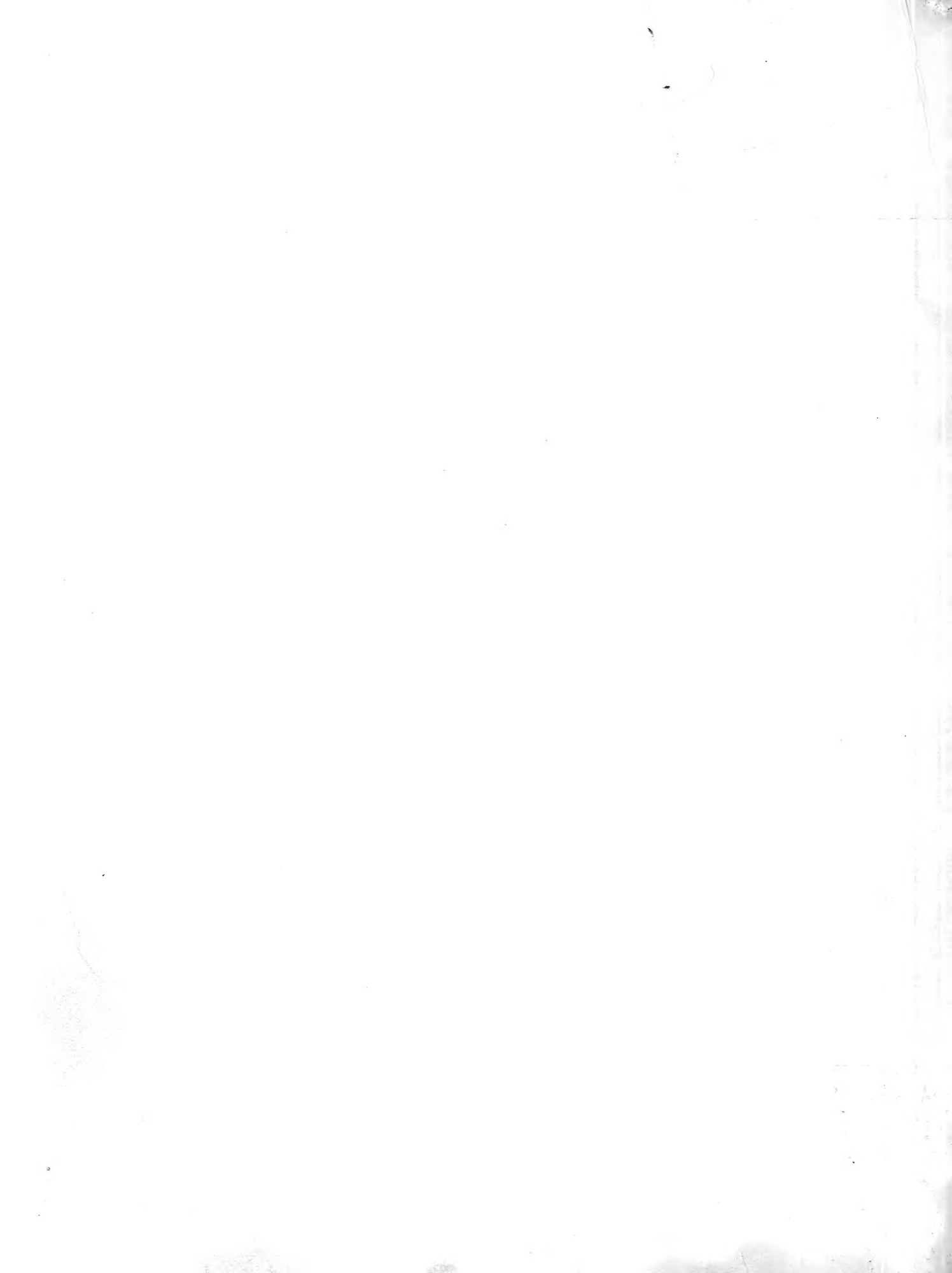
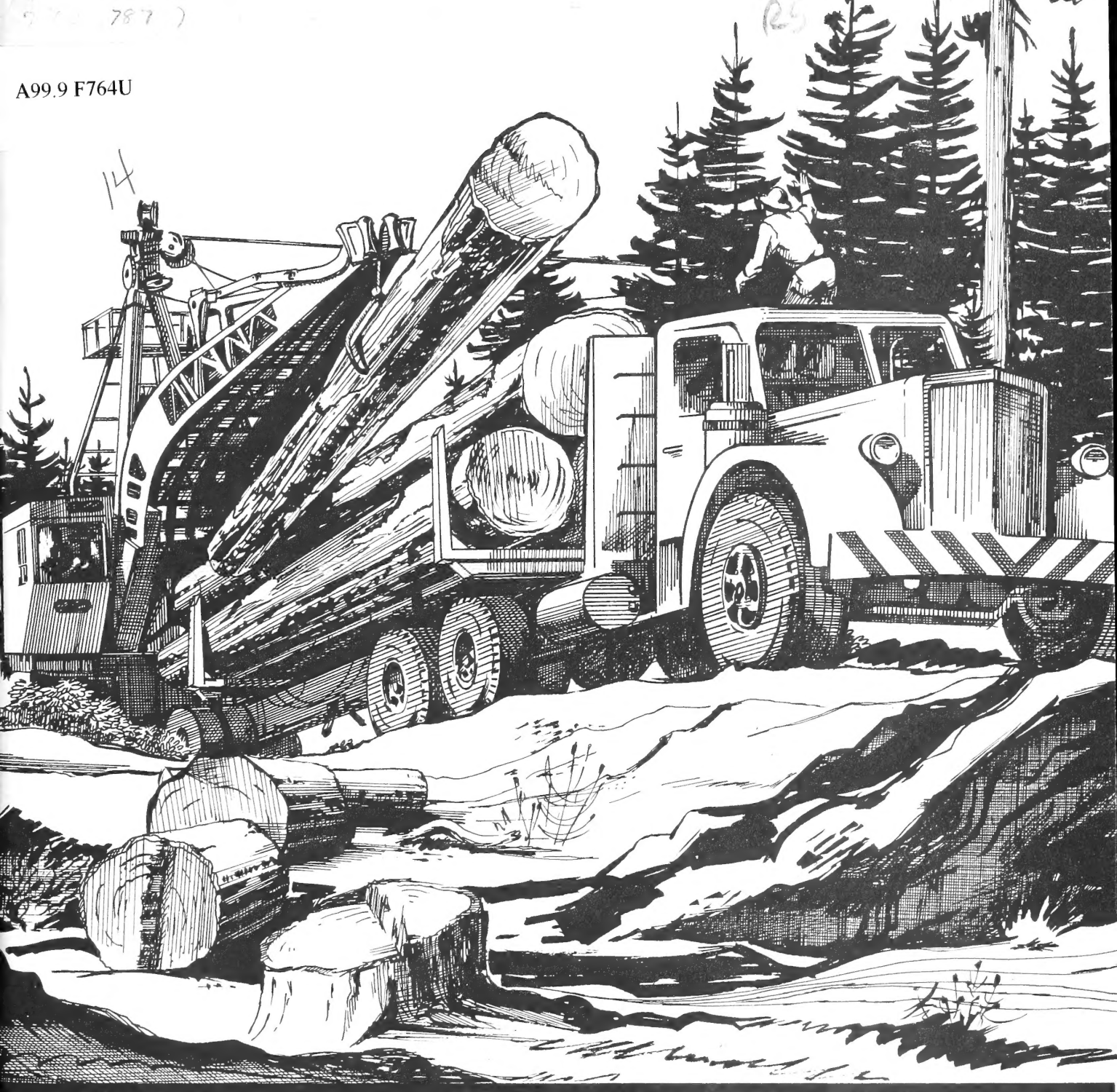


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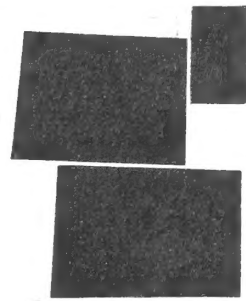


# TIMBER PRODUCTS OUTPUT IN COLORADO, WYOMING, AND WESTERN SOUTH DAKOTA, 1962

*Research Paper INT-14*

Forest Service, U.S. Department of Agriculture  
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This report summarizes survey information collected in 1963 on the 1962 output of roundwood products from the forests of Colorado, Wyoming, and western South Dakota. Production for each State is discussed separately, followed by a statement on survey procedures and sampling accuracy. The term "roundwood" is used to designate products that were received at plants "in the round" (as logs or bolts) for the primary steps in manufacture. This report does not include estimates of output for any product (industrial or domestic) from saw-mill residues (slabs, edgings, trim ends, or sawdust).

