

Indicator 31. Supply and consumption of wood and wood products, including consumption per capita

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I. Indicator Presentation

A. Rationale for use of the indicator

1. Rationale from the Technical Advisory Committee (TAC)

This indicator measures the demand and extent to which the supply of wood and wood products meets the needs for domestic consumption. A measure of consumption per capita might reflect a cultural affinity to wood products, the level of disposable income, the price or availability of wood products and their substitutes, or the efficacy of conservation, recycling, and reuse measures. High per capita consumption levels may also reflect pressures on forest resources.

Approaches to measurement. Useful data might include the following:

- Description of wood products available for consumption.
- Amount of various wood and wood products consumed.
- Size of market (population data).
- Current and past data may be available from government and industry sources, product distributors, and consumer organizations.

2. Interpretation of the indicator as proposed by the TAC

This indicator is influenced by short-term market conditions, consumer demand, disposable income of consumers, availability, and cost of substitutes and recycling, and longer-term changes in regional or national competitiveness of the forest industry sector. Trends should be evaluated within the context of Criterion 2 and overall forest management objectives and sustainability.

3. U.S. Clarification from the Roundtable Workshops

It was agreed that consumption was equivalent to national production plus net imports. Supply was equivalent to domestic national production.

The interpretation for this indicator assumes that there are “overall forest management objectives and sustainability” (refers back to Criterion 2) but they do not exist in the United States. There is no definition of “needs for domestic consumption.”

Trade is an important element in the interpretation of this indicator.

High per capita consumption may also reflect abundant resources. It was suggested that price information be included in the interpretation of this indicator, perhaps with references to prices of other materials (e.g., substitute materials such as plastics, etc.).

B. Data provided to quantify the indicator

The data provided for this indicator focuses on quantifying the demand (consumption) for (1) wood and (2) wood products in the United States and the portion that is provided by domestic production. The data is also shown on consumption per capita.

Consumption may be expressed in terms of (1) the roundwood used to make products consumed in the United States and (2) the volume or weight of actual primary products consumed in the United States. We provide measures for both roundwood consumed and primary products consumed, as well as the portions from domestic production.

Consumption of roundwood, the portion from domestic production, and consumption per capita

- Table 31-1. Production, imports, exports, and consumption of softwood timber products, by major product, 1965–1999 (million cubic feet, roundwood equivalent).
- Table 31-2. Production, imports, exports, and consumption of hardwood timber products, by major product, 1965–1999 (million cubic feet, roundwood equivalent).
- Table 31-3. Production, imports, exports, and consumption of timber products, by major product, 1965–1999 (million cubic feet, roundwood equivalent).

These tables require special explanation. Apparent consumption of roundwood is given by production of roundwood from U.S. forests (total harvest) plus roundwood equivalent of products imported to the United States minus roundwood equivalent of products exported from the United States. Roundwood equivalent of imports and exports is an amount of wood used if the products were made of roundwood in the United States. Also, the roundwood used for lumber products, plywood and veneer products, and pulpwood products is the roundwood that is received at mills and includes wood that ends up as mill residue and may be redirected to burning or to making other products such as panels, or pulp.

- Table 31-4. Apparent U.S. roundwood consumption, U.S. production for domestic use, and percent of consumption from U.S. consumption from domestic use by species group, 1965–1999 (million cubic feet roundwood equivalent, and percent).
- Table 31-5. Apparent roundwood production, trade, and consumption; and production & trade versus consumption (million cubic feet roundwood equivalent, and percent).
- Table 31-6. U.S. per capita roundwood production, trade, and consumption, 1900–1999 (million cubic feet roundwood equivalent).

Consumption of primary products, the proportion from production for domestic use and consumption per capita

- Table 31-7. Lumber production, imports, exports, and consumption, by softwoods and hardwoods, 1965–1999.

- Table 31-8. Plywood production, imports, exports, and consumption, by softwoods and hardwoods, 1965–1999 (3/8-in. basis).
- Table 31-9. Production, imports, exports, and consumption of structural panel products, by type, 1980–1999 (million square feet, 3/8-in. basis).
- Table 31-10. Paper shipments, imports, exports, and consumption, 1965–1999.
- Table 31-11. Paperboard production, imports, exports, and consumption, 1965–1999.
- Table 31-12. Wood energy consumption per capita by end use and in roundwood equivalent, 1949–1999.

