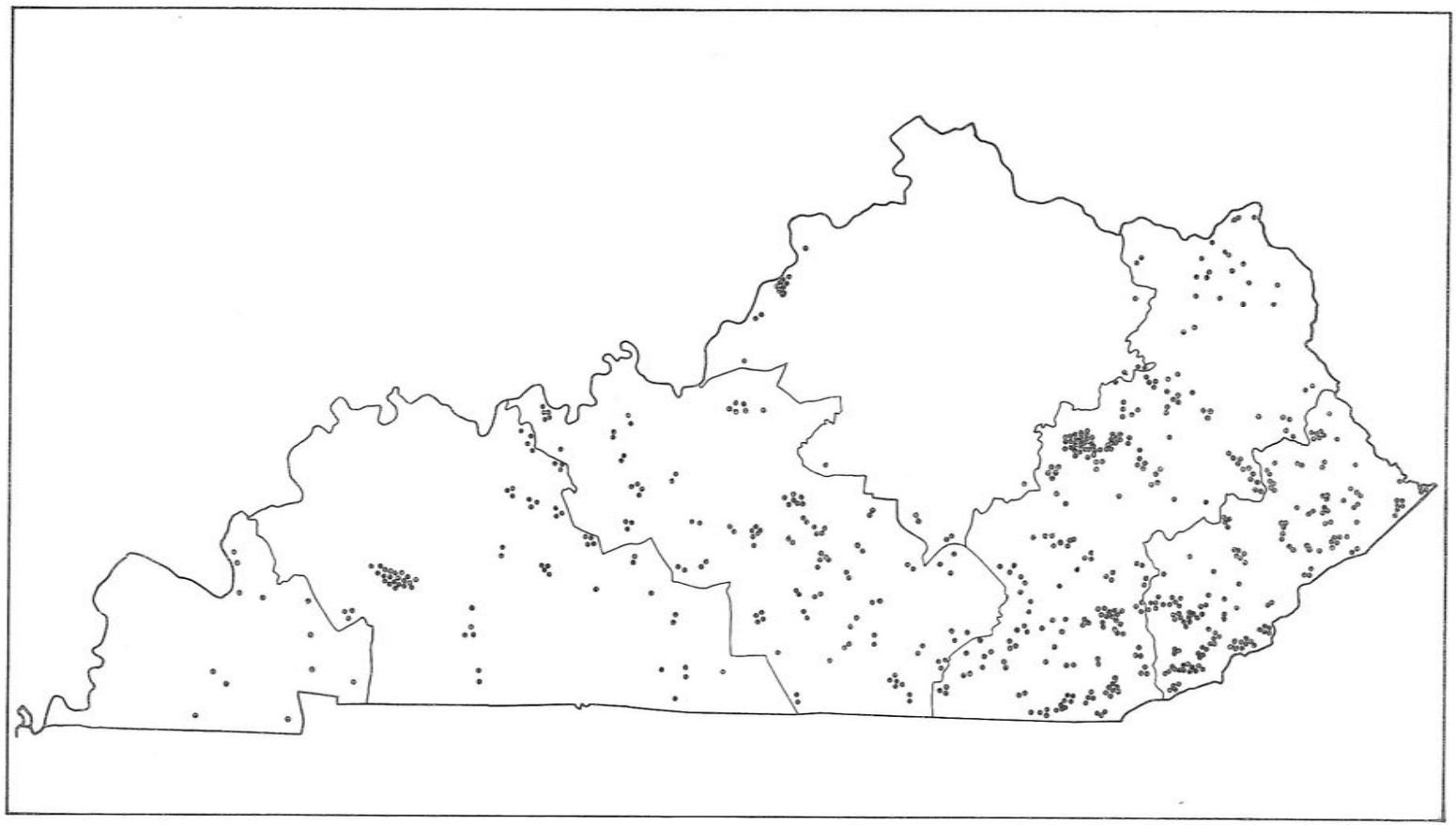

Figure 11.--Distribution of yellow-poplar in Kentucky. Each dot represents two saw-timber trees measured on Forest Survey plots.