However, to evaluate the extent to which sawed materials compete with round timbers in mine use, data on 1962 mine use of these materials were collected and summarized.

The detailed results of this survey are presented in a series of tables; the highlights of 1962 production and major production trends between 1952 and 1962 are discussed. Data for saw log production are presented in more detail than for other products because of the predominance of saw logs in each State's total production.

Forest products surveys in the Rocky Mountain States and western South Dakota are part of the Intermountain Forest and Range Experiment Station's program for periodic appraisals of the forest situation. In western South Dakota, eastern Wyoming, Colorado, New Mexico, and Arizona products surveys and other phases of Forest Survey work are conducted cooperatively with the Rocky Mountain Forest and Range Experiment Station, Fort Collins, Colorado.



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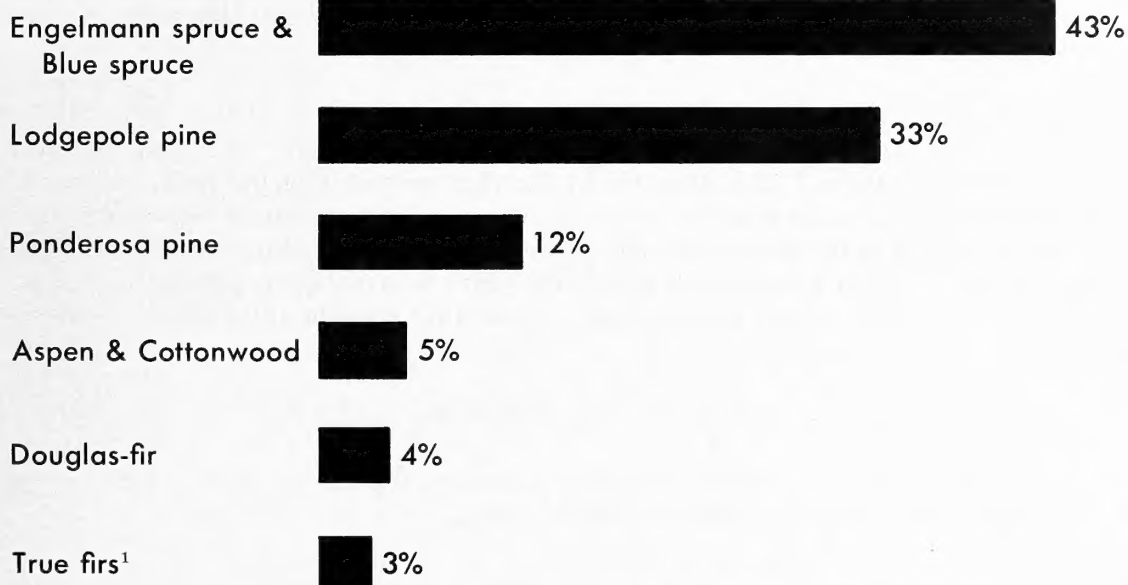
## COLORADO

### THE SITUATION IN 1962

The total output of roundwood forest products in Colorado during 1962 was about 36.4 million cubic feet--a decline of almost 16 percent since 1952.<sup>1</sup> That total included products from live and dead trees harvested on commercial<sup>2</sup> and noncommercial forest land.

Roundwood products harvested in Colorado in 1962 included saw logs (for lumber), pulpwood logs and bolts, commercial poles, mine timbers, miscellaneous industrial wood (mainly house logs, excelsior bolts, match splint logs, and converter poles), posts, fuelwood, and miscellaneous farm timbers. Engelmann spruce, blue spruce, and lodgepole pine collectively accounted for over 75 percent of the total output.

#### Colorado Timber Products Output by Species, 1962



<sup>1</sup>White, subalpine, and corkbark firs.

Public lands, primarily National Forest lands, supplied 90 percent of Colorado's total output for 1962.

<sup>1</sup> U.S. Forest Service. Timber resources for America's future. U.S. Dept. Agr., Forest Resource Rpt. 14, 713 pp., illus. 1958.

<sup>2</sup> Forest land which is producing or is capable of producing crops of industrial wood and is not withdrawn from timber utilization.

Saw logs were the most important product harvested in Colorado; nearly 185 million board feet<sup>3</sup> were produced in 1962, comprising 87 percent of the total cubic volume output. Almost all of the saw log volume went to sawmills within the State. The minor volume of saw logs exported went to Wyoming; imports were likewise small and came entirely from New Mexico. Spruce and lodgepole pine were the principal species harvested for saw logs, representing 48 percent and 34 percent, respectively, of the total saw log volume.

Other roundwood products--mine timbers, pulpwood, commercial poles, miscellaneous industrial wood, posts, fuelwood, and miscellaneous farm timbers--collectively accounted for almost 5 million cubic feet or 13 percent of the total 1962 output. Round mine timbers, the single most important product of this group, accounted for almost 30 percent of the volume in this category.

#### TRENDS SINCE 1952

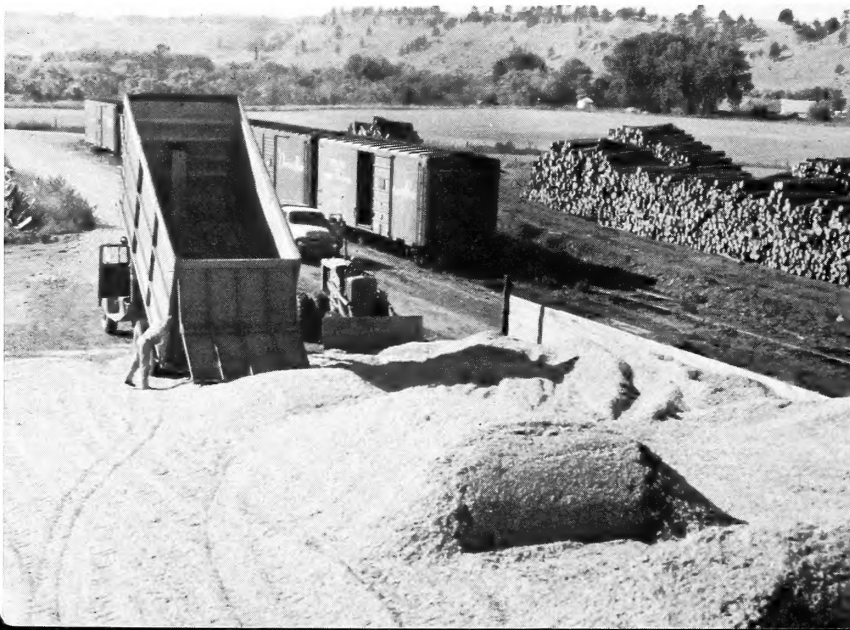
Total roundwood output dropped 16 percent between 1952 and 1962. However, saw log production increased 9 percent during that same period. This indicates a shift in importance towards saw logs and away from other products. In 1962, as in 1952, Colorado pulpwood was obtained principally by salvaging dead spruce from extensive stands of insect-killed timber. The drop in pulpwood production from 33,000 cords in 1957 to only 3,000 cords in 1962 probably is due to increased use of chipped sawmill residues by pulpmills previously using round pulpwood from Colorado.

The number of active sawmills in Colorado dropped from 274 in 1957 to 170 in 1962,<sup>4</sup> the only recent years for which there were survey estimates of the number of mills. However, the average mill produced about 1.25 million board feet (lumber tally) during 1962, compared to an annual production of only about half that in 1957. These mills were fairly well distributed over the western two-thirds of the State (see map, following page). In addition to the mills shown, there were an estimated 44 active small mills, for which no saw log reports were received in the 1962 products survey. These mills received about 15.7 percent of the State's 1962 saw log output.