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

The TAC guidance asks for “demand and extent to which the supply of wood and wood products meets the needs for domestic consumption” and “consumption per capita.”

The data on roundwood equivalent of consumption meets the intent of the indicator in that it provides one measure of demand (consumption) for wood by the United States. It includes U.S. harvest plus the roundwood equivalent of imports minus the roundwood equivalent of exports.

The estimate of proportion of roundwood consumption from harvest used for domestic products is one indication of the extent to which domestic harvest meets needs for domestic consumption.

Roundwood equivalent of consumption per capita is shown to meet the intent to show wood consumption per capita.

To meet the intent of the indicator for wood products information we show (1) product consumption, (2) percent of consumption from production for domestic use, and (3) consumption per capita for wood products for major primary product categories: Lumber, plywood, structural panels, paper, paperboard, and wood energy. Data are also available for nonstructural panels in Howard (2001).

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.

D. Limitations of data presented

The data on roundwood equivalent of consumption uses estimates of the roundwood equivalent of imports and exports assuming the products are made of roundwood in the United States. The estimate of roundwood use may be too large for paper imports or exports to the extent that recovered paper is used for paper production rather than roundwood. The amount of roundwood harvest that ends up in domestically used paper products may be to low to the extent that domestic wood ends up in exported recovered paper that is used overseas then imported to the United States.

For primary wood products – lumber, panels, and paper – the estimate of the proportion of consumption from domestic supply is accurate when focusing on products produced in the United States but it should be recognized that a portion of this domestic supply is made using

imported logs, chips, or market pulp. Therefore, the portion of consumption made from domestic production that uses domestic roundwood is somewhat lower.

Data are not available generally on consumption by region. Consumption is determined by levels of end use in each region—construction, manufacturing, education, and a wide range of general business activities—advertising, packaging, and communications. The level of these activities is associated with population and the level of economic activity.

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

Further analysis could provide more detailed calculations of roundwood used to make product imports and exports. But there is currently no established effort to make such computations on a continuing basis.

To provide consumption levels by region would require additional research not currently conducted.

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.

References

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Table 31-1. Production, imports, exports, and consumption of softwood timber products, by major product, 1965–1999 (million cubic feet, roundwood equivalent)^a