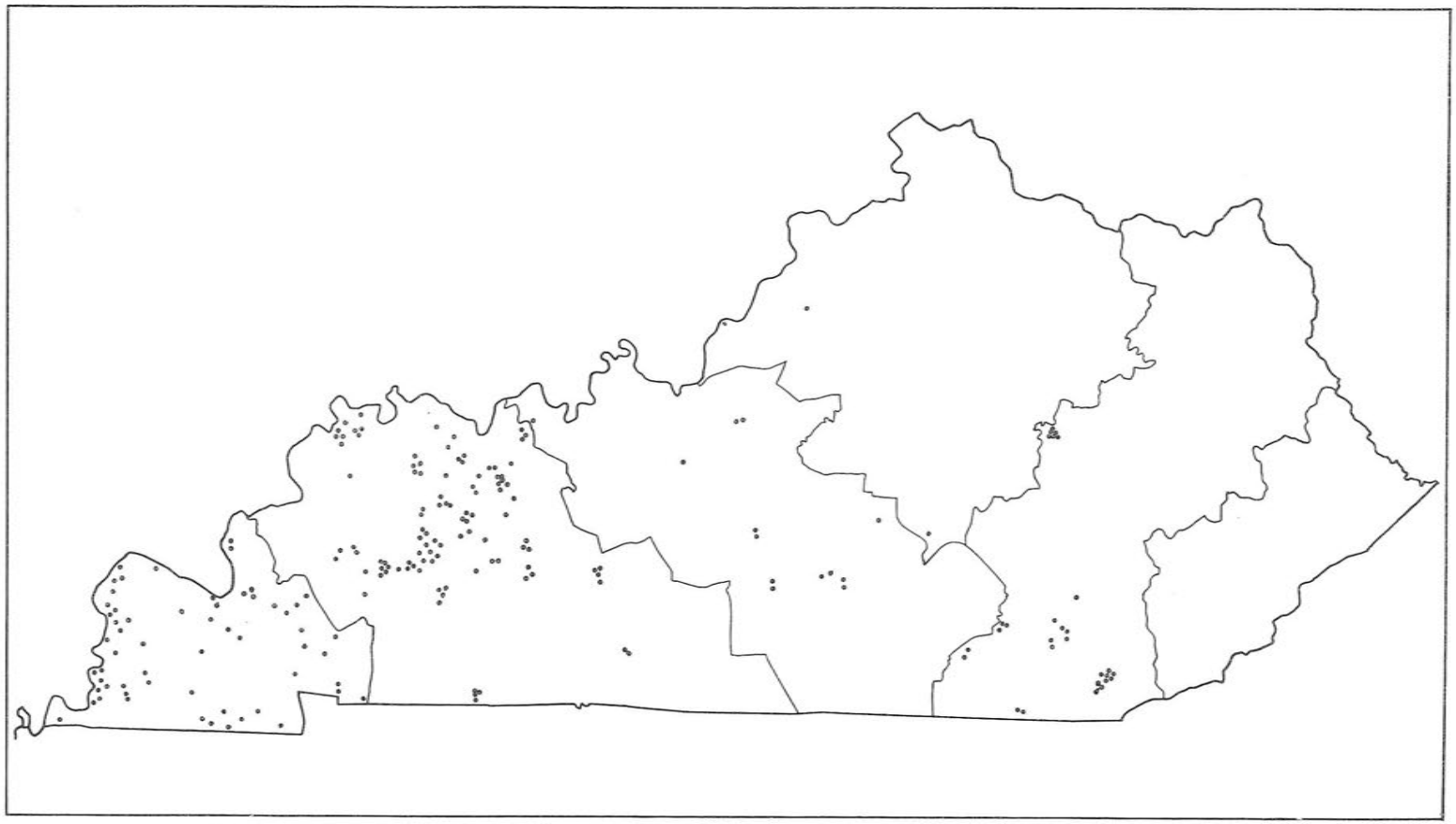

Figure 12.--Distribution of sweetgum in Kentucky. Each dot represents two saw-timber trees measured on Forest Survey plots.

