

FOREST AREA IN KANSAS, 1981

Ronald L. Hackett
Associate Mensurationist

NORTH CENTRAL FOREST EXPERIMENT STATION
Forest Service - US Dept. of Agriculture
1992 Folwell Avenue
St. Paul, Minnesota 55108

ABSTRACT.—The 1981 forest inventory of Kansas showed that 2.6 percent of the total land area is forested. Commercial forest land accounted for 89 percent or 1,207,900 acres of the forest land and oak-hickory is the major forest type. An important Kansas resource are the 150,000 acres of natural wooded strips.

KEY WORDS: Commercial forest land, noncommercial forest land, wooded strips, land use, forest type.

The forest land of Kansas occupies 1.4 million acres, about 2.6 percent of the total land area (table 1). Forest land can be broken down into two elements: commercial and noncommercial forest land. Commercial forest land—that suitable for producing industrial timber—accounts for 1,207,900 acres (89 percent) of the forest land in Kansas. This is an increase of 16,400 acres (1.4 percent) since the last inventory.

LAND USE	1965 ¹	1981
	(Thousand acres)	
Forest		
Commercial	1,191.5	1,207.9
Noncommercial		
Unproductive	157.4	128.4
Productive-reserved	0.9	22.4
Total forest	1,349.8	1,358.7
Nonforest	51,160.9	50,979.3
Total land	² 52,510.7	³ 52,338.0

Noncommercial forest land in Kansas amounted to 150,800 acres in 1981. Of this amount, 22,400 acres were productive but reserved for uses other

than timber production such as parks and natural areas. The remaining 128,400 acres are unproductive forest land too poor to grow timber for industrial use.

Most of the commercial forest land occurs in the eastern part of the State along the Missouri River and several other rivers (fig. 1). Linn County, located in the Southeastern Unit of the State, contains 48,700 acres of commercial forest land—more than any other county in the State (table 1). And Leavenworth County in the Northeastern Unit has the largest percentage of commercial forest with 14.6 percent.

Oak-hickory makes up 26.2 percent of the commercial forest area and is the largest forest type, elm-ash-cottonwood accounts for 24.0 percent of the commercial forest area and is the second largest forest type, willow makes up 0.3 percent of the commercial forest area and is the smallest forest type:

	Area of commercial forest land (Thousand acres)
Forest type	
Oak-hickory	316.6
Elm-ash-cottonwood ⁴	289.6
Lowland plains hardwoods	265.9
Elm-ash-locust	110.3
Cottonwood ⁵	68.1
Upland plains hardwoods	49.4
Post-blackjack oak	30.9
Eastern redcedar-hardwoods	27.5
Willow	4.2
Nonstocked	45.4
Total	1,207.9

¹1965 data have been adjusted to be compatible with 1981 data due to changes in definitions between surveys.

²From U.S. Bureau of Census. 1960.

³From U.S. Bureau of Census. 1980.

⁴Elm-ash-cottonwood type is a lowland forest in which elm, ash, cottonwood, and willow, singly or in combination, comprise a plurality of the stocking.

⁵Cottonwood type is forest in which cottonwood comprises a majority of the stocking.

Table 1.—Area of land, forest land, and nonforest land with trees by county, Kansas, 1981