Year	Industrial roundwood use																		Fuel- wood produc- tion and con- sump- tio					
	All products			Total			Lumber			Plywood and veneer			Pulpwood-based products			Other industrial products, production		Logs		Pulpwood chip				
	Produc- tion	Consump- tion	Produc- tion	Im- ports	Ex- ports	Consump- tion	Produc- tion	Im- ports	Ex- ports	Consump- tion	Produc- tion	Im- ports	Ex- ports	Consump- tion	Produc- tion	Im- ports ^b	Ex- ports ^b	Consump- tion	Im- ports	Ex - ports	Im- ports	Ex- ports		
1965	8,499	9,331	8,319	1,297	465	9,151	4,583	771	130	5,223	945	14	2	957	2,313	510	155	2,668	300	2	178	—	—	180
1966	8,646	9,442	8,476	1,325	529	9,272	4,514	756	147	5,123	990	17	4	1,003	2,451	546	168	2,829	310	7	210	—	—	170
1967	8,592	9,235	8,432	1,296	653	9,075	4,408	756	163	5,002	981	16	6	991	2,458	518	184	2,791	285	5	300	—	—	160
1968	9,096	9,788	8,956	1,462	770	9,648	4,583	913	163	5,333	1,111	25	5	1,131	2,602	518	206	2,914	265	5	396	—	—	140
1969	9,029	9,788	8,904	1,542	783	9,663	4,437	930	164	5,202	1,035	29	15	1,049	2,812	577	233	3,155	250	7	371	—	—	125
1970	9,206	9,821	9,101	1,545	929	9,716	4,309	914	180	5,044	1,082	27	9	1,099	3,052	587	313	3,326	230	17	427	—	—	105
1971	9,402	10,348	9,302	1,706	759	10,248	4,702	1,133	149	5,686	1,253	33	7	1,278	2,760	530	245	3,045	230	9	357	—	—	100
1972	9,659	10,681	9,569	1,948	926	10,591	4,849	1,416	197	6,068	1,379	42	17	1,404	2,623	489	225	2,887	230	2	487	—	—	90
1973	9,779	10,679	9,679	1,954	1,053	10,579	4,947	1,418	293	6,072	1,374	34	31	1,377	2,603	501	210	2,894	235	1	520	—	—	100
1974	9,103	9,795	8,993	1,669	977	9,685	4,341	1,075	263	5,154	1,190	22	41	1,171	2,823	565	270	3,118	235	7	404	—	—	110
1975	8,551	8,969	8,431	1,346	928	8,849	4,189	900	229	4,861	1,198	25	59	1,164	2,393	409	225	2,577	235	11	416	—	—	120
1976	9,511	10,226	9,381	1,760	1,045	10,096	4,624	1,255	261	5,618	1,382	32	54	1,360	2,630	463	225	2,868	240	11	505	—	—	130
1977	9,899	11,099	9,709	2,146	946	10,909	4,966	1,637	233	6,370	1,460	31	22	1,469	2,566	456	214	2,808	240	22	477	—	—	190
1978	10,185	11,613	9,900	2,425	997	11,328	5,009	1,870	235	6,644	1,495	37	22	1,509	2,629	505	212	2,922	240	13	528	—	—	285
1979	10,506	11,679	10,096	2,355	1,182	11,269	4,877	1,749	296	6,330	1,452	29	30	1,451	2,920	558	253	3,225	245	19	603	—	—	410
1980	9,563	10,414	8,988	2,061	1,210	9,839	4,011	1,477	320	5,168	1,194	18	27	1,185	3,041	547	365	3,223	245	18	497	—	—	575
1981	9,200	10,135	8,610	1,991	1,056	9,545	3,839	1,441	310	4,971	1,209	21	49	1,181	2,937	514	317	3,134	245	14	380	—	—	590
1982	9,009	9,930	8,389	2,018	1,097	9,310	3,726	1,387	268	4,845	1,134	25	32	1,127	2,782	476	298	2,960	248	16	498	114	—	620
1983	10,122	11,419	9,527	2,469	1,172	10,824	4,577	1,780	298	6,060	1,391	39	41	1,389	2,767	488	291	2,964	249	23	542	139	—	595
1984	10,351	11,947	9,716	2,690	1,094	11,312	4,715	1,931	258	6,389	1,390	36	26	1,401	2,821	555	271	3,105	250	19	539	148	—	635
1985	10,334	12,005	9,729	2,803	1,132	11,400	4,713	2,132	246	6,599	1,392	46	22	1,415	2,772	561	267	3,066	256	11	597	53	—	605
1986	11,109	12,646	10,591	2,766	1,228	12,128	5,259	2,070	303	7,027	1,501	47	42	1,507	3,011	591	321	3,281	257	8	562	49	—	518
1987	11,748	13,184	11,235	2,843	1,408	12,671	5,629	2,103	381	7,352	1,537	62	53	1,546	3,158	632	341	3,449	277	11	633	35	—	513
1988	11,796	12,884	11,288	2,743	1,654	12,376	5,603	1,992	495	7,100	1,497	51	66	1,482	3,182	631	358	3,456	270	9	735	59	—	508
1989	11,672	12,693	11,169	2,873	1,853	12,190	5,423	2,164	504	7,083	1,357	30	90	1,296	3,223	628	386	3,465	294	3	719	48	154	503
1990	11,466	12,277	10,968	2,580	1,769	11,779	5,154	1,865	439	6,580	1,328	26	101	1,253	3,376	644	417	3,603	298	2	639	43	174	498
1991	10,900	11,509	10,402	2,344	1,734	11,011	4,785	1,672	455	6,002	1,178	23	83	1,118	3,433	608	483	3,558	292	1	556	40	157	498
1992	11,062	12,035	10,563	2,575	1,602	11,536	4,981	1,911	389	6,503	1,209	29	91	1,147	3,436	598	509	3,526	323	6	489	31	125	499
1993	10,592	12,041	10,090	2,878	1,429	11,539	4,745	2,180	350	6,575	1,205	29	88	1,146	3,261	611	443	3,430	329	14	422	45	127	502
1994	10,781	12,419	10,268	3,016	1,378	11,906	4,883	2,329	319	6,893	1,219	27	75	1,172	3,336	622	460	3,498	305	15	387	22	138	513
1995	10,639	12,441	10,158	3,230	1,427	11,961	4,603	2,461	276	6,788	1,195	31	77	1,149	3,548	682	534	3,696	272	9	408	47	132	481
1996	10,528	12,413	10,080	3,243	1,359	11,964	4,703	2,550	259	6,994	1,176	30	75	1,130	3,434	599	522	3,558	265	13	381	50	122	448
1997	10,596	12,531	10,180	3,267	1,333	12,114	4,886	2,541	239	7,188	1,105	35	92	1,048	3,456	634	526	3,564	257	13	332	44	144	416
1998	10,577	12,827	10,097	3,336	1,085	12,348	4,866	2,594	166	7,295	1,089	43	46	1,085	3,476	631	465	3,642	257	24	263	45	146	480
1999	10,872	13,310	10,389	3,551	1,113	12,827	5,128	2,688	198	7,618	1,092	62	37	1,118	3,486	714	452	3,748	257	41	266	46	160	483