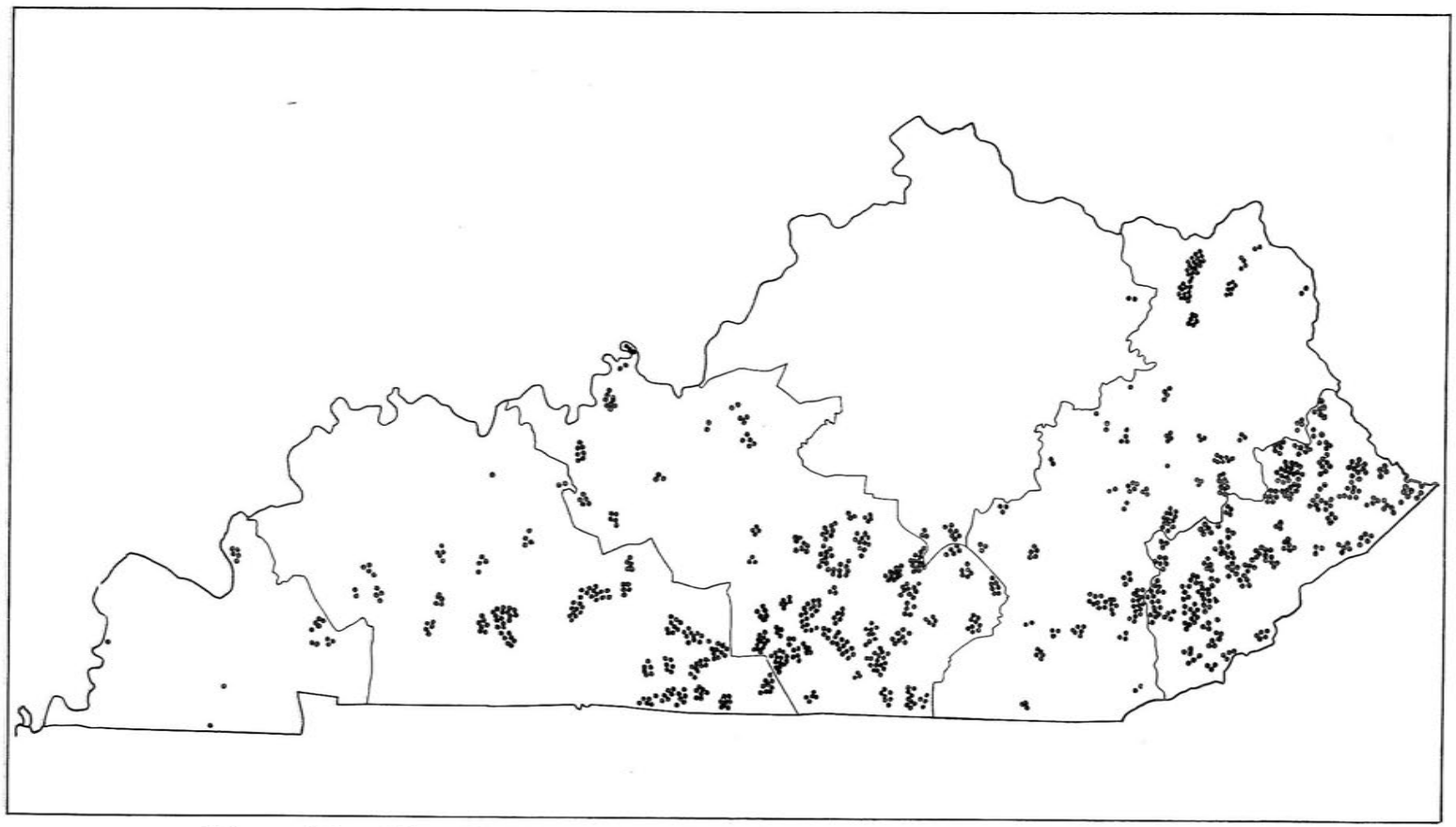

Figure 13.—Distribution of beech in Kentucky. Each dot represents one saw-timber tree measured on Forest Survey plots.