NORTHEASTERN UNIT									
County	Land area ¹	Forest land ²				Nonforest land with trees ⁵			
		All forest	Non-commercial ³	Commercial ⁴		All	Wooded strips ⁶	Other	
		-----Thousand acres-----			Percent	-----Thousand acres-----			Percent
Atchison	275.7	24.8	1.0	23.8	8.6	8.3	1.8	6.5	3.0
Brown	365.8	19.7	1.0	18.7	5.1	9.5	1.3	8.2	2.6
Clay	404.2	16.0	0.7	15.3	3.8	5.0	0.9	4.1	1.2
Dickinson	545.4	14.0	0.5	13.5	2.5	7.0	1.2	5.8	1.3
Doniphan	248.0	29.9	1.2	28.7	11.6	12.9	1.9	11.0	5.2
Douglas	294.9	30.0	1.9	28.1	9.5	20.5	2.5	18.0	7.0
Franklin	369.4	27.3	1.6	25.7	7.0	14.6	2.5	12.1	4.0
Geary	241.2	21.1	2.5	18.6	7.7	9.5	1.5	8.0	3.9
Jackson	420.9	33.5	1.1	32.4	7.7	24.2	6.4	17.8	5.7
Jefferson	342.6	43.5	2.5	41.0	12.0	22.6	3.0	19.6	6.6
Johnson	305.9	27.4	1.4	26.0	8.5	13.7	2.1	11.6	4.5
Leavenworth	296.0	45.8	2.5	43.3	14.6	23.2	5.9	17.3	7.8
Marshall	561.7	31.5	1.8	29.7	5.3	30.4	4.0	26.4	5.4
Miami	377.5	47.9	1.6	46.3	12.3	23.0	5.2	17.8	6.1
Nemaha	459.9	16.9	0.6	16.3	3.5	7.3	1.8	5.5	1.6
Osage	444.7	34.4	3.2	31.2	7.0	21.1	3.4	17.7	4.7
Pottawatomie	529.8	44.4	3.5	40.9	7.7	20.4	3.7	16.7	3.9
Riley	379.6	35.0	2.8	32.2	8.5	20.1	2.2	17.9	5.3
Shawnee	351.2	26.9	1.3	25.6	7.3	14.8	2.2	12.6	4.2
Wabaunsee	510.1	31.8	2.5	29.3	5.7	15.7	3.2	12.5	3.1
Washington	575.0	14.8	0.5	14.3	2.5	18.4	5.4	13.0	3.2
Wyandotte	95.4	7.6	0.4	7.2	7.5	1.8	0.5	1.3	1.9
All counties	8,394.9	624.2	36.1	588.1	7.0	344.0	62.6	281.4	4.1
SOUTHEASTERN UNIT									
Allen	323.3	11.4	1.4	10.0	3.1	17.3	2.2	15.1	5.4
Anderson	373.5	19.5	3.9	15.6	4.2	18.9	2.1	16.8	5.1
Bourbon	408.4	43.4	8.3	35.1	8.6	48.1	2.0	46.1	11.8
