

Indicator 29. Value and volume of wood and wood products production, including value added through downstream processing

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A. Rationale for use of the indicator

1. Rationale from the Technical Advisor Committee (TAC)

This indicator measures the size and economic health of the wood products sector by identifying trends in the value and volume of wood and wood products production and allowing comparison of those trends against management objectives.

The ability to measure and provide support for sustainable forest management depends on the recognition of the full range of socioeconomic products derived from the forest, the value that local people place on these products, and the economic benefits and environmental costs of resource development. Some of the most direct and substantial socioeconomic contributions come from extractive activities, such as timber harvesting.

Approaches to measurement. Data that may be of use in measuring this indicator include the following:

- Volume and value of wood products both in the forest, at the mill or, if appropriate, at the wholesale market level.
- Value of exports, measured FOB (Free on Board).
- Volume and value of domestic production that substitutes for imports.
- Gross value of product and value added (profitability) downstream.
- Total gross benefits to society as measured by the sum of total expenditures on wood products and consumer surplus.

Value added should be calculated within each nation, although additional value may be added outside the nation where wood products export occurs.

Data for this indicator may be provided by the following:

- Government agencies and industry sources.
- Methods that calculate value added at a national level.
- Estimating the wood traded outside formal market or consumed directly.

2. Interpretation of the indicator as proposed by the TAC

The total value of wood products for a reporting period is the aggregate of the value added at each point in the chain of production. Each period's measurement is susceptible to change from a number of possible sources. Value of wood products may fluctuate because of changes in general economic conditions or societal preferences. Interpretation of aggregate values and trends is based on the knowledge of the economic, social, and management environment, as measured in other indicators, at and preceding the time of measurement, and should be related to national objectives for supply or value adding in the wood and wood products sector.

Data should also be interpreted relative to national objectives for supply or value adding in the wood and wood products sector.

3. U.S. Clarification from the Roundtable Workshops

The measurements suggested for the indicator do not measure economic health of the wood products sector. Additional information would be needed on prices, profits, employment, and other variables in addition to output. The Rationale should be rewritten to address this omission. While the TAC Rationale and Interpretation notes imply that there is a national supply (management) objective in the wood and wood products sector, there is no existing quantitative or qualitative national objective.

B. Data provided to quantify the indicator

The data provided for this indicator focuses on timber and wood products production volume, value, and value added, and an indicator of sector health, industry profitability. Selected data is shown over time, by RPA Assessment Region, by land ownership, and by type of product produced.

Volume and value of production can be illustrated in several dimensions:

- by market level
 - o production of roundwood (harvest) or production of primary products;
 - o roundwood and primary products are sold for domestic use or for exports.
- by region; and
- over time.

We show a representative subset of available data that characterize volume and value in each of these dimensions.

The intent is to show data about production that may be compared to other indicators that characterize the capacity of forests to produce wood products (e.g., growth rates, management intensity), and efforts to maintain and enhance that productive capacity of forests and forest industries (e.g., investments, research, institutions). Where available projections are shown from the 5th RPA Timber Assessment (Haynes, forthcoming) prepared by the Forest Service.

To illustrate the size and economic health of forest industries variables are shown that are available at least at the national, many times regional level, and are long-term time series that are continuing to be collected.

To meet the intent for the indicator as expressed above we provide information on the following variables (See Table 29-A):

“Volume and value of wood products both in the forest, at the mill or, if appropriate, at the wholesale market level”

- Table 29-1. Volume of U.S. industrial roundwood and fuelwood harvest (production), 1900 – 1999.
- Table 29-2, 3, 4a. Volume of growing stock harvest by species group, landowner, and RPA region, 1952-1997 (million cubic feet.)
- Table 29-4b. Timber land area by landowner, and RPA region, 1952-1997 (million cubic feet).
- Table 29-4c. Volume of growing stock harvest per acre of timber land by landowner, and RPA region, 1952-1997 (cubic feet per acre).
- Table 29-5. Weight of industrial wood product production by product, 1950-1999, (thousand tons).
- Table 29-6. Energy produced from wood by end use, and roundwood equivalent, 1949 -2000 (10^{15} Btu and billion cubic feet).
- Table 29-7. Weight of U.S. industrial wood product export, log and chip export, and recovered paper export by product, 1965-1999 (thousand short tons).
- Table 29-8. Value of shipments from the forest products industries as denoted by SIC codes 24, 26 and parts of 25, and by NAICS codes 321 and 322 and parts of 377 (million current dollars, and 1992 dollars).
- Table 29-9a. Value of shipments for logging, wood products, paper products, and wood furniture industries by RPA region, 1997 (million current dollars).
- Table 29-9b. Value of shipments per acre of timber land for logging, wood products, paper products, and wood furniture industries by RPA region, 1997 (current dollars per acre).

“Value of exports”

- Table 29-10. Value of imports and exports of all commodities and timber products 1965–1999.

“Volume and value of domestic production that substitutes for imports”

- Table 29-11. Apparent roundwood consumption, exports, imports, and harvests in the United States, by species group, specified years 1952-97.

“Gross value of product and value added (profitability) downstream”

- Table 29-12. Value added by forest products industries as denoted by SIC codes 24, 26 and parts of 25, and by NAICS codes 321 and 322 and parts of 377 (million current dollars, and 1996 dollars).
- Table 29-13a. Value added for logging, wood products, paper products, and wood furniture industries by RPA region, 1997 (million current dollars).
- Table 29-13b. Value added per acre of timber land for logging, wood products, paper products, and wood furniture industries by RPA region, 1997 (current dollars per acre).
- Table 29-14. After tax profits, total, and as a percent of value of shipments for all manufacturing industries and for lumber and wood products, and paper and allied products industries, 1929-2000 (million current dollars).

Table 29-A. Indicator 29. Variables by type and years covered

	Harvest	Primary Products					Exports	
Level of detail	Volume	Energy	Weight	Industry Value of shipments	Industry Value added	Industry Profits	Volume or Weight	Value
National	T1 1900-1999 T9 1952-1996, (both tables give all roundwood harvested)	T6 1949-2000	T5 1950-1999	T8 1962-2000	T12 1947-2000	T14 1929-1999	T7 1965-1999, T11 1952-1996	T10 1965-1999
RPA Regions	T2-4 1952-1997 (gives harvest of growing stock only) T4c 1952-1997 GS harvest per acre timber land			T9a 1997 T9b 1997 Value of shipments per acre timber land	T13a 1997 T13b 1997 Value added per acre timber land			

C. How should the data be interpreted relative to the rationale from the TAC

The variables on volume or weight of production meet the intent of the rational to indicate one aspect of the size of timber and forest products sectors over time and by region. They also indicate an aspect of economic health of forest management, and for forest industries to the extent that timber harvest is needed to provide income to support forest management, and roundwood is needed for production of the industries.

Note that Tables 1 and 11 show roundwood harvested from U.S. forests for products and energy. This includes both growing stock volume (used to measure timber inventory) and nongrowing stock volume. Tables 2 through 4 shows growing stock volume removed from forests, which excludes nongrowing stock volume but does include growing stock cut down that may remain in forests as logging residue. The reason that growing stock removals are shown in Tables 2 through 4 is to allow comparison to growing stock growth and growing stock inventory to be show in other indicators.