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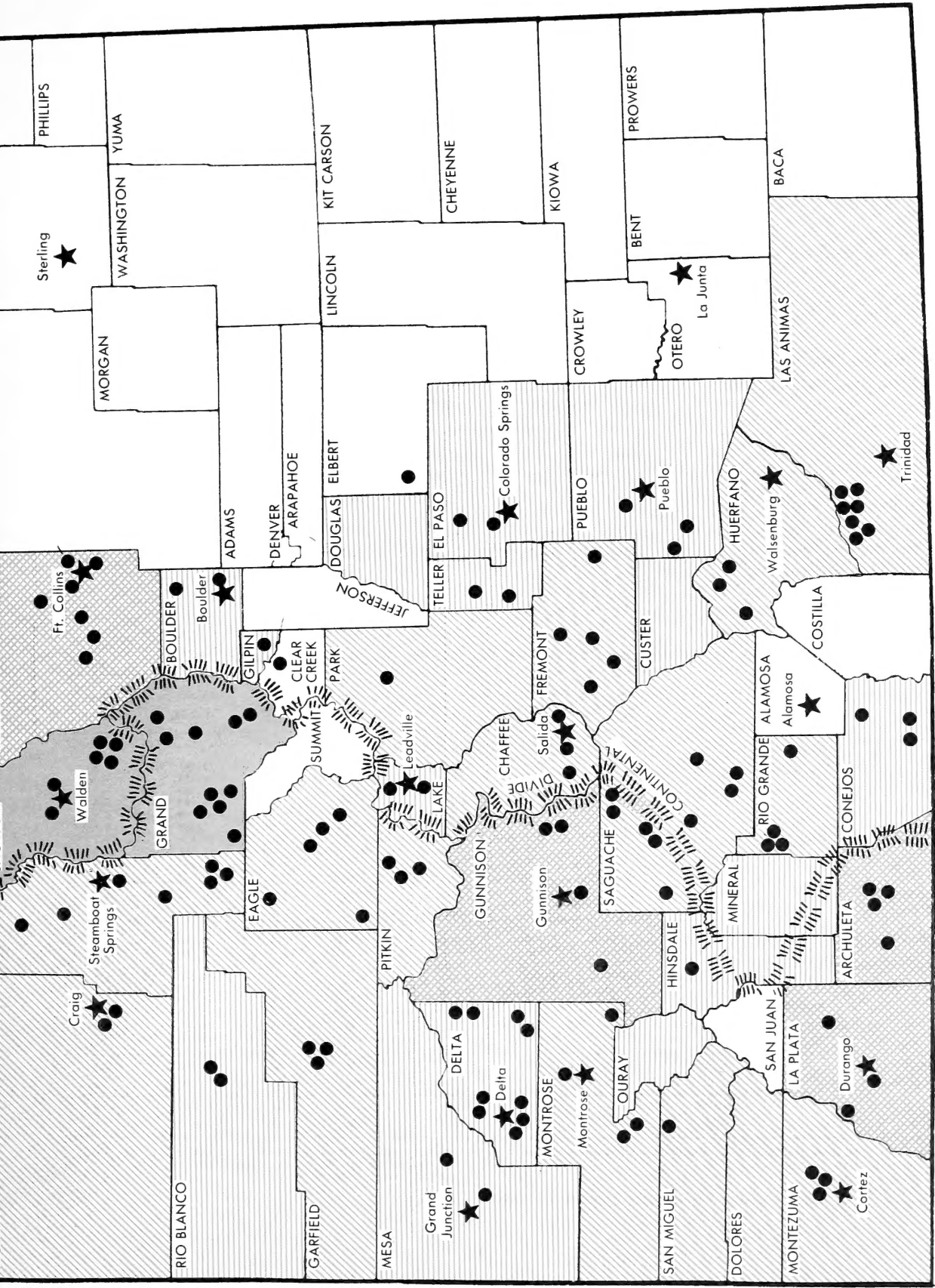
<sup>3</sup> International  $\frac{1}{4}$ -inch log rule board-foot volumes are used throughout this report unless otherwise stated.

<sup>4</sup> Miller, Robert L. Lumber production in Colorado, 1957. Rocky Mountain Forest and Range Expt. Sta. Forest Survey Release 1, 9 pp. 1962.



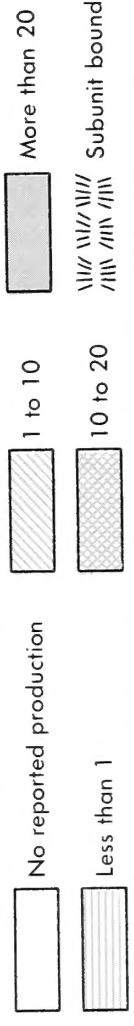
Increased use of chipped sawmill residues (such as shown at the left) by Lake States pulpmills probably is holding down demand for Colorado round pulpwood. Colorado presently supplies no pulp chips.





● Sawmill reported as operating in 1962

**Saw log output by counties (million board feet, Intl. 1/4" rule)**



**COLORADO SAWMILLS  
AND SAW LOG  
PRODUCTION 1962**

Table 1.--Output of timber products in Colorado by products and by species groups, in standard units, 1962

Product		Quantity		
		Total	Softwoods	Hardwoods
Saw logs . . . . .	M bd. ft. <sup>1</sup>	184,645	183,490	1,155
Pulpwood . . . . .	M std. cds. <sup>2</sup>	3	1	2
Fuelwood . . . . .	M std. cds.	10	8	2
Commercial poles . . . . .	M pieces	53	53	0
Posts (round and split). . .	M pieces	368	368	0
Mine timbers (round) . . . .	M cu. ft.	1,411	1,409	2
Miscellaneous industrial wood <sup>3</sup> . . . . .	M cu. ft.	1,689	483	1,206
All products . . . . .	M cu. ft.	36,433	34,740	1,693

<sup>1</sup> International 1/4-inch log rule.

<sup>2</sup> Rough wood basis.

<sup>3</sup> Includes house logs, excelsior bolts, match splint logs, converter poles, and miscellaneous farm timbers.

Table 2.--Sawmill log receipts from Colorado timberlands by species, by subunits, and by county of origin, 1962

Subunit <sup>1</sup> and county	Species						All species	
	Ponderosa pine	Lodgepole pine	Douglas-fir	True firs <sup>2</sup>	Spruce <sup>3</sup>	Other species <sup>4</sup>	Volume	Percent
----- Thousand board feet, International 1/4-inch rule <sup>5</sup> -----								
<b>WESTERN</b>								
Archuleta	6,935	0	2,941	2,292	1,598	0	13,766	7.5
Delta, Mesa, Pitkin	1	69	21	298	3,763	162	4,314	2.3
Dolores, Montezuma, Ouray, San Miguel	1,167	0	0	0	7,655	370	9,192	5.0
Eagle	0	718	17	371	5,604	0	6,710	3.6
Garfield, Moffat, Rio Blanco	0	170	64	531	7,404	0	8,169	4.4
Grand	1,019	23,566	0	0	6,665	0	31,250	16.9
Gunnison, Hinsdale, <sup>6</sup> Mineral, <sup>6</sup> Saguache <sup>6</sup>	140	453	623	2,138	15,218	100	18,672	10.1
La Plata	111	0	0	94	17,456	0	17,661	9.6
Montrose	3,352	0	0	0	590	498	4,440	2.4
Routt	0	3,329	0	111	2,235	0	5,675	3.1
Total Western	12,725	28,305	3,666	5,835	68,188	1,130	119,849	64.9
Percent of total	10.6	23.6	3.1	4.9	56.9	.9	100.0	
<b>EASTERN</b>								
Boulder, Douglas, Gilpin, Park	35	62	22	7	2,121	0	2,247	1.2
Chaffee, Lake	152	1,442	935	1	330	0	2,860	1.6
Conejos, Hinsdale, <sup>7</sup> Mineral, <sup>7</sup> Rio Grande, Saguache <sup>7</sup>	320	1,381	1,332	81	5,427	8	8,549	4.6
Ouster, Huerfano, Pueblo	4,002	143	456	205	9	4	4,819	2.6
El Paso, Teller	242	27	0	0	104	0	373	.2
Fremont	448	0	83	0	2,279	0	2,810	1.5
Jackson	210	23,522	0	231	5,652	0	29,615	16.0
Larimer	513	6,990	102	19	4,849	0	12,473	6.8
Las Animas	803	0	41	41	152	13	1,050	.6
Total, Eastern	6,725	33,567	2,971	585	20,923	25	64,796	35.1
Percent of total	10.4	51.8	4.6	.9	32.3	(.6)	100.0	
<b>STATE TOTAL</b>	19,450	61,872	6,637	6,420	89,111	1,155	184,645	100.0
Percent of total	10.5	33.5	3.6	3.5	48.3	.6	100.0	

<sup>1</sup> The Continental Divide separates Colorado into western and eastern subunits.

