This report is from
THE FOREST SURVEY
DIVISION OF FOREST ECONOMICS

Robert K. Winters, Division Chief
E. V. Roberts, In Charge, Forest Survey
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.
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13.--Beech 15
14.--Black walnut

Scientific names of the tree species mapped 16
Legend - Forest Survey Regions

0 - Western
1 - Western Coalfield
2 - Pennyroyal
3 - Blue Grass
4 - Cumberland
5 - Eastern

Figure 1.--Forest Survey regions in Kentucky.
DISTRIBUTION OF TREE SPECIES IN KENTUCKY

By

Lake F. Compton

and

Robert K. Winters

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. Saw-timber 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 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
  - Shortleaf pine
  - Redcedar

Hardwoods

White oak
  - Black oak
  - Scarlet oak

Post-oak group includes:
  - Post oak
  - Swamp white oak
  - Swamp chestnut oak
  - Overcup oak
  - Bur oak
  - Chinquapin oak
  - Chestnut oak

Black oak includes:
  - Black oak
  - Scarlet oak

Red oak includes:
  - Northern red oak
  - Swamp red oak
  - Southern red oak
  - Pin oak
  - Willow oak
  - Water oak
  - Shingle oak

Hickory

Ash

Yellow-poplar

Sweetgum

Beech

Black walnut

- Pinus virginiana
- Pinus echinata
- Juniperus virginiana
- Quercus alba
- Quercus stellata
- Quercus bicolor
- Quercus prinus
- Quercus lyrata
- Quercus macrocarpa
- Quercus muehlenbergii
- Quercus montana
- Quercus velutina
- Quercus coccinea
- Quercus borealis
- Quercus falcata
- Quercus falcata var. pagodaefolia
- Quercus falcata
- Quercus palustris
- Quercus phellos
- Quercus nigra
- Quercus imbricaria
- Carya species
- Fraxinus species
- Liriodendron tulipifera
- Liquidambar styraciflua
- Fagus grandifolia
- Juglans nigra
TERRITORY SERVED BY THE CENTRAL STATES FOREST EXPERIMENT STATION
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U. S. DEPARTMENT OF AGRICULTURE

★ C. S. F. E. S. HEADQUARTERS
○ RESEARCH CENTERS
△ EXPERIMENTAL FORESTS