Volume of production data (harvest) is shown by species group, RPA region, and ownership over time and per acre of timber land to allow comparison to (1) other indicators that characterize capacity of forests to produce timber products (e.g., areas by forest type, management intensity, growth rates, age class distribution), and (2) efforts to maintain and enhance that productive capacity of forests and forest industries (e.g., investments, research, institutions).

Weight of production of primary wood products and exports of logs, chips and recovered paper is shown to (1) indicate the relative size of various components of primary product production, and to (2) indicate the size of raw log and recovered paper exports compared to primary products production. They are intended as a partial answer the question “How important, in weight terms, are different components of production in supporting forest management, and supporting the economic health of forest industries.”

Energy production from wood is shown to indicate that it is a source of value that supports forest management and forest industries. Wood energy includes use of roundwood for burning, primarily by households of home heating, use of wood and bark residue from primary product manufacturing, and use of pulp liquor for burning. The roundwood equivalent of wood energy gives a rough indication of the amount of wood that is burned.

The variables on value of production meet the intent of the rational by showing the size of selected forest sector industries – industries that make solidwood, panels, paper, and furniture. They may overstate the value intended by the indicator to the extent that they include the value of all products produced by these industries even though they also produce some nonwood products.

The variables on value added, and after tax profit as a percent of shipments meet, to a limited degree, the intent of the indicator to measure economic health of the forest sector. Ability to add value and profitability for forest sector industries would be a necessary condition to maintain the industries and may be needed to support continued forest management activities. But they may not be sufficient economic conditions to provide all aspects needed for balanced forest management, or continued health of the industries in the long run. Other factors influencing continued economic health of the industry could include competition with overseas sources of forest products, competition with domestic or overseas substitutes for forest products, and institutions, policies, and investments that influence competitiveness.

The TAC notes ask for a measurement of “Volume and value of domestic production that substitutes for imports.” We show an estimate of the roundwood equivalent of imported products. This is an estimate of the harvest needed if products were made using roundwood in the United States. We do not have an estimate of the value of such products if they were produced in the United States, but the value of imported products may be an indicator of the value.

Since the United States does not have national goals for production of forest products it is not possible to meet the intent of the indicator to compare actual levels of production and value-added to the national objectives for supply or value adding in the wood and wood products sector.

D. Limitations of data presented.

Data presented on value and value added for products are for industry sectors in total and not just for wood and paper products.

Data on value of timber harvested is not shown. Value of timber can be estimated but would not be based on the same type of comprehensive national survey as for industries.

Data on value and value added for industry production are available down to the State level for recent years. See <http://www.census.gov/prod/www/abs/97ecmani.html>.

After tax profits are shown as a percentage of industry shipments but the profits would be derived from industry sales for a given year. The profit as a percentage of sales would be somewhat different to the

extent that sales were more or less than shipments. Long-run trends in the two percentages would be similar.

E. If current data is not adequate to measure the indicator, what options are available for remedy?

Data is not presented on the value of timber harvest for the United States. Although estimates may be made using representative prices from various regions, there are no consistent comprehensive data sets for continuing estimates. Local and regional timber prices are now provided by a mixture of private reporting services for some regions, State agencies selling timber, and Federal agencies selling timber. An estimation protocol may be developed using these sources on the assumption that comparable data would be available in the future.

III. Cross-cutting issues/relationships with other indicators

Data from this indicator is being constructed to be consistent with indicators on consumption (31), GDP contribution (32), recycling (33), employment (44), and injury rates (45) by using consistent data sources and data categories to allow comparisons.

Data on production in terms of growing stock removals is provided to allow comparison to growing stock growth and growing stock inventory in other indicators.

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Table 29-1. Volume of U.S industrial roundwood and fuelwood production (harvest), 1900 – 1999 (million cubic feet)

Year	Industrial roundwood	Fuelwood	Total
1900	7280	4800	12080
1901	7580	4650	12230
1902	7880	4500	12380
1903	8215	4350	12565
1904	8490	4200	12690
1905	8625	4050	12675
1906	9225	3900	13125
1907	9555	3825	13380
1908	8725	3975	12700
1909	9275	3825	13100
1910	9295	3910	13205
1911	9020	4035	13055
1912	9330	3760	13090
1913	9170	3780	12950
1914	8565	3975	12540
1915	8285	3975	12260
1916	8530	3955	12485
1917	7940	4040	11980
1918	7310	4290	11600
1919	7725	4075	11800
1920	7770	4065	11835
1921	6565	4270	10835
1922	7605	3760	11365
1923	8535	3375	11910
1924	8245	3380	11625
1925	8350	3225	11575
1926	8220	3065	11285
1927	7775	3200	10975
1928	7670	3225	10895
1929	8045	3170	11215

1930	6305	3790	10095
1931	4610	4390	9000
1932	3400	4980	8380
1933	4040	5005	9045
1934	4340	4825	9165
1935	5095	4510	9605
1936	5980	4265	10245
1937	6370	4075	10445
1938	5570	4325	9895
1939	6370	4190	10560
1940	6990	3890	10880
1941	8055	3595	11650
1942	8085	2865	10950
1943	7560	2785	10345
1944	7455	2915	10370
1945	6605	2975	9580
1946	7705	2675	10380
1947	8090	2685	10775
1948	8375	2665	11040
1949	7355	2820	10175
1950	8530	2270	10800
1951	8745	2230	10975
1952	8775	2010	10785
1953	8790	1920	10710
1954	8755	1835	10590
1955	9225	1745	10970
1956	9620	1655	11275
1957	8615	1565	10180
1958	8530	1480	10010
1959	9390	1390	10780
1960	8925	1300	10225
1961	8745	1215	9960

1962	9035	1125	10160
1963	9560	1055	10615
1964	10170	985	11155
1965	11,231	915	12146
1966	11,520	845	12365
1967	11,333	780	12113
1968	11,784	700	12484
1969	11,818	620	12438
1970	11,851	535	12386
1971	12,114	500	12614
1972	12,456	475	12931
1973	12,705	505	13210
1974	12,031	535	12566
1975	10,904	570	11474
1976	12,103	600	12703
1977	12,530	1,000	13530
1978	12,930	1,525	14455
1979	13,221	2,205	15426
1980	12,081	3,105	15186
1981	11,467	3,180	14647
1982	11,328	3,355	14683
1983	12,891	3,235	16126
1984	13,368	3,620	16988
1985	13,400	3,450	16850
1986	14,644	3,096	17740
1987	15,385	3,076	18461
1988	15,618	3,066	18684
1989	15,722	3,041	18763
1990	15,577	3,019	18596
1991	14,894	3,028	17922
1992	15,280	3,044	18324
1993	15,011	3,084	18095

1994	15,306	3,134	18440
1995	15,430	2,937	18367
1996	15,258	2,739	17997
1997	14,790	2,542	17332
1998	14,899	2,523	17422
1999	15,032	2,542	17574