<sup>2</sup> White and subalpine firs.

<sup>3</sup> Engelmann and blue spruces.

<sup>4</sup> Aspen and cottonwood.

<sup>5</sup> Scribner log-rule volumes can be approximated by multiplying table volumes by 0.89.

<sup>6</sup> The portion west of the Continental Divide.

<sup>7</sup> The portion east of the Continental Divide.

<sup>8</sup> Less than 0.05 percent.

Table 3.--Output of timber products in Colorado by species, 1962

Product	Species							All species	
	Ponderosa pine	Lodgepole pine	Douglas- fir	True firs <sup>1</sup>	Spruce <sup>2</sup>	Aspen and cottonwood	Other <sup>3</sup> species	Total	Percent
	Thousand cubic feet								
Saw logs	3,325	10,576	1,135	1,097	15,233	197	0	31,563	86.6
Pulpwood (round)	0	75	0	0	47	135	0	257	.7
Commercial poles	0	482	0	0	0	0	0	482	1.3
Mine timbers (round)	683	348	187	4	187	2	(*)	1,411	3.9
Miscellaneous industrial wood	0	38	9	0	93	1,176	0	1,316	3.6
Posts, fuelwood, miscellaneous farm timbers	175	670	121	60	190	156	32	1,404	3.9
<b>Total</b>	<b>4,183</b>	<b>12,189</b>	<b>1,452</b>	<b>1,161</b>	<b>15,750</b>	<b>1,666</b>	<b>32</b>	<b>36,433</b>	<b>100.0</b>
Percent of total	11.5	33.4	4.0	3.2	43.2	4.6	1	100.0	

<sup>1</sup> White, subalpine, and corkbark firs.<sup>2</sup> Engelmann and blue spruces.<sup>3</sup> Pinyon pine and minor hardwoods.<sup>4</sup> Less than 0.5 thousand cubic feet.

Table 4.--Output of timber products by land ownership classes, Colorado, 1962

Product	Total volume	Land ownership classes					All ownerships
		National Forest lands	Other public lands	Forest industry lands <sup>1</sup>	Other private lands		
	M cu. ft.	Percent					
Saw logs	31,563	70.9	8.3	0.6	6.8	86.6	
Pulpwood (round)	257	0.7	0	0	0	0.7	
Commercial poles	482	0.6	0.1	0.3	0.3	1.3	
Mine timbers (round)	1,411	2.9	(*)	0	1.0	3.9	
Miscellaneous industrial wood	1,316	3.5	0	0	0.1	3.6	
Posts, fuelwood, miscellaneous farm timbers	1,404	2.7	0.3	0.2	0.7	3.9	
<b>Total</b>	<b>36,433</b>	<b>81.3</b>	<b>8.7</b>	<b>1.1</b>	<b>8.9</b>	<b>100.0</b>	

<sup>1</sup> Lands owned by companies or individuals operating wood-using plants.<sup>2</sup> Less than 0.05 percent.

Table 5.--Round and sawed timbers and lumber received at mines in Colorado, 1962

All mines	Round timbers			All mines	Sawed timbers and lumber		
	Coal mines	Other mines	Other mines		Coal mines	Other mines	Other mines
	Thousand cubic feet			Thousand board feet <sup>1</sup>			
1,411	861	550		17,137	1,862	15,275	

<sup>1</sup> Lumber tally.

Table 6.--Lumber production and numbers of active sawmills by sawmill size classes in Colorado, 1957 and 1962

Sawmill size class (M bd. ft. per year)	1957 <sup>1</sup>			1962		
	Lumber production	Active mills		Estimated lumber production <sup>2</sup>	Active mills <sup>3</sup>	
	M bd. ft. <sup>4</sup>	Percent	Number	M bd. ft. <sup>4</sup>	Percent	Number
Less than 50	1,762	0.9	50	1,040	0.5	37
50-199	9,906	5.3	84	6,448	3.1	49
200-499	14,732	7.9	49	9,360	4.5	19
500-999	26,360	14.0	44	15,392	7.4	20
1,000-4,999	86,041	45.8	41	74,048	35.6	37
5,000 and over	49,071	26.1	6	101,712	48.9	8
Total	187,872	100.0	274	208,000	100.0	170

<sup>1</sup> Miller, Robert L. Lumber production in Colorado, 1957. Rocky Mountain Forest and Range Expt. Sta. Forest Survey Release 1, 9 pp., illus. 1955.

<sup>2</sup> Estimated from Census Bureau's lumber production total for Colorado's 1962 production (208 million board feet, lumber tally) on the assumption that lumber production was distributed among sawmill size classes in the same proportion as their reported saw log receipts.

<sup>3</sup> Sawmill size class estimated from saw log receipts rather than from lumber production.

<sup>4</sup> Lumber tally.

Table 7.--Output of timber products in Colorado and percentages of totals for major products, 1952, 1957, and 1962

Product	1952 <sup>1</sup>		1957 <sup>2</sup>		1962	
	Output	Percent <sup>3</sup>	Output	Percent <sup>3</sup>	Output	Percent <sup>3</sup>
Saw logs . . . . M bd. ft. <sup>4</sup>	169,000	61	206,434	78	184,645	86
Pulpwood . . . . M std. cds. <sup>6</sup>	15	3	33	7	3	1
All other <sup>7</sup> . . . . M cu. ft.	15,497	36	6,832	15	4,613	13
Total . . . . M cu. ft.	43,211	100	44,200	100	36,433	100

<sup>1</sup> U.S. Forest Service. Timber resources for America's future. U.S. Dept. Agr. Forest Resource Rpt. 14, 713 pp., illus. 1958. (Table 13, pp. 526-527.)

<sup>2</sup> Rocky Mountain Forest and Range Experiment Station, Annual Report, 1960.

<sup>3</sup> Based on cubic-foot volume equivalents for products whose outputs are shown in other standard volume units.

<sup>4</sup> International 1/4-inch log rule.

<sup>5</sup> Miller, Robert L., and Alvin K. Wilson. Saw log production in Colorado and Wyoming, 1957. Rocky Mountain Forest and Range Expt. Sta. Forest Survey Release 3, 6 pp., illus. 1960.

<sup>6</sup> Rough wood basis. Includes round pulpwood only; i.e., does not include pulpwood from sawmill residues.

<sup>7</sup> Includes commercial poles, converter poles, round mine timbers, posts, fuelwood, house logs, excelsior bolts, match splint logs, and miscellaneous farm timbers.