Butler	923.7	24.1	2.9	21.2	2.3	36.4	6.5	29.9	3.9
Chase	497.2	10.5	0.6	9.9	2.0	14.4	2.1	12.3	2.9
Chautauqua	412.0	67.8	19.3	48.5	11.8	29.3	3.0	26.3	7.1
Cherokee	377.9	27.0	5.0	22.0	5.8	27.1	2.8	24.3	7.2
Coffey	393.6	12.5	2.5	10.0	2.5	13.8	0.9	12.9	3.5
Cowley	721.7	28.1	2.8	25.3	3.5	14.4	2.9	11.5	2.0
Crawford	380.7	24.2	2.4	21.8	5.7	27.2	3.3	23.9	7.1
Elk	416.0	37.4	9.7	27.7	6.7	16.7	1.5	15.2	4.0
Greenwood	726.2	29.0	3.8	25.2	3.5	34.5	5.1	29.4	4.8
Labette	417.8	20.2	4.2	16.0	3.8	18.2	1.0	17.2	4.4
Linn	384.5	56.6	7.9	48.7	12.7	24.9	3.2	21.7	6.5
Lyon	540.5	12.4	1.2	11.2	2.1	11.5	2.4	9.1	2.1
Marion	604.2	9.3	1.9	7.4	1.2	6.6	0.8	5.8	1.1
Montgomery	413.3	29.4	6.5	22.9	5.5	19.7	2.2	17.5	4.8
Morris	443.3	7.8	0.9	6.9	1.6	6.8	1.4	5.4	1.5
Neosho	368.7	17.1	3.3	13.8	3.7	16.2	1.1	15.1	4.4
Wilson	368.0	32.8	7.6	25.2	6.8	40.8	2.3	38.5	11.1
Woodson	318.8	15.8	3.2	12.6	4.0	15.2	1.5	13.7	4.8
All counties	9,813.3	536.3	99.3	437.0	4.5	458.0	50.3	407.7	4.7
WESTERN UNIT									
Barber	727.2	6.9	0.3	6.6	0.9	17.5	2.2	15.3	2.4
Barton	573.1	1.1	—	1.1	0.2	0.5	0.1	0.4	0.1
Cheyenne	653.4	2.7	—	2.7	0.4	6.2	1.7	4.5	0.9
Clark	624.0	5.1	0.4	4.7	0.8	8.3	0.6	7.7	1.3
Cloud	459.3	8.7	0.1	8.6	1.9	5.5	0.1	5.4	1.2
Comanche	504.8	1.2	0.2	1.0	0.2	5.8	0.4	5.4	1.1
Decatur	572.0	2.3	—	2.3	0.4	2.1	0.8	1.3	0.4
Edwards	396.5	1.7	—	1.7	0.4	1.3	0.2	1.1	0.3
Ellis	576.3	2.7	—	2.7	0.5	4.0	0.3	3.7	0.7
Ellsworth	458.9	3.1	—	3.1	0.7	3.0	0.6	2.4	0.7
Finney	833.3	0.4	—	0.4	—	0.4	0.1	0.3	—
Ford	703.2	0.9	0.2	0.7	0.1	5.7	0.4	5.3	0.8
Gove	686.0	0.1	—	0.1	—	1.8	—	1.8	0.3
Graham	575.0	4.9	0.2	4.7	0.8	7.4	1.0	6.4	1.3
Grant	368.1	0.3	0.2	0.1	—	2.9	0.1	2.8	0.8