Sources: 1900–1964: (Bureau of Census 1975, Table L 72-86); 1965–1999: (Howard 2001, table 5a)

Table 29-2. Volume of softwood growing stock harvested by landowner and region, 1952-1997 (million cubic feet)

Year	Industrial land					Other Private land				
	North	South	Rocky Mtn.	Pacific Coast	Total	North	South	Rocky Mtn.	Pacific Coast	Total
1952	129	802	128	1737	2796	400	1998	79	885	3362
1962	109	580	145	1455	2289	321	1937	74	504	2836
1970	153	960	138	1645	2896	314	2286	118	460	3178
1976	196	1366	115	1740	3417	352	2511	147	393	3403
1986	397	1785	178	1862	4222	415	3147	154	393	4109
1991	433	1843	198	1658	4132	383	3039	200	680	4302
1997	178	2119	152	1174	3623	519	3736	221	783	5259

Year	National Forest					Other Public land					Total				
	North	South	Rocky Mtn.	Pacific Coast	Total	North	South	Rocky Mtn.	Pacific Coast	Total	North	South	Rocky Mtn.	Pacific Coast	Total
1952	27	155	218	561	961	40	81	72	210	403	596	3036	497	3393	7522
1962	31	117	387	1100	1635	40	73	78	371	562	501	2707	684	3430	7322
1970	37	180	480	1221	1918	45	101	78	478	702	549	3527	814	3804	8694
1976	34	235	426	1172	1867	54	139	85	544	822	636	4251	773	3849	9509
1986	35	222	465	1431	2153	61	164	79	510	814	908	5318	876	4196	11298
1991	63	217	425	1084	1789	58	183	173	355	769	937	5282	996	3777	10992
1997	34	177	186	316	713	94	166	54	263	577	825	6198	613	2536	10172

Source: (Haynes, 2002)

Table 29-3. Volume of hardwood growing stock harvested by landowner and region, 1952-1997 (million cubic feet)

Year	Industrial land					Other Private land				
	North	South	Rocky Mtn.	Pacific Coast	Total	North	South	Rocky Mtn.	Pacific Coast	Total
1952	117	284	0	20	421	1155	1554	1	8	2718
1962	86	323	0	25	434	1123	1253	1	28	2405
1970	126	321	1	40	488	1186	1414	1	23	2624
1976	144	291	1	37	473	1199	1299	1	44	2543
1986	417	499	27	81	1024	2567	2255	17	17	4856
1991	511	527	0	83	1121	2857	2224	9	130	5220
1997	312	687	3	67	1069	2078	2570	29	68	4745

Year	National Forest				Other Public land					Total					
	North	South	West	Total	North	South	Rocky Mtn.	Pacific Coast	Total	North	South	Rocky Mtn.	Pacific Coast	National Forest	West Total
1952	41	50	9	100	68	45	2	7	122	1381	1933	3	35	9	3361
1962	43	40	14	97	77	46	2	5	130	1329	1662	3	58	14	3066
1970	55	49	19	123	98	56	1	15	170	1465	1840	3	78	19	3405
1976	64	33	4	101	95	84	1	19	199	1502	1707	3	100	4	3316
1986	102	49	16	167	104	128	1	43	276	3190	2931	45	141	16	6323
1991	137	48	12	197	179	86	2	43	310	3684	2885	11	256	12	6848
1997	87	99	32	218	341	83	3	17	444	2818	3439	35	152	32	6476

Source: (Haynes, 2002)

Table 29-4a. Volume of all growing stock harvested by landowner and region, 1952-1997 (million cubic feet)

Year	Industrial land					Other Private land				
	North	South	Rocky Mtn.	Pacific Coast	Total	North	South	Rocky Mtn.	Pacific Coast	Total
1952	246	1086	128	1757	3217	1555	3552	80	893	6080
1962	195	903	145	1480	2723	1444	3190	75	532	5241
1970	279	1281	139	1685	3384	1500	3700	119	483	5802
1976	340	1657	116	1777	3890	1551	3810	148	437	5946
1986	814	2284	205	1943	5246	2982	5402	171	410	8965
1991	944	2370	198	1741	5253	3240	5263	209	810	9522
1997	490	2806	155	1241	4692	2597	6306	250	851	10004

Year	National Forest				Other Public land					Total					
	North	South	West	Total	North	South	Rocky Mtn.	Pacific Coast	Total	North	South	Rocky Mtn.	Pacific Coast	National Forest West	Total
1952	68	205	788	1061	1029	85	83	79	1276	2898	4928	291	2729	788	11634
1962	74	157	1501	1732	1712	86	75	83	1956	3425	4336	295	2095	1501	11652
1970	92	229	1720	2041	2016	101	102	93	2312	3887	5311	360	2261	1720	13539
1976	98	268	1602	1968	1962	138	140	104	2344	3951	5873	404	2318	1602	14148
1986	137	271	1912	2320	2257	189	165	122	2733	6190	8146	541	2475	1912	19264
1991	200	265	1521	1986	1968	144	185	216	2513	6352	8042	592	2767	1521	19274
1997	121	276	534	931	1054	177	169	71	1471	4262	9565	574	2163	534	17098

Source: (Haynes, 2002)

Table 29-4b. Timber land area by landowner and region, 1952-1997 (1000 acres)

Year	Industrial land					Other Private land				
	North	South	Rocky Mtn.	Pacific Coast	Total	North	South	Rocky Mtn.	Pacific Coast	Total
1953	13721	31795	2250	11213	58979	111424	155308	17895	19812	304439
1963	13688	33635	2240	11871	61434	114494	157262	17645	18126	307527
1977	17453	36860	2095	12528	68936	107426	144335	17460	16029	285250
1987	16936	37988	2964	12459	70347	107517	139357	16781	19909	283564
1997	14791	37037	2926	12103	66857	112406	143171	18199	17064	290840

Year	National Forest				Other Public land					Total					
	North	South	West	Total	North	South	Rocky Mtn.	Pacific Coast	Total	North	South	Rocky Mtn.	Pacific Coast	National Forest	West
1953	9833	10824	74050	94707	19297	6619	4540	20273	50729	154275	204546	24685	51298	74050	508854
1963	9776	11149	75920	96845	18648	6657	4520	19487	49312	156606	208703	24405	49484	75920	515118
1977	9243	11496	67962	88701	19324	6939	4153	19052	49468	153446	199630	23708	47609	67962	492355
1987	9456	11764	65372	86592	20509	8160	5633	11512	45814	154418	197269	25378	43880	65372	486317
1997	9904	11052	75480	96436	22332	9739	6314	11146	49531	159433	200999	27439	40313	75480	503664

Source: (Smith et al. 2001, table 10)

Table 29-4c. Volume of growing stock harvested per acre of timber land by landowner and region, 1952-1997 (cubic feet per acre)