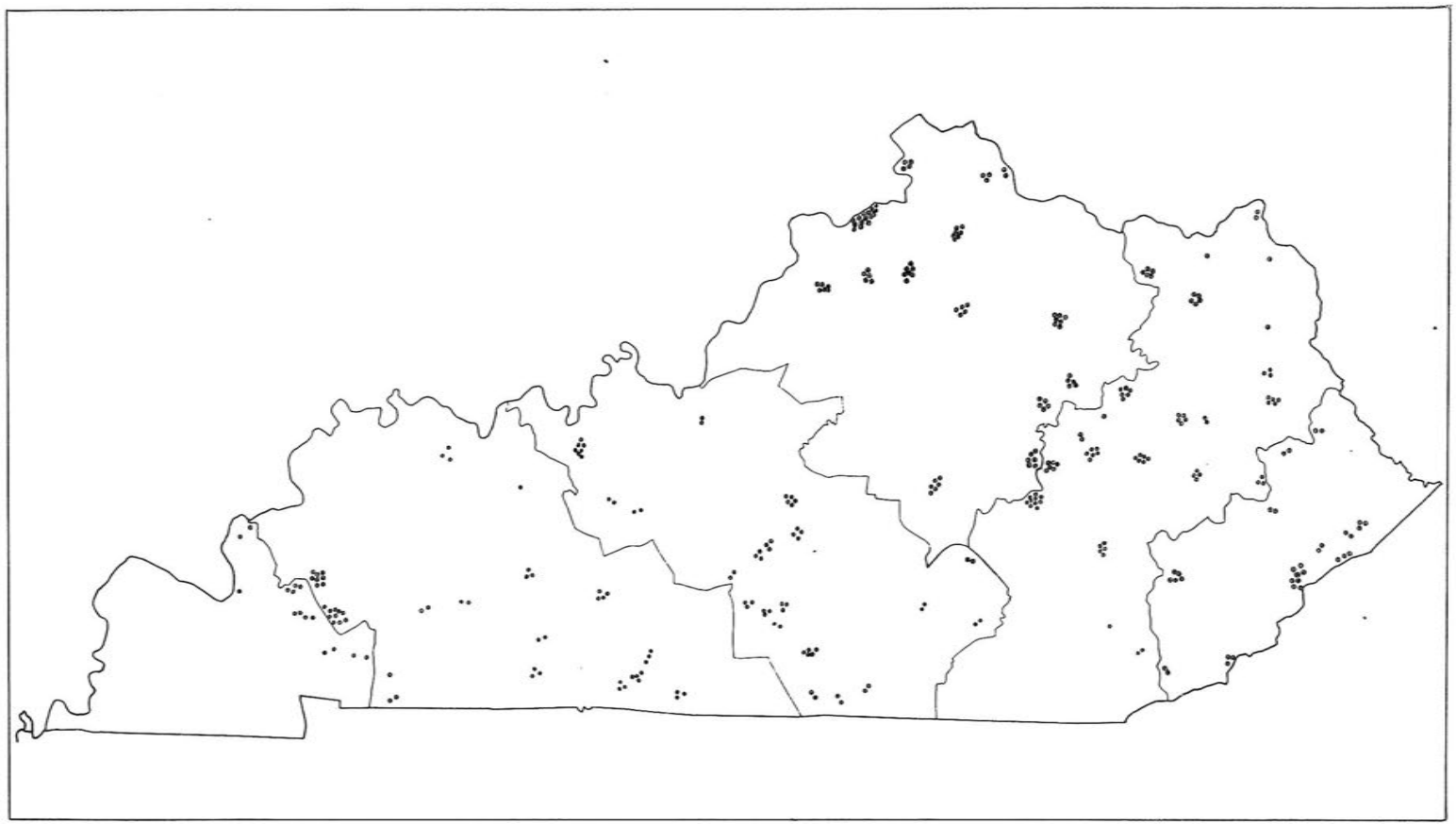

Figure 14.--Distribution of black walnut in Kentucky. Each dot represents one saw-timber tree measured on Forest Survey plots.

Scientific Names of the Tree Species Mapped

Softwoods

Pine includes:	
Virginia pine	- Pinus virginiana
Shortleaf pine	- Pinus echinata
Redcedar	- Juniperus virginiana

Hardwoods

White oak	- Quercus alba
Post-oak group includes:	
Post oak	- Quercus stellata
Swamp white oak	- Quercus bicolor
Swamp chestnut oak	- Quercus prinus
Overcup oak	- Quercus lyrata
Bur oak	- Quercus macrocarpa
Chinquapin oak	- Quercus muehlenbergii
~~Chestnut oak~~	~~- Quercus montana~~
Black oak includes:	
Black oak	- Quercus velutina
Scarlet oak	- Quercus coccinea
Red oak includes:	
Northern red oak	- Quercus borealis
Swamp red oak	- Quercus falcata var. pagodaefolia
Southern red oak	- Quercus falcata
Pin oak	- Quercus palustris
Willow oak	- Quercus phellos
Water oak	- Quercus nigra
Shingle oak	- Quercus imbricaria
Hickory	- Carya species
Ash	- Fraxinus species
Yellow-poplar	- Liriodendron tulipifera
Sweetgum	- Liquidambar styraciflua
Beech	- Fagus grandifolia
Black walnut	- Juglans nigra

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