(table 1 continued on next page)

(table 1 continued)

WESTERN UNIT

County	Land area ¹	Forest land ²				Nonforest land with trees ⁵			
		All forest	Non-commercial ³	Commercial ⁴	Percent	All	Wooded strips ⁶	Other	Percent
		-----Thousand acres-----				-----Thousand acres-----			
Gray	555.2	2.3	—	2.3	0.4	0.5	0.1	0.4	0.1
Greeley	498.2	0.1	—	0.1	—	0.3	—	0.3	0.1
Hamilton	638.4	3.5	0.2	3.3	0.5	3.0	0.4	2.6	0.5
Harper	513.3	5.1	0.4	4.7	0.9	17.7	1.4	16.3	3.4
Harvey	345.9	1.9	0.2	1.7	0.5	6.8	0.7	6.1	2.0
Haskell	369.7	—	—	—	—	—	—	—	—
Hodgeman	550.7	—	—	—	—	0.1	—	0.1	—
Jewell	582.2	11.1	1.3	9.8	1.7	12.1	1.5	10.6	2.1
Kearny	555.3	0.7	0.2	0.5	0.1	0.3	—	0.3	0.1
Kingman	553.9	8.0	1.0	7.0	1.3	21.6	1.6	20.0	3.9
Kiowa	462.6	0.7	0.1	0.6	0.1	2.5	1.2	1.3	0.5
Lane	459.1	0.1	—	0.1	—	—	—	—	—
Lincoln	460.6	3.3	0.2	3.1	0.7	8.1	0.9	7.2	1.8
Logan	686.9	1.0	—	1.0	0.1	0.4	0.1	0.3	0.1
McPherson	576.1	4.0	0.2	3.8	0.7	6.0	0.7	5.3	1.0
Meade	626.3	2.1	0.2	1.9	0.3	1.6	0.1	1.5	0.3
Mitchell	459.1	8.4	1.4	7.0	1.5	24.8	1.5	23.3	5.4
Morton	467.9	2.6	0.2	2.4	0.5	1.6	0.4	1.2	0.3
Ness	687.7	0.4	—	0.4	0.1	0.1	—	0.1	—
Norton	558.6	3.3	0.3	3.0	0.5	5.7	0.7	5.0	1.0
Osborne	564.4	6.5	0.2	6.3	1.1	6.1	0.7	5.4	1.1
Ottawa	461.3	7.3	0.6	6.7	1.5	9.0	0.3	8.7	2.0
Pawnee	483.1	2.3	0.4	1.9	0.4	8.5	1.6	6.9	1.8
Phillips	567.5	7.4	1.4	6.0	1.1	22.4	1.7	20.7	3.9
Pratt	470.5	1.6	—	1.6	0.3	0.6	0.1	0.5	0.1
Rawlins	684.4	2.2	0.2	2.0	0.3	1.8	0.4	1.4	0.3
Reno	805.6	7.3	1.0	6.3	0.8	23.9	0.9	23.0	3.0
Republic	459.9	8.7	0.5	8.2	1.8	10.8	0.9	9.9	2.3
Rice	465.9	1.8	0.2	1.6	0.3	3.4	0.2	3.2	0.7
Rooks	568.7	6.9	0.5	6.4	1.1	16.3	1.4	14.9	2.9
Rush	459.5	0.1	—	0.1	—	0.2	0.1	0.1	—
Russell	556.4	4.6	0.1	4.5	0.8	1.5	0.2	1.3	0.3
Saline	461.6	3.4	0.3	3.1	0.7	9.0	0.4	8.6	1.9
Scott	459.2	0.1	—	0.1	—	—	—	—	—
Sedgewick	644.7	8.0	1.2	6.8	1.1	19.1	0.7	18.4	3.0
Seward	409.7	2.1	0.1	2.0	0.5	3.1	0.6	2.5	0.8
Sheridan	573.5	1.2	—	1.2	0.2	0.6	0.1	0.5	0.1
Sherman	676.4	—	—	—	—	—	—	—	—
Smith	574.0	3.6	—	3.6	0.6	5.7	3.9	1.8	1.0
Stafford	504.0	3.7	0.2	3.5	0.7	10.1	0.4	9.7	2.0
Stanton	435.6	—	—	—	—	0.9	—	0.9	0.2
Stevens	465.6	0.6	—	0.6	0.1	0.4	0.1	0.3	0.1
Sumner	757.4	15.7	0.5	15.2	2.0	39.6	2.1	37.5	5.2
Thomas	687.7	0.3	—	0.3	—	0.2	—	0.2	—
Trego	569.8	1.8	0.3	1.5	0.3	5.9	0.3	5.6	1.0
Wallace	584.7	0.3	0.2	0.1	—	2.6	0.1	2.5	0.4
Wichita	459.9	—	—	—	—	—	—	—	—
All counties	34,129.8	198.2	15.4	182.8	0.5	387.3	37.1	350.2	1.1
All units	52,338.0	1,358.7	150.8	1,207.9	2.3	1,189.3	150.0	1,039.3	2.3