Year	Industrial land					Other Private land				
	North	South	Rocky Mtn.	Pacific Coast	Total	North	South	Rocky Mtn.	Pacific Coast	Total
1953	18	34	57	157	55	14	23	4	45	20
1963	14	27	65	125	44	13	20	4	29	17
1977	19	45	55	142	56	14	26	8	27	21
1987	48	60	69	156	75	28	39	10	21	32
1997	33	76	53	103	70	23	44	14	50	34

Year	National Forest				Other Public land					Total					
	North	South	West	Total	North	South	Rocky Mtn.	Pacific Coast	Total	North	South	Rocky Mtn.	Pacific Coast	National Forest West	Total
1953	7	19	11	11	53	13	18	4	25	19	24	12	53	11	23
1963	8	14	20	18	92	13	17	4	40	22	21	12	42	20	23
1977	11	23	24	22	102	20	34	5	47	26	29	17	49	24	29
1987	14	23	29	27	110	23	29	11	60	40	41	21	56	29	40
1997	12	25	7	10	47	18	27	6	30	27	48	21	54	7	34

Source: Table 29-4a divided by Table 29-4b

Table 29-5. Weight of U.S. industrial wood product production by product, 1950-1999 (thousand short tons)

Year	Total	Softwood plywood	Oriented strandboard	Laminated veneer lumber	Hardwood plywood and veneer	Softwood lumber	Hardwood lumber	Lumber made at pallet plants	Particleboard production	Hardboard production	Medium-density fiberboard production	Pulp paper and board	Other industrial products	Insulating board
1950	82,814	1,463	—	—	781	29,905	12,444	0	30	336	0	24,375	12,705	774
1951	83,472	1,638	—	—	786	28,793	13,012	0	42	306	0	26,048	12,045	803
1952	81,464	1,738	—	—	803	29,516	12,197	0	46	360	0	24,423	11,550	830
1953	84,182	2,104	—	—	806	28,912	12,116	0	59	371	0	26,567	12,375	871
1954	83,469	2,181	—	—	732	28,588	11,937	0	68	408	0	26,411	12,210	934
1955	90,273	2,890	—	—	889	29,107	12,766	0	98	465	0	30,154	12,870	1,033
1956	91,858	2,971	—	—	884	29,413	13,446	0	156	474	0	31,428	12,045	1,041
1957	86,501	3,091	—	—	772	26,456	12,550	0	257	500	0	30,666	11,220	988
1958	87,827	3,548	—	—	755	26,729	12,975	0	352	535	0	30,823	11,055	1,056
1959	97,302	4,231	—	—	883	29,784	14,399	0	359	645	0	33,748	12,045	1,208
1960	88,651	4,243	—	—	723	26,039	13,498	0	326	603	0	33,758	8,415	1,046
1961	88,943	4,646	—	—	856	25,447	12,842	0	410	673	0	34,937	8,085	1,046
1962	92,674	5,094	—	—	995	26,182	13,714	0	515	764	0	36,678	7,673	1,059
1963	98,468	5,674	—	—	1,104	26,898	15,419	0	641	847	0	38,272	8,498	1,116
1964	104,539	6,264	—	—	1,255	28,589	15,690	0	832	840	0	40,961	8,910	1,198
1965	108,850	6,807	—	—	1,345	28,599	15,929	153	1,059	913	105	43,465	9,240	1,234
1966	113,172	7,140	—	—	1,362	28,162	16,488	182	1,333	964	117	46,971	9,323	1,131
1967	110,976	7,086	—	—	1,257	27,503	15,712	183	1,510	949	130	46,969	8,498	1,178
1968	115,986	8,036	—	—	1,318	28,589	14,740	202	1,956	1,160	145	50,561	8,003	1,276
1969	117,566	7,489	—	—	1,227	27,669	14,727	233	2,365	1,327	161	53,530	7,508	1,330
1970	115,751	7,842	—	—	1,179	26,876	14,057	222	2,434	1,370	179	53,408	7,013	1,173
1971	121,339	9,097	—	—	1,263	29,326	14,254	242	3,317	1,633	198	53,753	6,848	1,410
1972	128,690	10,021	—	—	1,332	30,239	14,334	272	4,330	1,812	220	58,009	6,683	1,439
1973	132,863	10,011	—	—	1,186	30,836	14,837	325	4,866	1,891	245	60,548	6,683	1,437
1974	125,754	8,683	—	—	919	27,046	14,257	360	4,324	1,767	272	60,403	6,518	1,205
1975	113,612	8,777	—	—	690	26,112	12,325	278	3,520	1,775	302	52,393	6,353	1,087
1976	128,193	10,084	—	—	711	29,873	13,462	343	4,485	2,120	394	59,283	6,188	1,251
1977	134,878	10,596	—	—	779	31,923	14,343	413	5,019	2,411	620	61,149	6,353	1,271
1978	139,249	10,918	—	—	778	32,704	15,120	473	5,231	2,445	714	63,085	6,518	1,262
1979	141,870	10,748	—	—	755	32,509	15,706	518	4,748	2,402	713	65,873	6,683	1,215
1980	134,030	8,932	84	53	681	27,530	15,452	452	4,148	1,919	693	66,217	6,848	1,021
1981	129,293	9,161	169	70	641	24,797	12,622	442	4,035	1,908	726	66,931	7,013	780
1982	124,165	8,666	348	70	909	23,222	13,494	400	3,365	1,746	627	63,483	7,178	657
1983	141,708	10,653	838	88	971	29,020	14,794	450	4,231	2,282	849	69,352	7,343	836
1984	149,916	10,897	1,276	88	988	30,434	17,027	500	4,494	2,137	892	72,742	7,508	934
1985	148,675	11,030	1,668	123	881	30,577	16,196	550	4,684	1,969	963	71,459	7,673	904
1986	160,650	12,096	2,196	140	912	34,435	17,680	600	5,067	1,819	1,098	75,964	7,838	806
1987	170,251	12,523	2,548	158	1,000	37,415	19,006	600	5,212	1,705	1,264	79,830	8,168	823
1988	174,510	12,359	2,878	193	1,019	37,224	19,813	600	5,385	1,599	1,320	82,847	8,415	859
1989	175,444	11,695	3,191	210	1,011	36,653	20,345	610	5,425	1,624	1,364	83,257	9,158	901
1990	176,164	11,440	3,386	280	1,009	34,941	20,792	610	5,352	1,570	1,336	85,307	9,273	868
1991	171,482	10,200	3,508	280	982	32,373	18,847	620	5,304	1,530	1,347	86,546	9,092	853
1992	180,125	10,572	4,158	298	934	33,706	19,276	620	5,597	1,648	1,499	90,885	10,065	868
1993	182,205	10,563	4,376	368	992	32,165	20,620	620	5,964	1,640	1,633	92,154	10,247	866
1994	188,569	10,740	4,679	403	1,182	33,297	20,900	640	6,387	1,627	1,759	96,595	9,504	857
1995	187,601	10,591	4,939	490	1,209	31,467	21,337	660	5,906	1,541	1,557	98,582	8,465	857
1996	189,362	10,490	5,821	560	1,171	32,476	21,074	657	6,270	1,650	1,752	98,334	8,250	857
1997	195,566	9,824	6,584	665	1,229	33,844	21,386	628	6,372	1,407	1,948	102,822	8,003	857
1998	196,569	9,721	7,017	718	1,288	33,853	23,470	608	6,459	1,344	1,970	101,262	8,003	857
1999	203,229	9,743	7,258	838	1,323	35,803	24,145	590	6,511	1,371	1,987	104,801	8,003	857