^aSource: (Howard 2000, table 6a)

^bIncludes pulpwood and the pulpwood equivalent of wood pulp and paper and board.

^cIncludes cooperage logs, poles and piling, fence posts, hewn ties, round mine timbers, box bolts, excelsior bolts, chemical wood, shingle bolts, and miscellaneous items.

Table 31-2. Production, imports, exports, and consumption of hardwood timber products, by major product, 1965–1999 (million cubic feet, roundwood equivalent)

Year	Industrial roundwood use																			Fuel-wood production and consumption				
	All products		Total				Lumber				Plywood and veneer				Pulpwood-based products				Logs	Pulpwood chip				
	Production	Consumption	Production	Imports	Exports	Consumption	Production	Imports	Exports	Consumption	Production	Imports	Exports	Consumption	Production	Imports ^b	Exports ^b	Consumption	and consumption ^c	Imports ports	Exports ports	Imports	Exports	Consumption
1965	3,647	3,865	2,912	306	89	3,130	1,650	52	17	1,685	125	55	0	180	864	191	58	997	260	9	13	—	—	735
1966	3,719	3,961	3,044	353	112	3,286	1,709	70	35	1,743	128	65	0	193	941	210	65	1,086	255	8	12	—	—	675
1967	3,520	3,717	2,900	315	119	3,097	1,628	52	35	1,646	119	65	1	184	907	191	68	1,030	230	7	16	—	—	620
1968	3,388	3,625	2,828	345	108	3,065	1,529	52	17	1,564	127	98	1	224	937	187	74	1,050	220	7	15	—	—	560
1969	3,409	3,692	2,914	402	119	3,197	1,529	70	17	1,581	118	110	1	227	1,049	216	87	1,178	205	6	13	—	—	495
1970	3,180	3,401	2,750	352	131	2,971	1,459	52	17	1,494	115	107	3	219	970	187	100	1,057	195	6	11	—	—	430
1971	3,212	3,478	2,812	401	135	3,078	1,480	70	35	1,515	125	132	1	257	1,012	195	90	1,117	185	5	9	—	—	400
1972	3,272	3,568	2,887	440	144	3,183	1,489	70	35	1,524	133	164	2	296	1,074	201	92	1,183	175	4	15	—	—	385
1973	3,431	3,730	3,026	450	151	3,325	1,543	87	35	1,595	122	132	3	251	1,173	227	95	1,305	170	4	18	—	—	405
1974	3,463	3,698	3,038	417	181	3,273	1,484	70	35	1,519	97	86	4	178	1,277	257	123	1,411	160	5	19	—	—	425
1975	2,923	3,101	2,473	318	140	2,651	1,282	52	35	1,300	79	100	5	174	952	163	90	1,025	150	3	11	—	—	450
1976	3,192	3,413	2,722	369	149	2,943	1,402	52	35	1,419	84	123	5	202	1,086	192	94	1,184	135	2	15	—	—	470
1977	3,631	3,852	2,821	364	143	3,042	1,495	52	35	1,513	91	117	4	205	1,075	192	90	1,177	145	2	14	—	—	810
1978	4,270	4,516	3,030	432	186	3,276	1,578	70	70	1,578	92	130	2	220	1,188	230	97	1,321	155	3	18	—	—	1,240
1979	4,920	5,135	3,125	414	198	3,340	1,640	70	70	1,640	89	108	2	195	1,216	234	106	1,343	160	2	21	—	—	1,795
1980	5,623	5,698	3,093	334	259	3,168	1,611	52	87	1,576	78	62	3	138	1,209	218	145	1,282	170	2	24	—	—	2,530
1981	5,447	5,547	2,857	351	251	2,957	1,319	52	87	1,284	75	77	3	149	1,258	219	135	1,342	180	2	25	—	—	2,590
1982	5,675	5,816	2,940	354	212	3,081	1,407	31	64	1,374	95	97	3	189	1,236	222	130	1,328	187	3	15	—	—	2,735
1983	6,004	6,201	3,364	457	260	3,561	1,543	35	86	1,492	104	140	3	241	1,503	278	153	1,628	196	4	18	—	—	2,640
1984	6,638	6,880	3,653	498	256	3,895	1,775	44	92	1,728	103	125	2	226	1,549	325	142	1,732	205	5	20	—	—	2,985
1985	6,516	6,835	3,671	562	244	3,990	1,691	52	71	1,673	93	149	3	239	1,660	357	153	1,864	209	5	18	—	—	2,845
1986	6,631	6,906	4,053	585	310	4,328	1,846	49	91	1,804	96	152	4	244	1,869	381	193	2,057	219	4	22	—	—	2,578
1987	6,712	6,995	4,150	630	347	4,432	1,982	70	130	1,922	102	179	4	277	1,824	380	190	2,013	218	2	24	—	—	2,563
1988	6,888	7,036	4,330	600	452	4,479	2,064	58	208	1,914	101	150	6	245	1,892	390	205	2,077	240	2	33	—	—	2,558
1989	7,091	7,108	4,553	547	530	4,570	2,118	64	150	2,032	97	85	7	174	1,926	395	221	2,099	261	3	34	1	117	2,538
1990	7,130	7,103	4,608	511	538	4,582	2,163	45	151	2,057	95	71	9	157	1,937	394	229	2,102	264	2	35	0	114	2,521
1991	7,023	6,829	4,493	465	659	4,299	1,961	42	164	1,839	89	60	11	138	1,964	361	264	2,062	259	1	45	0	174	2,530
1992	7,262	7,035	4,717	515	742	4,490	2,003	50	172	1,880	85	71	15	142	2,080	393	293	2,181	287	1	36	0	226	2,545
1993	7,503	7,377	4,922	587	714	4,795	2,142	60	182	2,019	89	71	13	148	2,162	454	281	2,335	292	1	38	1	199	2,582
1994	7,659	7,515	5,038	616	760	4,894	2,168	67	193	2,042	101	67	11	156	2,240	480	298	2,422	271	3	42	1	216	2,621
1995	7,728	7,578	5,272	688	838	5,122	2,212	62	184	2,089	107	76	12	172	2,423	545	354	2,614	241	4	43	2	245	2,456
1996	7,469	7,245	5,178	656	880	4,954	2,183	66	190	2,059	105	67	11	161	2,319	515	343	2,490	235	5	41	3	295	2,291
1997	6,735	6,530	4,609	597	803	4,404	2,217	79	213	2,082	109	79	12	176	1,727	429	249	1,908	228	7	51	3	278	2,126
1998	6,845	6,761	4,802	643	727	4,718	2,432	96	185	2,343	112	88	9	191	1,711	451	214	1,947	228	6	53	2	266	2,043
1999	6,702	6,669	4,643	680	712	4,611	2,501	122	206	2,417	116	98	10	204	1,477	453	175	1,755	228	6	60	0	261	2,059

Source: (Howard 2000, table 7a)

^bIncludes pulpwood and the pulpwood equivalent of wood pulp and paper and board.

^cIncludes cooperage logs, poles and piling, fence posts, hewn ties, round mine timbers, box bolts, excelsior bolts, chemical wood, shingle bolts, and miscellaneous items.