Table 8.--Colorado lumber production, 1954-62

Year	Quantity	Year	Quantity
	<u>MM bd.ft.,</u>		<u>MM bd.ft.,</u>
	<u>lumber tally</u>		<u>lumber tally</u>
1954	174	1959	227
1955	--	1960	181
1956	--	1961	197
1957	<sup>1</sup> 188	1962	208
1958	209		

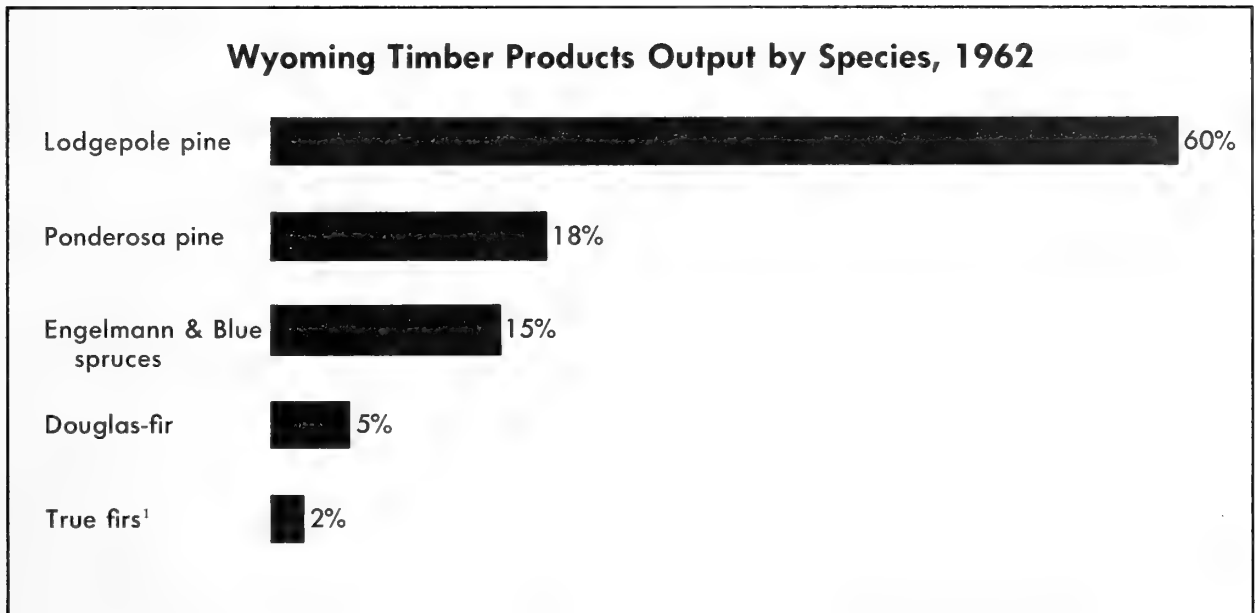
Source: U.S. Bureau of the Census.

<sup>1</sup> Miller, Robert L. Lumber production in Colorado, 1957. Rocky Mountain Forest and Range Expt. Sta. Forest Survey Release 1, 9 pp., illus. 1959.

## WYOMING

### THE SITUATION IN 1962

Wyoming's total output of roundwood timber products in 1962 was nearly 21 million cubic feet--a gain of 31 percent since 1952.<sup>5</sup> The 1962 harvest included saw logs (for lumber), pulpwood, mine timbers, house logs, corral poles, converter poles, miscellaneous farm timbers, posts, and fuelwood. Lodgepole pine was the principal species harvested and accounted for 60 percent of the total.



*White and subalpine firs.*

Public lands provided over 95 percent of the yield--the bulk of it coming from National Forests.

Saw logs, making up over 94 percent of the cubic-foot volume of all timber products, were by far the most important item. Almost 117 million board feet of saw logs were produced during 1962, and sawmills in Wyoming received most of this volume. A moderate volume of saw logs--nearly 10 million board feet--was exported to Idaho and South Dakota. Imports were slightly greater and amounted to about 11 million board feet and came from South Dakota, Utah, Colorado, and Idaho. Lodgepole pine, ponderosa pine, and Engelmann spruce were the chief species harvested, making up 58, 19, and 15 percent, respectively, of the total saw log volume.

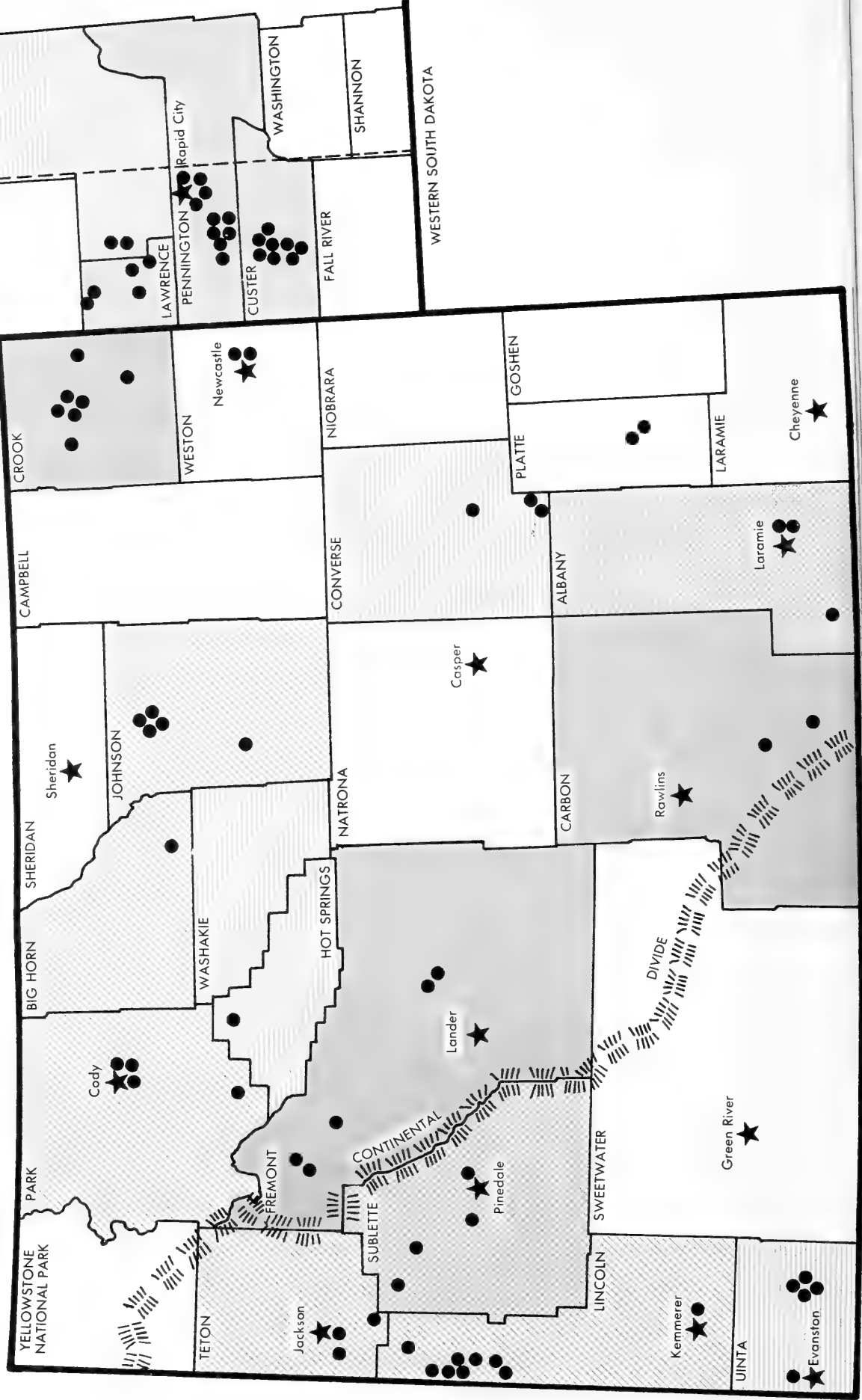
All other forest products accounted for 1,154,000 cubic feet or 6 percent of the total 1962 output, of which pulpwood comprised 40 percent.

<sup>5</sup>U.S. Forest Service, op. cit., page 1.

# WYOMING AND WESTERN SOUTH DAKOTA SAWMILLS AND SAW LOG PRODUCTION 1962

● Sawmill reported as operating in 1962

Saw log output by counties (million board feet, Intl. 1/4" rule)



Sawmills like the one shown below were using nearly 50 percent more saw logs in 1962 than in 1952. In recent years the number of active mills in Wyoming has declined--as evidenced by the 29 percent decrease in operational mills from 1957 to 1962.