¹U.S. Bureau of Census. 1980.²Land at least 16.7 percent stocked by forest trees of any size or land formerly having such tree cover, excludes land currently developed for nonforest use such as urban or heavily settled residential or resort area, city parks, orchards, improved roads, or improved pasture. The minimum forest area classified was 1 acre. Roadside, streamside, and shelterbelt strips of timber with a crown at least 120 feet wide and unimproved roads and trails, streams, and clearings in forested areas if less than 120 feet wide were classified as forest.³Unproductive forest land incapable of yielding crops of industrial wood because of adverse site conditions, and productive public forest land withdrawn from commercial timber production through statute or administrative regulation.⁴Forest land producing or capable of producing crops of industrial wood and not withdrawn from timber utilization by statute or administrative regulation.⁵Area of land with trees but less than 16.7 percent stocked, and/or area less than 120 feet wide, i.e., cropland with scattered trees, improved pasture with scattered trees, wooded strips, windbreaks, and idle farmland with scattered trees.⁶An acre or more of continuous forest land that would otherwise meet the standards for commercial forest land except that it is less than 120 feet wide.

KANSAS

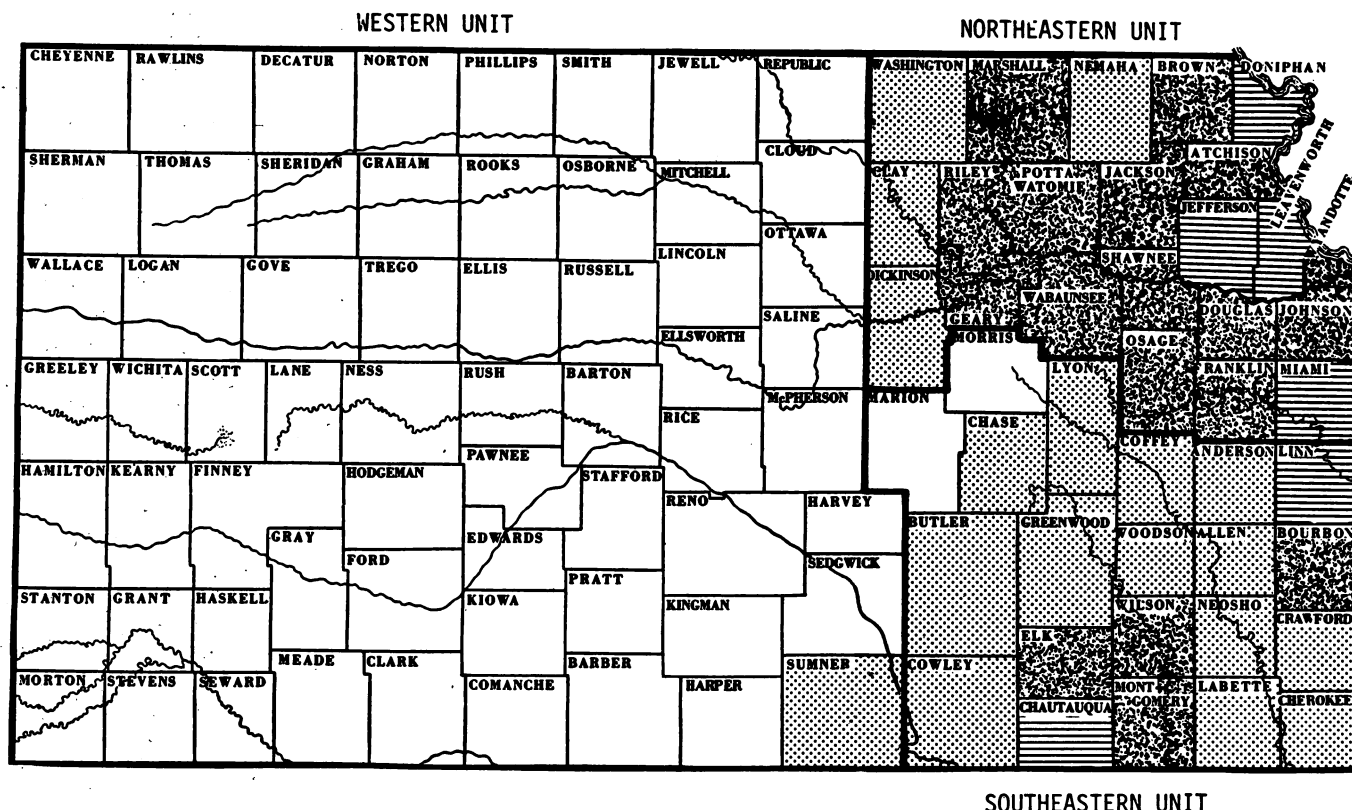


Figure 1.—Percent of commercial forest land by county, Kansas, 1981.

An important Kansas resource not included in the forest land area is the nonforest with trees category, and particularly the 150,000 acres of natural wooded strips. These areas meet all the requirements for commercial forest land except they are less than 120 feet wide:

Nonforest with trees land class	Area of nonforest with trees (Thousand acres)
Improved pasture or rangeland with scattered trees ⁶	533.6
Wooded pasture ⁷	209.8
Windbreaks ⁸	186.3
Natural wooded strips	150.0
Cropland with scattered trees	63.0
Idle farmland with scattered trees	23.9
Marshland with scattered trees	22.7
Total	1,189.3

The information in this note comes from the third Kansas forest inventory made during 1980 and 1981 by the North Central Forest Experiment Station and the Kansas State and Extension Forester's office.

Sampling error for this survey was 2.45 percent for the area of commercial forest land.

⁶Improved pasture or rangeland with trees—land currently improved for grazing by cultivating, seeding, irrigating, or clearing of trees or brush, that is less than 16.7 percent stocked with all trees.

⁷Wooded pasture—pasture land with more than 16.7 percent stocking in all trees, but less than 25 percent stocking in growing-stock trees, and would qualify as pastured commercial forest land except that the primary land use is grazing. Evidence of grazing is severely compacted soil and heavily browsed herbaceous and woody understory.

⁸Windbreaks—a group of trees less than 120 feet wide primarily used for protecting buildings, soil, and cropland.