Table 31-3. Production, imports, exports, and consumption of timber products, by major product, 1965–1999 (million cubic feet, roundwood equivalent)

Year	Industrial roundwood use																			Fuel-wood production and				
	All products		Total				Lumber				Plywood and veneer				Pulpwood-based products				Other industrial products, production	Logs	Pulpwood chip			
	Production	Consumption	Production	Imports	Exports	Consumption	Production	Imports	Exports	Consumption	Production	Imports	Exports	Consumption	Production	Imports	Exports	Consumption	Imports	Exports	Imports	Exports		
1965	12,153	13,196	11,238	1,604	561	12,281	6,233	823	148	6,908	1,071	69	3	1,137	3,176	701	213	3,665	560	11	191	—	7	915
1966	12,382	13,403	11,537	1,679	658	12,558	6,222	826	182	6,867	1,118	82	4	1,196	3,392	755	232	3,915	565	15	223	—	17	845
1967	12,160	12,952	11,380	1,612	819	12,172	6,037	809	197	6,648	1,100	81	7	1,175	3,365	709	253	3,822	515	12	315	—	47	780
1968	12,584	13,414	11,884	1,807	978	12,714	6,112	966	181	6,897	1,237	124	6	1,355	3,539	705	280	3,964	485	13	411	—	101	700
1969	12,583	13,480	11,963	1,944	1,047	12,860	5,965	1,000	182	6,783	1,153	138	16	1,275	3,861	792	320	4,333	455	13	383	—	146	620
1970	12,536	13,222	12,001	1,896	1,211	12,687	5,768	966	197	6,537	1,197	133	12	1,318	4,023	773	413	4,383	425	23	438	—	150	535
1971	12,737	13,827	12,237	2,107	1,017	13,327	6,182	1,203	184	7,201	1,378	166	8	1,535	3,773	725	336	4,162	415	13	366	—	123	500
1972	13,088	14,248	12,613	2,388	1,227	13,773	6,339	1,485	232	7,592	1,512	206	18	1,700	3,698	690	317	4,070	405	6	502	—	157	475
1973	13,426	14,409	12,921	2,404	1,421	13,904	6,490	1,505	327	7,667	1,496	165	34	1,628	3,775	729	305	4,199	405	5	538	—	216	505
1974	12,806	13,493	12,271	2,086	1,399	12,958	5,826	1,145	297	6,673	1,287	107	45	1,349	4,100	822	393	4,529	395	12	423	—	240	535
1975	11,672	12,070	11,102	1,664	1,266	11,500	5,471	953	263	6,160	1,277	125	64	1,338	3,345	572	314	3,602	385	14	427	—	198	570
1976	12,948	13,639	12,348	2,130	1,439	13,039	6,026	1,307	295	7,038	1,466	154	59	1,561	3,715	655	319	4,052	375	13	520	—	245	600
1977	13,790	14,951	12,790	2,510	1,350	13,951	6,461	1,689	268	7,882	1,552	148	26	1,673	3,641	648	304	3,985	385	25	491	—	261	1,000
1978	14,680	16,129	13,155	2,857	1,408	14,604	6,586	1,939	304	8,221	1,586	167	25	1,729	3,817	735	309	4,243	395	15	545	—	225	1,525
1979	15,706	16,815	13,501	2,769	1,660	14,610	6,516	1,819	366	7,969	1,541	137	32	1,646	4,136	792	359	4,568	405	21	623	—	280	2,205
1980	15,464	16,113	12,359	2,395	1,747	13,008	5,623	1,530	407	6,745	1,272	81	30	1,323	4,250	765	510	4,505	415	20	522	—	278	3,105