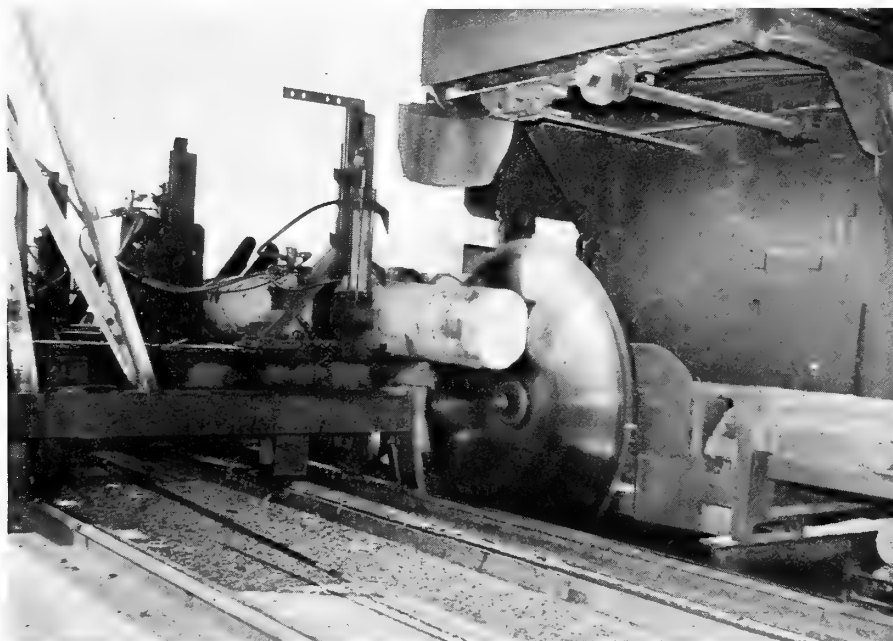


Photo: Courtesy of Colorado State University, School of Forestry

#### TRENDS SINCE 1952

Total output from roundwood in 1962 was 31 percent higher than in 1952 and 7 percent greater than in 1957.<sup>6</sup> Production of saw logs in 1962 was 49 percent greater than in 1952 and production of pulpwood--while it represented only a minor volume--increased fourfold during the same period. The production of all other timber products has declined steadily since 1952. In 1962 the output of products other than saw logs and pulpwood sagged to 19 percent of the 1952 volume, paralleling Colorado's diminishing harvest of these products and concurrent accelerating production of saw logs.

In spite of this marked increase in saw log yield, the number of active sawmills in Wyoming fell from 107 in 1957<sup>7</sup> to 76 in 1962, the only recent years for which this information was available.

The greatest concentration of sawmills in Wyoming and western South Dakota together is in the Black Hills region straddling the State line. In addition to the mills shown, there were an estimated 20 active mills in Wyoming and 3 active mills in western South Dakota, all small, for which no saw log reports were received in the 1962 products survey. Such mills in Wyoming received about 4.7 percent of that State's saw log output in 1962; in western South Dakota such mills received about 2.2 percent of the total. However, in 1962 the average mill sawed almost 1.4 million board feet (lumber tally) or one-third more than its counterpart cut in 1957.

<sup>6</sup> U.S. Forest Service. Annual report, 1960, Rocky Mountain Forest and Range Expt. Station. 1961.

<sup>7</sup> Miller, Robert L., and Alvin K. Wilson. Lumber production in Wyoming, 1957. Rocky Mountain Forest and Range Expt. Station Forest Survey Release 2. 9 pp. 1959.

Table 9.--Output of timber products in Wyoming by products and by species groups, in standard units, 1962

Product		Quantity		
		Total	Softwoods	Hardwoods
Saw logs . . . . .	M bd. ft. <sup>1</sup>	116,523	116,523	0
Pulpwood . . . . .	M std. cds. <sup>2</sup>	4	4	0
Fuelwood . . . . .	M std. cds.	1	1	0
Mine timbers (round) . . . . .	M cu. ft.	54	54	0
Miscellaneous industrial wood <sup>3</sup> . . . . .	M cu. ft.	448	433	15
Posts (round and split) . . . . .	M pieces	79	79	0
All products . . . . .	M cu. ft.	20,771	20,756	15

<sup>1</sup> International ¼-inch log rule.

<sup>2</sup> Rough wood basis

<sup>3</sup> Includes house logs, corral poles, converter poles, commercial poles, and miscellaneous farm timbers.

Table 10.--Sawmill log receipts from Wyoming timberlands by species, by subunits, and by county of origin, 1962

Subunit <sup>1</sup> and county	Species						All species	
	Ponderosa pine	Lodgepole pine	Douglas-fir	True firs <sup>2</sup>	Engelmann spruce	Other species <sup>3</sup>	Volume	Percent
----- Thousand board feet, International ¼-inch rule -----								
<b>WESTERN</b>								
Lincoln, Uinta	61	912	3,515	593	2,755	0	7,836	6.7
Sublette <sup>4</sup>	0	13,809	93	1	991	0	14,894	12.8
Teton <sup>4</sup>	0	396	549	122	374	0	1,441	1.2
Total, Western	61	15,117	4,157	716	4,120	0	24,171	20.7
Percent of total	.3	62.5	17.2	3.0	17.0	0	100.0	
<b>EASTERN</b>								
Albany, Carbon	782	23,175	0	1,614	9,136	0	34,707	29.8
Big Horn, Hot Springs, Washakie	0	1,048	681	0	1,212	27	2,968	2.6
Converse, Weston	254	0	0	0	0	0	254	.2
Crook	21,087	0	0	0	0	0	21,087	18.1
Fremont	0	24,563	139	737	1,166	0	26,605	22.8
Johnson	0	2,899	227	0	12	0	3,138	2.7
Park	0	1,269	327	0	1,997	0	3,593	3.1
Total, Eastern	22,123	52,954	1,374	2,351	13,523	27	92,352	79.3
Percent of total	24.0	57.3	1.5	2.6	14.6	(5)	100.0	
<b>STATE TOTAL</b>	22,184	68,071	5,531	3,067	17,643	27	116,523	100.0
Percent of total	19.0	58.4	4.8	2.6	15.2	(5)	100.0	

<sup>1</sup> The Continental Divide separates Wyoming into western and eastern subunits.

<sup>2</sup> White and subalpine firs.

<sup>3</sup> Whitebark pine.

<sup>4</sup> Parts of Sublette and Teton Counties extend east of the Divide, but all log receipts were from the west side.

<sup>5</sup> Less than 0.05 percent.



Table 11.--Saw log receipts of Wyoming sawmills,  
by source areas, 1962

Source area	Volume	Percent
Thousand bd. ft. <sup>1</sup>		
Wyoming	106,910	90.3
Idaho and Utah	2,940	2.5
South Dakota and Colorado	8,502	7.2
<b>Total</b>	<b>118,352</b>	<b>100.0</b>

<sup>1</sup> International ¼-inch log rule.

Table 12.--Output of timber products in Wyoming by species, 1962

Product	Species							All species	
	Ponderosa pine	Lodgepole pine	Douglas fir	True firs <sup>1</sup>	Spruce <sup>2</sup>	Aspen and cottonwood	Other species <sup>3</sup>	Total	Percent
Thousand cubic feet									
Saw logs	3,735	11,460	931	516	2,970	0	5	19,617	94.4
Pulpwood (round)	0	464	0	0	0	0	0	464	2.2
Mine timbers (round)	1	53	0	0	0	0	0	54	.3
Miscellaneous industrial wood	0	24	0	0	0	15	0	39	.2
Posts, fuelwood, miscellaneous farm timbers	0	509	20	0	68	0	0	597	2.9
<b>Total</b>	<b>3,736</b>	<b>12,510</b>	<b>951</b>	<b>516</b>	<b>3,038</b>	<b>15</b>	<b>5</b>	<b>20,771</b>	<b>100.0</b>
Percent of total	18.0	60.2	4.6	2.5	14.6	.1	( <sup>4</sup> )	100.0	

<sup>1</sup> White and subalpine firs.

<sup>2</sup> Engelmann and blue spruces.

<sup>3</sup> Limber and whitebark pines.

<sup>4</sup> Less than 0.05 percent.