Sources: 1950-1964: (Ince, 1998 table 2); 1965-1999: (Howard, 2001, table 9)

Table 29-6. Energy produced from wood by end use, and its roundwood equivalent
 $(10^{15} \text{ Btu and Billion cubic feet})$

Year	Residential	Commercial	Industrial	Electric power	Total	Total in Roundwood equivalent (billion cubic feet)
1949	1.06	0.02	0.47	0.01	1.55	6.20
1950	1.01	0.02	0.53	0.01	1.56	6.25
1951	0.96	0.02	0.55	0.01	1.53	6.14
1952	0.90	0.02	0.55	0.01	1.47	5.90
1953	0.83	0.02	0.57	0.01	1.42	5.67
1954	0.80	0.02	0.58	0.00	1.39	5.58
1955	0.78	0.01	0.63	0.00	1.42	5.70
1956	0.74	0.01	0.66	0.00	1.42	5.66
1957	0.70	0.01	0.62	0.00	1.33	5.33
1958	0.69	0.01	0.62	0.00	1.32	5.29
1959	0.65	0.01	0.69	0.00	1.35	5.41
1960	0.63	0.01	0.68	0.00	1.32	5.28
1961	0.59	0.01	0.70	0.00	1.29	5.18
1962	0.56	0.01	0.73	0.00	1.30	5.20
1963	0.54	0.01	0.77	0.00	1.32	5.29
1964	0.50	0.01	0.83	0.00	1.34	5.35
1965	0.47	0.01	0.85	0.00	1.33	5.34
1966	0.45	0.01	0.90	0.00	1.37	5.48
1967	0.43	0.01	0.89	0.00	1.34	5.36
1968	0.43	0.01	0.98	0.00	1.42	5.68
1969	0.42	0.01	1.01	0.00	1.44	5.76
1970	0.40	0.01	1.02	0.00	1.43	5.71
1971	0.38	0.01	1.04	0.00	1.43	5.72
1972	0.38	0.01	1.11	0.00	1.50	6.00
1973	0.35	0.01	1.16	0.00	1.53	6.11
1974	0.37	0.01	1.16	0.00	1.54	6.15
1975	0.43	0.01	1.06	0.00	1.50	5.99
1976	0.48	0.01	1.22	0.00	1.71	6.85
1977	0.54	0.01	1.28	0.00	1.84	7.35
1978	0.62	0.01	1.40	0.00	2.04	8.14
1979	0.73	0.01	1.40	0.00	2.15	8.60
1980	0.86	0.02	1.60	0.00	2.48	9.93
1981	0.87	0.02	1.60	0.00	2.49	9.98
1982	0.94	0.02	1.52	0.00	2.48	9.91
1983	0.93	0.02	1.69	0.00	2.64	10.56
1984	0.92	0.02	1.68	0.00	2.63	10.52
1985	0.90	0.02	1.65	0.01	2.58	10.30
1986	0.88	0.03	1.61	0.01	2.52	10.07
1987	0.85	0.03	1.58	0.01	2.47	9.86
1988	0.89	0.03	1.63	0.01	2.55	10.21
1989	0.92	0.03	1.39	0.29	2.64	10.54
1990	0.58	0.04	1.25	0.32	2.19	8.75
1991	0.61	0.04	1.19	0.35	2.19	8.75
1992	0.65	0.04	1.23	0.37	2.29	9.16
1993	0.55	0.04	1.25	0.38	2.23	8.90
1994	0.54	0.05	1.34	0.39	2.31	9.26
1995	0.60	0.05	1.40	0.38	2.42	9.67
1996	0.60	0.05	1.44	0.38	2.47	9.86

1997	0.43	0.05	1.51	0.35	2.35	9.39
1998	0.39	0.05	1.56	0.33	2.33	9.30
1999	0.41	0.05	1.71	0.39	2.57	10.26
2000	0.43	0.05	1.70	0.41	2.59	10.38

Notes: Residential use is primarily roundwood with some waste wood from other sources. Commercial use is a mix of roundwood and wood waste. Industrial use is from pulp liquor and wood waste. Energy is converted to roundwood equivalent using 4 billion cubic feet per Quadrillion Btus.

Sources: 1949-1988: (USDOE EIA 2001, tables 10.2a, 102b) 1988-2000: (USDOE EIA 2002, tables 10.2, 10.3a, 103b)

Table 29-7. Weight of U.S. industrial wood product export, log and chip export, and recovered paper export by product, 1965-1999 (thousand short tons)

Year	Total all Exports (with logs, chips and recovered paper)	Total Industrial products	Softwood plywood	OSB/wafer-board	Hardwood Plywood and veneer	Softwood lumber	Hardwood lumber	Particle-board	Hardboard	MDF	Pulp, Paper and board	Insulating board	Log and chip exports	Recovered paper exports
1965	3,971	16	0	4	760	236	0	7	0	2,932	15	2,760		
1966	4,540	26	0	5	847	262	0	10	0	3,372	18	3,342		
1967	4,965	46	0	5	942	277	3	9	0	3,666	17	5,068		
1968	5,666	35	0	9	1,023	192	8	13	0	4,369	17	7,078		
1969	6,065	109	0	10	1,000	199	20	15	0	4,688	24	7,362		
1970	8,908	6,990	62	0	38	1,089	216	14	24	0	5,528	19	8,500	408
1971	7,365	6,467	54	0	10	911	270	28	26	0	5,144	24	6,946	419
1972	9,781	6,980	121	0	17	1,163	400	63	32	0	5,160	24	9,366	415
1973	11,492	7,647	225	0	26	1,711	359	108	41	0	5,147	29	10,809	683
1974	11,246	8,718	296	0	44	1,530	336	159	55	0	6,260	37	9,939	1,307
1975	10,147	7,586	433	0	44	1,372	359	118	49	0	5,182	28	9,286	861
1976	12,661	7,772	392	0	52	1,568	407	113	58	0	5,155	28	11,388	1,273
1977	12,657	7,358	157	0	46	1,394	402	89	54	0	5,186	31	11,145	1,512
1978	13,045	7,434	163	0	20	1,336	584	86	24	0	5,182	39	11,432	1,613
1979	15,609	8,579	220	0	19	1,703	670	118	32	0	5,799	18	13,482	2,127
1980	14,672	11,241	204	0	26	1,910	855	149	27	0	8,047	23	12,035	2,637
1981	11,763	10,640	375	0	31	1,833	834	165	53	0	7,308	40	9,481	2,282
1982	12,265	9,511	247	0	27	1,591	659	58	15	0	6,889	25	10,033	2,232
1983	12,927	10,476	314	0	27	1,703	887	67	19	0	7,430	30	10,222	2,705
1984	13,503	9,983	203	0	24	1,561	930	76	20	0	7,136	33	10,047	3,456
1985	14,256	9,668	175	0	29	1,479	726	84	60	0	7,086	29	10,700	3,556
1986	14,519	11,747	336	6	40	1,832	880	122	57	0	8,431	43	10,426	4,093
1987	16,287	13,463	436	13	39	2,366	1,339	160	84	0	8,980	47	11,478	4,809
1988	19,940	16,128	550	19	68	3,186	2,133	229	101	0	9,767	75	13,987	5,953
1989	20,847	16,789	790	25	78	3,240	1,509	239	133	229	10,479	66	14,540	6,307
1990	20,852	17,373	884	31	100	2,900	1,569	349	173	174	11,068	124	14,347	6,505
1991	21,387	18,945	725	36	151	2,795	1,680	318	189	201	12,773	77	14,789	6,598
1992	20,780	20,504	790	31	209	2,588	1,749	380	261	175	14,243	79	13,998	6,782
1993	19,071	19,315	772	38	176	2,320	1,843	297	287	150	13,334	99	12,700	6,371
1994	20,740	20,079	663	49	160	2,135	1,935	267	371	151	14,264	84	12,766	7,974
1995	23,262	21,715	694	51	164	1,940	2,033	298	429	151	15,882	72	13,354	9,908
1996	21,432	22,027	684	98	177	1,889	2,089	126	444	91	16,287	142	13,348	8,084
1997	22,028	23,384	848	105	167	1,777	2,310	163	392	102	17,358	162	14,146	7,882
1998		19,866	419	63	135	1,235	2,255	123	271	67	15,131	168	13,014	
1999		19,057	539	0	141	1,414	1,958	220	271	0	14,449	64	10,831	