1981	14,867	15,682	11,687	2,342	1,527	12,502	5,158	1,493	397	6,254	1,284	99	53	1,330	4,195	734	452	4,476	425	16	405	—	220	3,180
1982	14,861	15,746	11,506	2,371	1,487	12,391	5,133	1,418	332	6,219	1,229	122	35	1,317	4,019	698	429	4,288	435	19	513	114	178	3,355
1983	16,282	17,619	13,047	2,926	1,589	14,384	6,121	1,815	384	7,551	1,495	179	44	1,630	4,270	766	444	4,592	445	26	560	139	156	3,235
1984	17,133	18,827	13,513	3,189	1,494	15,207	6,491	1,975	350	8,116	1,494	161	28	1,627	4,370	880	412	4,838	455	24	559	148	145	3,620
1985	16,994	18,840	13,544	3,366	1,520	15,390	6,404	2,184	317	8,271	1,485	194	25	1,654	4,432	918	419	4,931	465	16	615	53	144	3,450
1986	17,891	19,552	14,795	3,351	1,689	16,456	7,105	2,119	394	8,830	1,598	199	45	1,751	4,881	972	514	5,338	475	13	585	49	151	3,096
1987	18,619	20,179	15,543	3,473	1,913	17,103	7,611	2,173	510	9,274	1,639	240	57	1,823	4,982	1,012	531	5,463	495	13	657	35	158	3,076
1988	18,902	19,921	15,836	3,343	2,324	16,855	7,667	2,050	704	9,014	1,598	201	72	1,728	5,075	1,021	563	5,533	510	11	767	59	218	3,066
1989	18,763	19,800	15,722	3,420	2,383	16,759	7,541	2,228	655	9,115	1,454	114	97	1,471	5,149	1,022	608	5,564	555	6	753	49	271	3,041
1990	18,596	19,380	15,577	3,091	2,307	16,361	7,317	1,909	589	8,637	1,423	97	109	1,410	5,313	1,038	646	5,704	562	4	674	43	288	3,019
1991	17,922	18,338	14,894	2,808	2,393	15,310	6,746	1,714	619	7,841	1,267	83	95	1,255	5,397	969	746	5,620	551	2	602	41	332	3,028
1992	18,324	19,070	15,280	3,090	2,344	16,026	6,983	1,960	561	8,383	1,294	100	106	1,288	5,516	992	801	5,706	610	7	524	31	351	3,044
1993	18,095	19,418	15,011	3,465	2,143	16,334	6,887	2,240	532	8,595	1,293	100	100	1,293	5,423	1,065	724	5,764	621	15	460	46	326	3,084
1994	18,440	19,934	15,306	3,632	2,139	16,800	7,052	2,395	512	8,935	1,320	94	86	1,328	5,576	1,102	758	5,920	576	18	429	23	354	3,134
1995	18,367	20,019	15,430	3,917	2,265	17,082	6,815	2,522	460	8,877	1,303	107	89	1,321	5,972	1,226	888	6,310	513	13	451	49	377	2,937
1996	17,997	19,658	15,258	3,899	2,239	16,918	6,886	2,616	449	9,053	1,281	97	87	1,291	5,753	1,114	865	6,002	500	18	422	53	416	2,739
1997	17,332	19,061	14,790	3,864	2,136	16,519	7,103	2,619	452	9,270	1,213	114	103	1,224	5,183	1,063	775	5,472	485	20	384	47	422	2,542
1998	17,422	19,588	14,899	3,979	1,812	17,065	7,298	2,690	350	9,638	1,201	131	55	1,276	5,187	1,082	679	5,590	485	30	316	47	412	2,523
1999	17,574	19,980	15,032	4,231	1,825	17,438	7,629	2,810	404	10,035	1,208	160	46	1,322	4,962	1,167	627	5,503	485	47	326	47	422	2,542