Table 13.--Output of timber products by land ownership classes, Wyoming, 1962

Product	Total volume	Land ownership classes				All ownerships
		National Forest lands	Other public lands	Forest industry lands <sup>1</sup>	Other private lands	
M cu. ft.		Percent				
Saw logs	19,617	84.3	5.7	2.2	2.2	94.4
Pulpwood (round)	464	2.2	0	0	0	2.2
Mine timbers (round)	54	0.2	0.1	0	( <sup>2</sup> )	0.3
Miscellaneous industrial wood	39	0.1	0	0	0.1	0.2
Posts, fuelwood, miscellaneous farm timbers	597	2.6	0.1	0.1	0.1	2.9
<b>Total</b>	<b>20,771</b>	<b>89.4</b>	<b>5.9</b>	<b>2.3</b>	<b>2.4</b>	<b>100.0</b>

<sup>1</sup> Lands owned by companies or individuals operating wood-using plants.

<sup>2</sup> Less than 0.05 percent.

Table 14.--Round and sawed timbers and lumber received at mines in Wyoming, 1962

Round timbers			Sawed timbers and lumber		
All mines	Coal mines	Other mines	All mines	Coal mines	Other mines
Thousand cubic feet			Thousand board feet <sup>1</sup>		
54	33	21	3,532	43	3,489

<sup>1</sup>Lumber tally.

Table 15.--Lumber production and numbers of active sawmills by sawmill size classes in Wyoming, 1957 and 1962

Sawmill size class (M bd. ft. per year)	1957 <sup>1</sup>			1962		
	Lumber production	Active mills	Number	Estimated lumber production <sup>2</sup>	Active mills <sup>3</sup>	Number
	M bd. ft. <sup>4</sup>	Percent	Number	M bd. ft. <sup>4</sup>	Percent	Number
Less than 50	1,121	1.0	14	103	0.1	14
50-199	3,198	2.9	29	8,446	8.2	38
200-499	7,162	6.6	26			
500-999	10,326	9.5	16	4,017	3.9	5
1,000-4,999	47,792	44.0	19	26,986	26.2	12
5,000 and over	39,092	36.0	3	63,448	61.6	7
Total	108,691	100.0	107	103,000	100.0	76

<sup>1</sup>Miller, Robert L., and Alvin K. Wilson. Lumber production in Wyoming, 1957. Rocky Mountain Forest and Range Expt. Sta. Forest Survey Release 2, 9 pp., illus. 1959.

<sup>2</sup>Estimated from Census Bureau's lumber production total for Wyoming's 1962 production (103 million board feet, lumber tally) on the assumption that lumber production was distributed among sawmill size classes in the same proportion as their reported saw log receipts.

<sup>3</sup>Sawmill size class estimated from saw log receipts rather than from lumber production.

<sup>4</sup>Lumber tally.

Table 16.--Output of timber products in Wyoming and percentages of totals for major products  
1952, 1957, and 1962

Product	1952 <sup>1</sup>		1957		1962	
	Output	Percent <sup>2</sup>	Output	Percent <sup>2</sup>	Output	Percent <sup>2</sup>
Saw logs . . . . . M bd. ft. <sup>3</sup>	77,999	77	<sup>4</sup> 109,188	94	116,523	95
Pulpwood . . . . . M std. cds. <sup>5</sup>	1	( <sup>6</sup> )	--	--	4	2
All other <sup>7</sup> . . . . . M cu. ft.	3,603	23	<sup>8</sup> 1,190	6	690	3
Total . . . . . M cu. ft.	15,861	100	19,388	100	20,771	100

<sup>1</sup> U.S. Forest Service. Timber resources for America's future. U.S. Dept. Agr. Forest Resource Rpt. 14, 713 pp., illus. 1958. (Table 13, pp. 526-527.)

<sup>2</sup> Based on cubic-foot volume equivalents for products whose outputs are shown in other standard volume units.

<sup>3</sup> International 1/4-inch log rule.

<sup>4</sup> Miller, Robert L., and Alvin K. Wilson. Saw log production in Colorado and Wyoming, 1957. Rocky Mountain Forest and Range Expt. Sta. Forest Survey Release 3, 6 pp., illus. 1960.

<sup>5</sup> Rough wood basis. Includes round pulpwood only; i.e., does not include pulpwood from sawmill residues.

<sup>6</sup> Less than 1 percent.

<sup>7</sup> Includes commercial poles, converter poles, posts, round mine timbers, fuelwood, and miscellaneous farm timbers.

<sup>8</sup> Rocky Mountain Forest and Range Expt. Sta. Annual Report, 1960.

Table 17.--Wyoming lumber production,  
1954-62

Year	Quantity
<u>Millions of board feet</u> <u>lumber tally</u>	
1954	81
1955	--
1956	--
1957	<sup>1</sup> 109
1958	105
1959	107
1960	99
1961	97
1962	103

Source: U.S. Bureau of the Census.

<sup>1</sup> Miller, Robert L., and Alvin K. Wilson. Lumber production in Wyoming, 1957. Rocky Mountain Forest and Range Expt. Sta. Forest Survey Release 2, 9 pp., illus. 1959.

## WESTERN SOUTH DAKOTA

### THE SITUATION IN 1962

The total timber output of western South Dakota<sup>8</sup>--principally the Black Hills--was 11.2 million cubic feet of roundwood products, a 17 percent increase over the 1952<sup>9</sup> output. Aside from an insignificant quantity of [REDACTED] spruce saw logs, the entire output consisted of ponderosa pine. About 84 percent of the total production came from public lands, chiefly National Forest lands.

Saw logs, with a volume of nearly 39 million board feet, were the most important product harvested and accounted for 58 percent of the total output. All but 7 million board feet went to sawmills in South Dakota; Wyoming mills received all the saw log exports, and Wyoming was the sole supplier of the 8.5 million board feet of saw logs imported into western South Dakota.

Pulpwood production totaled 3 million cubic feet and accounted for some 27 percent of the total output, making it the second most important product harvested. All the pulpwood was shipped to mills in the Lake States.

All other products--commercial poles, posts, piling, fuelwood, and miscellaneous farm timbers--made up 1.7 million cubic feet or 15 percent of the total output of timber products. No round timbers were received at mines in 1962; however, nearly 11 million board feet (lumber tally) of sawed material was delivered to mines other than coal mines.

### TRENDS SINCE 1952

Pulpwood production was the only segment of the timber products industry in western South Dakota that showed any growth between 1952 and 1962, increasing from 500 to 34,000 standard cords during that period. Saw log production by 1962 had declined slightly (about 3 percent) from the 1952 level, suggesting that little growth in the sawmill industry is possible in that portion of the State where mills have long been established and consumed the full allowable annual cut for many years. Output of all other forest products in 1962 was only about half that of 1952, resembling the situations in Colorado and Wyoming where demand for these products is also diminishing.



<sup>8</sup> Western South Dakota includes all of Harding, Butte, Lawrence, and Fall River Counties, plus the portions of Meade, Pennington, and Custer Counties that lie west of the 103d meridian.

<sup>9</sup> U.S. Forest Service, op. cit., page 1.

These ponderosa pine pulp sticks are awaiting shipment from the Black Hills to a pulp mill in the Lake States. Increased output of pulpwood since 1952 has offered opportunities for expanded forest management.

Table 18.--Output of timber products in western South Dakota by products and by species groups, in standard units, 1962

Product		Quantity		
		Total	Softwoods	Hardwoods
Saw logs . . . . .	M bd. ft. <sup>1</sup>	38,958	38,958	0
Pulpwood . . . . .	M std. cds. <sup>2</sup>	34	34	0
Fuelwood . . . . .	M std. cds.	1	1	0
Commercial poles and piling.	M pieces	91	91	0
Posts (round and split). . .	M pieces	599	599	0
Miscellaneous farm timbers .	M cu. ft.	447	447	0
All products . . . . .	M cu. ft.	11,235	11,235	0

<sup>1</sup>International ½-inch log rule.  
<sup>2</sup>Rough wood basis.

Table 19.--Sawmill log receipts from western South Dakota timberlands by county of origin, 1962

County	Quantity <sup>1</sup>	Percent
	Thousand board feet <sup>2</sup>	
Custer	18,646	46.1
Lawrence, Meade	10,209	25.2
Pennington	10,103	25.0
Total Western	38,958	96.3
Total Eastern	<sup>3</sup> 1,500	3.7
STATE TOTAL	40,458	100.0

<sup>1</sup>Practically all ponderosa pine but includes an insignificant quantity of spruce.  
<sup>2</sup>International ½-inch log rule.  
<sup>3</sup>Data furnished by Lake States Forest Experiment Station.