Sources: (Ince, 2002)

Table 29-8. Value of shipments from the forest products industries as denoted by SIC codes 24, 26 and parts of 25, and by NAICS codes 321 and 322 and parts of 377 (million current dollars, except 1996 dollars, where noted)

Year	Lumber and wood products - SIC 24	Paper and allied products - SIC 26	Total SIC 24 & 26	Total SIC 1996 dollars	Wood Furniture from parts of SIC 25	Total SIC codes in 1996 dollars	Total from SIC codes in 1996	Total NAICS Logging & Wood and Paper products 1996 dollars	Total NAICS Logging & Wood and Paper products 1996 dollars	Wood Furniture from parts of NAICS 337	Total NAICS codes	Total from NAICS codes in 1996 dollars	GDP Deflator 1996=100
	NAICS 113	NAICS 321	NAICS 322										
1961		14788											22.4
1962	7988	15293	23281	102380									22.7
1963	9427	16357	25784	112104									23.0
1964	9882	17195	27076	116008									23.3
1965	10298	18579	28877	121432									23.8
1966	10720	20414	31134	127286									24.5
1967	11205	20970	32175	127628									25.2
1968	12870	22308	35178	133756									26.3
1969	14039	24427	164466	596105									27.6
1970	13044	24801	37845	130230									29.1
1971	14931	25458	40389	132336									30.5
1972	23816	28262	52078	163664									31.8
1973	27981	32752	60733	180753	4689	308881	919289						33.6
1974	26853	41665	68518	187105	4974	331089	904121						36.6
1975	25194	41743	66937	167217	4498	307563	768332						40.0
1976	25095	41712	66806	157934	5420	298942	706719						42.3
1977	39943	52086	92029	204509	6163	98192	218204						45.0
1978	46521	57001	103522	214776	7242	110764	229658						48.2
1979	49854	65201	115055	219990	7522	122577	234597						52.3
1980	47144	72794	119938	210418	7763	127701	223880						57.0
1981	46807	80236	127043	203595	8273	135316	216957						62.4
1982	42935	79845	122780	185189	8218	130998	197733						66.3
1983	52006	84979	136985	198817	9030	146015	211985						68.9
1984	56163	95679	151842	212664	10772	162614	227623						71.4

1985	56351	94698	151049	204951	10912	161961	219787													73.7
1986	61111	99705	160816	213567	11488	172304	228793													75.3
1987	69690	108993	178683	230262	13233	191916	247378													77.6
1988	72046	122883	194929	243054	13493	208422	259845													80.2
1989	74409	131896	206305	247665	13821	220126	264352													83.3
1990	74228	132425	206653	238905	13696	220349	254709													86.5
1991	70491	130131	200622	223659	12740	213362	237968													89.7
1992	81767	133063	214830	234020	14163	228993	249339													91.8
1993	94270	133262	227532	241798	14199	241731	257023													94.1
1994	103503	143649	247152	257450	15427	262579	273492													96.0
1995	104945	173718	278663	284060	18307	296970	302721													98.1
1996	106520	160662	267182	267182	19087	286269	286269													100.0
1997	111378	158493	269871	264579				13613	88470	150296	252379	247431	22856	261623	1036668					102.0
1998	114620	163813	278433	269799					91175	154984				27824	273983					103.2
1999	123062	166936	289998	276980					97583	157491				29865	284939					104.7
2000	112512	180157	292669	273522																107.0

Sources: SIC 24,26 1977-2000: (USDC BEA, 2002a); SIC 25 1977-1992 (USDC BOC 1995a, 1995b); SIC 25 1993-1996 (USDC BOC 1998); NAICS 1997-1999 (USDC BOC 2001). GDP deflator: (USDC BEA, 2002b)

Note: Definitions of SIC groups changed somewhat in 1987 and so data before 1987 not strictly comparable with data for 1987 and after.

Note: Codes used under SIC 24 are 2511, 2517, 2521, and 2541. Codes used under NAICS 337 are 33711, 337122, 337211, and 337212.

Table 29-9a. Value of shipments for logging, wood products, and paper products industries by RPA region, 1997 (million current dollars)

Industry/ NAICS code	North	South	Rocky Mountains	Pacific Coast	Shipments	
					not disclosed by State	Total
Logging/ 113	1,788	5,969	784	5,021	52	13,613
Wood products/ 321	25,441	37,450	6,161	19,039	972	89,064
Paper products/ 322	72,840	57,874	4,050	15,578	887	151,230
Wood furniture/ Parts of 337	10,241	9,588	1,471	2,928	1,373	25,602
Total	10,241	9,588	1,471	2,928	1,373	25,602

Note: Codes used under NAICS 337 are 33711, 337122, 337211, and 337212.

Source: (USDC 1999)

Table 29-9b. Value of shipments per acre of timber land for logging, wood products, paper products, and wood furniture industries by RPA region, 1997 (current dollars per acre)

Industry/ NAICS code	North	South	Rocky Mountains	Pacific Coast	Total
Logging/ 113	11.2	29.7	11.0	69.5	27.0
Wood products/ 321	159.6	186.3	86.8	263.7	176.9
Paper products/ 322	457.0	287.9	57.0	215.8	300.3
Wood furniture/ Parts of 337	64.2	47.7	20.7	40.6	50.8
Total	692.0	551.7	175.6	589.6	555.0

Note: Codes used under NAICS 337 are 33711, 337122, 337211, and 337212.