Table 20.--Saw log receipts of western South Dakota sawmills by source areas, 1962

Source area	Volume	Percent
	M bd. ft. <sup>1</sup>	
Western South Dakota	31,790	79.1
Wyoming	8,400	20.9
Total	40,190	100.0

<sup>1</sup>International ½-inch log rule.

Table 21.--Output of timber products in western South Dakota by species, 1962

Product	Species		All species	
	Ponderosa pine	Engelmann spruce	Total	Percent
- - - - Thousand cubic feet - - - -				
Saw logs	6,492	1	6,493	57.8
Pulpwood (round)	3,060	0	3,060	27.2
Commercial poles and piling	548	0	548	4.9
Posts, fuelwood, miscellaneous farm timbers	1,134	0	1,134	10.1
<b>Total</b>	<b>11,234</b>	<b>1</b>	<b>11,235</b>	<b>100.0</b>
Percent of total	100.0	( <sup>1</sup> )	100.0	

<sup>1</sup>Less than 0.05 percent.

Table 22.--Output of timber products by land ownership classes, western South Dakota, 1962

Product	Total volume	Land ownership classes				
		National Forest lands	Other public lands	Forest industry lands <sup>1</sup>	Other private lands	All ownerships
		M cu. ft.		Percent		
Saw logs	6,493	53.7	0.2	2.5	1.4	57.8
Pulpwood (round)	3,060	16.3	0.3	0	10.6	27.2
Commercial poles and piling	548	4.5	( <sup>2</sup> )	0.2	0.2	4.9
Posts, fuelwood, miscellaneous farm timbers	1,134	9.4	( <sup>2</sup> )	0.5	0.2	10.1
<b>Total</b>	<b>11,235</b>	<b>83.9</b>	<b>0.5</b>	<b>3.2</b>	<b>12.4</b>	<b>100.0</b>

<sup>1</sup>Lands owned by companies or individuals operating wood-using plants.<sup>2</sup>Less than 0.05 percent.

Table 23.--Lumber production and numbers of active sawmills by sawmill size classes in western South Dakota, 1962

Sawmill size class (M bd. ft. per year)	Estimated lumber production <sup>1</sup>		Active mills <sup>2</sup>
	M bd. ft. <sup>3</sup>	Percent	Number
Less than 50	192	0.4	5
50-199	1,056	2.2	7
200-499	2,544	5.3	6
500-999	2,448	5.1	3
1,000-4,999	14,496	30.2	5
5,000 and over	27,264	56.8	2
<b>Total</b>	<b>48,000</b>	<b>100.0</b>	<b>28</b>

<sup>1</sup>Estimated from Census Bureau's lumber production total for South Dakota's 1962 output (50 million board feet, lumber tally) adjusted by western South Dakota's percentage of the State's total saw log receipts (96.3 percent) and the assumption that lumber production was distributed among sawmill size classes in the same proportion as their reported saw log receipts.<sup>2</sup>Sawmill size class estimated from saw log receipts rather than from lumber production.<sup>3</sup>Lumber tally.

Table 24.--Output of timber products in western South Dakota and percentages of totals for major products, 1952 and 1962

Product	1952 <sup>1</sup>		1962	
	Output	Percent <sup>2</sup>	Output	Percent <sup>2</sup>
Saw logs . . . . . M bd. ft. <sup>3</sup>	39,997	65	38,958	58
Pulpwood . . . . . M std. cds. <sup>4</sup>	(5)	--	34	27
All other <sup>6</sup> . . . . . M cu. ft.	3,378	35	1,682	15
Total . . . . . M cu. ft.	9,618	100	11,235	100

<sup>1</sup> U.S. Forest Service. Timber resources for America's future. U.S. Dept. Agr. Forest Resource Rpt. 14, 713 pp., illus. 1958. (Table 13, pp. 526-527.)

<sup>2</sup> Based on cubic-foot volume equivalents for products whose outputs are shown in other standard volume units.

<sup>3</sup> International 1/4-inch log rule

<sup>4</sup> Rough wood basis. Includes round pulpwood only; i.e., does not include pulpwood from sawmill residues.

<sup>5</sup> Less than 500 standard cords.

<sup>6</sup> Includes commercial poles, piling, posts, fuelwood, and miscellaneous farm timbers.

Table 25.--Western South Dakota lumber production, 1954-62

Year	Quantity
<u>Millions of board feet lumber tally</u>	
1954	37
1955	--
1956	--
1957	--
1958	72
1959	--
1960	52
1961	46
1962	50

Source: U.S. Bureau of the Census.

## SURVEY PROCEDURES

The survey of saw log receipts at sawmills was based on a list of mills prepared in the latter part of 1962. That list was made as complete as possible through reviews by Forest Service personnel. All listed mills were contacted by mail early in 1963 to obtain data on their saw log receipts for 1962. All mills outside the three States that were considered possible recipients of logs from Colorado, Wyoming, or western South Dakota were also asked to report. Field sampling provided data for estimating, within acceptable error limits, the receipts of sawmill operators who did not furnish mail reports (nonrespondents).

The estimated total saw log receipts and the standard errors for those parts of the total receipts for Colorado, Wyoming, and western South Dakota that were estimated by field sampling nonrespondents were:

	Estimated total receipts	Standard error <sup>1</sup>	Standard error as percent of total
	(M bd. ft.)	(M bd. ft.)	
Colorado	184,645	±2,878	1.56
Wyoming	116,523	±4,149	3.56
Western South Dakota	38,958	±775	1.99

<sup>1</sup> The odds are 2 to 1 that the true totals for the States are within the estimate ± the standard error.

Similar procedures were used in the survey of round timbers received at mines in Colorado and Wyoming during 1962. Lists of mines were compiled from a mining industry directory<sup>10</sup> and nonrespondents were sampled by field contacts. The standard error of the estimated portion of round mine timber receipts from Colorado timberlands was 164 cubic feet, or 0.01 percent of the State total. Therefore, the odds are 2 to 1 that the actual State total is 1,410,677 ± 164 cubic feet. For round mine timber receipts from Wyoming, the standard error for the estimated portion was 1,125 cubic feet, or 2.09 percent of the State total. Again, at 2 to 1 odds, the true Wyoming total lies in the range 53,845 ± 1,125 cubic feet. No use of round mine timbers in 1962 was reported for western South Dakota because none of the respondents or field-sampled nonrespondents indicated any use of this product.

Reports were obtained by mail and field contacts made with all plants known to have received round pulpwood, commercial poles, and miscellaneous industrial wood from Colorado, Wyoming, and western South Dakota in 1962; in addition, the National Forests on which these products were harvested also reported. Accordingly, all these estimates are considered to be without sampling error.

Estimates of the 1962 production of posts, fuelwood, and miscellaneous farm timbers for all three States were obtained from reports furnished by National Forests, State Foresters, Bureau of Land Management, Bureau of Reclamation, and the Bureau of Indian Affairs, and supplemented by trend estimates of farm use of these products obtained from the Bureau of the Census.<sup>11</sup> Since this procedure precluded the calculation of a sampling error, none has been assigned.

<sup>10</sup> Mining World Catalog, Survey and Directory Number, 1962, Miller Freeman Publications.

<sup>11</sup> Census Bureau: 1959 Census of Agriculture, vol. II, General Report.



Spencer, John S., Jr., and Thomas O. Farrenkopf.

1964. Timber products output in Colorado, Wyoming, and western South Dakota, 1962. U.S. Dept. Agr., Forest Serv., Intermountain Forest and Range Expt. Sta., Ogden, Utah. 18 pp., illus. (U.S. Forest Serv. Research Paper INT-14)

Roundwood products output in Colorado during 1962 totaled 36.4 million cubic feet; and nearly 185 million board feet of saw logs were produced. Wyoming's yield of forest products from roundwood in the same year was nearly 21 million cubic feet--saw logs harvested amounted to almost 117 million board feet. Similarly, western South Dakota's total output amounted to 11.2 million cubic feet while the volume of saw logs produced in that State was nearly 39 million board feet. Public lands--principally National Forests--provided the bulk of the harvest in all three States.

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