Source: (USDC 1999)

Table 29-10. Value of imports and exports of all commodities^a and timber products,^b 1965-1999

Year	Imports						Exports					
	All commodities		Timber products		Proportion	All commodities		Timber products		Proportion		
	Million current dollars	Million 1992 dollars	Total Million current dollars	Total Million current dollars		Million current dollars	Million 1992 dollars	Total Million current dollars	Total Million current dollars			
				Percent								
1965	21,285	77,120	1,977	7,163	9.3	27,135	98,315	917	3,322	3.4		
1966	25,360	89,296	2,165	7,623	8.5	29,884	105,225	1,024	3,606	3.4		
1967	26,733	93,800	2,087	7,323	7.8	31,142	109,270	1,150	4,035	3.7		
1968	32,970	112,911	2,446	8,377	7.4	33,953	116,277	1,362	4,664	4.0		
1969	35,863	117,970	2,734	8,993	7.6	37,462	123,230	1,509	4,964	4.0		
1970	39,756	126,210	2,546	8,083	6.4	42,590	135,206	1,816	5,765	4.3		
1971	45,516	140,049	2,937	9,037	6.5	43,492	133,822	1,692	5,206	3.9		
1972	55,290	162,618	3,632	10,682	6.6	48,887	143,785	2,038	5,994	4.2		
1973	69,024	179,750	4,468	11,635	6.5	70,246	182,932	3,006	7,828	4.3		
1974	100,140	219,605	4,778	10,478	4.8	97,144	213,035	4,165	9,134	4.3		
1975	96,477	193,729	4,141	8,315	4.3	106,102	213,056	4,088	8,209	3.9		
1976	121,121	232,478	5,590	10,729	4.6	113,319	217,503	4,695	9,012	4.1		
1977	147,976	267,105	6,720	12,130	4.5	117,926	212,863	4,664	8,419	4.0		
1978	172,912	290,121	8,028	13,470	4.6	141,126	236,789	4,963	8,327	3.5		
1979	205,850	306,324	9,181	13,662	4.5	178,591	265,760	6,854	10,199	3.8		
1980	239,943	313,242	8,648	11,290	3.6	216,592	282,757	8,516	11,117	3.9		
1981	259,012	309,823	9,042	10,816	3.5	228,961	273,877	7,925	9,480	3.5		
1982	242,340	284,103	8,382	9,826	3.5	207,158	242,858	7,151	8,383	3.5		
1983	256,680	297,083	10,067	11,652	3.9	195,969	226,816	7,044	8,153	3.6		
1984	322,949	364,914	12,235	13,825	3.8	212,056	239,611	7,210	8,147	3.4		
1985	343,067	389,406	12,539	14,233	3.7	206,926	234,876	6,699	7,604	3.2		
1986	368,251	430,703	13,271	15,522	3.6	206,628	241,670	7,692	8,996	3.7		
1987	402,084	458,477	15,268	17,409	3.8	244,417	278,697	9,940	11,334	4.1		
1988	437,475	479,688	16,749	18,365	3.8	310,333	340,277	12,782	14,015	4.1		
1989	477,400	498,851	19,106	19,964	4.0	362,100	378,370	17,224	17,998	4.8		
1990	498,300	502,319	18,806	18,958	3.8	389,300	392,440	18,542	18,692	4.8		
1991	491,000	493,964	17,100	17,203	3.5	416,900	419,416	19,500	19,618	4.7		
1992	536,500	536,500	18,700	18,700	3.5	440,400	440,400	20,700	20,700	4.7		
1993	589,400	580,690	18,874	18,595	3.2	456,800	450,049	16,889	16,639	3.7		
1994	668,600	651,022	17,117	16,667	2.6	502,400	489,192	15,320	14,918	3.0		
1995	749,600	704,511	19,023	17,879	2.5	575,800	541,165	17,582	16,524	3.1		
1996	803,300	736,972	21,264	19,508	2.6	612,000	561,468	18,315	16,803	3.0		
1997	877,300	806,342	27,375	25,161	3.1	679,300	624,357	21,386	19,656	3.1		
1998	918,800	832,386	28,684	25,986	3.1	670,600	607,529	19,261	17,450	2.9		
1999	1,030,400	856,915	32,263	26,831	3.1	683,200	568,172	19,483	16,203	2.9		

Source: (Howard, 2001, table 14)

Table 29-11. Apparent roundwood consumption, exports, imports, and harvests in the United States, by species group, specified years 1952-97

Species group and product	Historical						
	1952	1962	1970	1976	1986	1991	1996
-----Billion cubic feet-----							
Softwoods:							
Total consumption ¹	8.4	8.5	9.8	10.2	12.6	11.5	12.4
Exports ¹	0.2	0.4	0.9	1	1.2	1.7	1.4
Imports ¹	1.3	1.7	1.5	1.8	2.8	2.3	3.2
SRWC ²	0	0	0	0	0	0	0
Harvest	7.3	7.2	9.2	9.5	11.1	10.9	10.5
Hardwoods:							
Total consumption ¹	3.5	3.1	3.4	3.4	6.9	6.8	7.2
Export ¹	0	0.1	0.1	0.1	0.3	0.7	0.9
Import ¹	0.1	0.2	0.4	0.4	0.6	0.5	0.7
SRWC ²	0	0	0	0	0	0	0
Harvest	3.5	3	3.2	3.2	6.6	7	7.5
All species:							
Total consumption ¹	11.9	11.6	13.2	13.6	19.6	18.3	19.7
Exports ¹	0.2	0.5	1.1	1.2	1.5	2.4	2.2
Imports ¹	1.4	1.9	1.9	2.1	3.4	2.8	3.9
SRWC ²	0	0	0	0	0	0	0
Harvest	10.8	10.2	12.4	12.7	17.7	17.9	18

¹Total for products converted to a roundwood equivalent basis.

²SRWC = Short rotation woody crop.

Source: (Haynes, 2002, table 12)

Table 29-12. Value added by forest products industries as denoted by SIC codes 24, 26 and parts of 25, and by NAICS codes 113, 321 and 322 and parts of 377 (million current dollars, and 1996 dollars)

	Lumber and wood products - SIC 24	Paper and allied products - SIC 26	Total SIC 24 & 26	Total SIC 1996 dollars	Wood Furniture from parts of SIC 25	Total from SIC codes in 1996 dollars	Total NAICS						Total from NAICS codes in 1996 dollars	GDP Deflator 1996=100	
							NAICS 113	Wood products	NAICS 321	Paper products	NAICS 322	Logging & Wood and Paper products 1996 dollars	Wood Furniture from parts of NAICS 337	Total NAICS codes	
1947	2632	2510	5142	31450											16.4
1948	3047	2641	5688	32917											17.3
1949	2634	2468	5102	29560											17.3
1950	3295	3079	6374	36527											17.5
1951	3713	3865	7578	40502											18.7
1952	3511	3605	7116	37453											19.0
1953	3469	3836	7305	37948											19.3
1954	3324	3956	7280	37449											19.4
1955	3905	4453	8358	42255											19.8
1956	3969	5035	9004	44029											20.5
1957	3564	4884	8448	39981											21.1
1958	3528	4871	8399	38812											21.6
1959	4184	5450	9634	44031											21.9
1960	3930	5546	9476	42704											22.2
1961	3789	5802	9591	42741											22.4
1962	4091	6136	10227	44974											22.7
1963	4523	6361	10884	47322											23.0
1964	4946	6789	11735	50278											23.3
1965	5460	7240	12700	53406											23.8
1966	5500	8048	13548	55388											24.5
1967	5655	8206	13861	54982											25.2
1968	6572	8914	15486	58882											26.3

Sources: SIC 24,26 1947-2000: (USDC BEA, 2002a); SIC 25 1977-1992 (USDC BOC 1995a, 1995b); SIC 25 1993-1996 (USDC BOC 1998); NAICS 1997-1999 (USDC BOC 2001). GDP deflator: (USDC BEA, 2002b)

Note: Definitions of SIC groups changed somewhat in 1987 and so data before 1987 not strictly comparable with data for 1987 and after.

Note: Codes used under SIC 24 are 2511, 2517, 2521, and 2541. Codes used under NAICS 337 are 33711, 337122, 337211, and 337212.

Table 29-13. Value added for logging, wood products, and paper products industries by RPA region, 1997 (million current dollars)

Industry/ NAICS code	North	South	Rocky Mountains	Pacific Coast	Value added not disclosed by State		Total
Logging/ 113	801	3,047	407	1,882	29	6,166	
Wood products/ 321	11,076	13,802	2,240	6,560	39	33,719	
Paper products/ 322	34,803	26,379	1,917	6,747	514	70,361	
Wood furniture/ parts of 337	5,647	5,298	834	1,585	796	14,160	
Total	52,328	48,526	5,399	16,774	1,378	124,405	

Note: Codes used under NAICS 337 are 33711, 337122, 337211, and 337212.

Source: (USDC 1999)

Table 29-13. Value added per acre of timber land for logging, wood products, paper products, and wood furniture industries by RPA region, 1997 (current dollars per acre)

Industry/ NAICS code	North	South	Rocky Mountains	Pacific Coast	Total	
Logging/ 113	5.0	15.2	5.7	26.1	12.2	
Wood products/ 321	69.5	68.7	31.6	90.9	67.0	
Paper products/ 322	218.3	131.2	27.0	93.4	139.7	
Wood furniture/ parts of 337	35.4	26.4	11.8	21.9	28.1	
Total	328.3	241.4	76.0	232.3	247.0	

Note: Codes used under NAICS 337 are 33711, 337122, 337211, and 337212.

Source: (USDC 1999)

Table 29-14. After tax profits and value of shipments for all manufacturing industries and for lumber and wood products, and paper and allied products industries, 1,929-2,000, (million current dollars)

Year	All Manufac-turing	After-tax profits		Value of shipments		After-tax profits as a percent of shipments		
		Lumber and wood products, SIC 24	Paper and allied products, SIC 26	All Manufac-turing	Lumber and wood products, SIC 24	Paper and allied products, SIC 26	All Manufac-turing	Lumber and wood products, SIC 24
1929	4278	103	94					
1930	1301	-10	45					
1931	-504	-83	-7					
1932	-1361	-85	-53					
1933	637	2	32					
1934	1097	-8	61					
1935	1684	12	67					
1936	2897	49	87					
1937	3013	68	110					
1938	1192	1	36					
1939	3009	32	97					
1940	3880	73	142					
1941	5725	122	212					
1942	5198	105	158					
1943	5653	88	157					
1944	5650	90	161					
1945	4198	59	136					
1946	7287	178	361					
1947	10781	344	584					
1948	11991	369	492					
1949	9476	203	341					
1950	13299	417	548					
1951	10956	331	535					
1952	9591	249	419					
1953	10355	217	434					
1954	10517	237	461					
1955	14334	359	575					

1956	13956	280	685				
1957	13305	171	540				
1958	10451	242	456	326,723		3.2%	
1959	14110	375	586				
1960	12699	242	535				
1961	11829	251	522	369994	14788	3.2%	3.5%
1962	14161	349	530	399309	7988	15293	3.5%
1963	15853	445	571	420528	9427	16357	3.8%
1964	18412	546	652	447985	9882	17195	4.1%
1965	23336	672	769	492006	10298	18579	4.7%
1966	25111	538	920	538737	10720	20414	4.7%
1967	23156	556	818	557398	11205	20970	4.2%
1968	23437	899	876	603220	12870	22308	3.9%
1969	21101	927	943	642636	14039	24427	3.3%
1970	16062	469	744	634322	13044	24801	2.5%
1971	20005	731	687	670971	14931	25458	3.0%
1972	24599	1048	999	756534	23816	28262	3.3%
1973	32262	1669	1555	875443	27981	32752	3.7%
1974	36118	1129	1913	1017873	26853	41665	3.5%
1975	34848	844	1467	1039377	25194	41743	3.4%
1976	43891	1712	1894	1185695	25095	41712	3.7%
1977	49157	2194	1928	1358526	39943	52086	3.6%
1978	58661	3004	2129	1522937	46521	57001	3.9%
1979	65004	3026	2973	1727215	49854	65201	3.8%
1980	55023	1253	2215	1852668	47144	72794	3.0%
1981	62875	-223	2083	2017543	46807	80236	3.1%
1982	42000	-157	1973	1960206	42935	79845	2.1%
1983	42894	1460	1835	2045853	52006	84979	2.1%
1984	51110	1716	2646	2253429	56163	95679	2.3%
1985	48967	1030	2337	2280184	56351	94698	2.1%
1986	18367	1700	2818	2260315	61111	99705	0.8%
1987	46959	3621	4052	2475939	69690	108993	1.9%
1988	74184	3007	6452	2695432	72046	122883	2.8%
1989	62669	3053	5920	2840376	74409	131896	2.2%
1990	65512	1687	4530	2912229	74228	132425	2.2%
1991	48120	1005	2635	2878165	70491	130131	1.7%
1992	52015	2507	1731	3004723	81767	133063	1.7%
1993	60384	3421	2024	3127620	94270	133262	1.9%
							3.6%
							1.5%

1994	83893	3599	3554	3348019	103503	143649	2.5%	3.5%	2.5%
1995	106901	4283	10140	3594310	104945	173718	3.0%	4.1%	5.8%
1996	105181	2347	6187	3715428	106520	160662	2.8%	2.2%	3.9%
1997	116241	2520	3389	3834701	111378	158493	3.0%	2.3%	2.1%
1998	87936	2788	3534	3899810	114620	163813	2.3%	2.4%	2.2%
1999	90607			4043275	123062	166936	2.2%		
2000	85688				112512	180157			

Sources: After-tax profits: (USDC Bureau of Economic Analysis, 2002b, 2002c, 2002d); Value of shipments: (USDC Bureau of Economic Analysis, 2002a)