Source: (Howard 2000, table 6a)

^bIncludes pulpwood and the pulpwood equivalent of wood pulp and paper and board.

^cIncludes cooperage logs, poles and piling, fence posts, hewn ties, round mine timbers, box bolts, excelsior bolts, chemical wood, shingle bolts, and miscellaneous items.

Table 31-4. Apparent U.S. roundwood consumption, U.S. production for domestic use, and percent of consumption from U.S. consumption from domestic use by species group, 1965-1999 (million cubic feet roundwood equivalent, and percent)

Year	Softwoods			Hardwoods			Total		
	Total consumption	U.S. production for domestic use	Percent of consumption from U.S. production for domestic use	Total consumption	U.S. production for domestic use	Percent of consumption from U.S. production for domestic use	Total consumption	U.S. production for domestic use	Percent of consumption from U.S. production for domestic use
1965	9331	8033	86%	3865	3558	92%	13,196	11,592	88%
1966	9442	8117	86%	3961	3607	91%	13,403	11,724	87%
1967	9235	7939	86%	3717	3401	92%	12,952	11,340	88%
1968	9788	8326	85%	3625	3281	90%	13,414	11,606	87%
1969	9788	8246	84%	3692	3290	89%	13,480	11,536	86%
1970	9821	8276	84%	3401	3049	90%	13,222	11,325	86%
1971	10348	8643	84%	3478	3077	88%	13,827	11,720	85%
1972	10681	8733	82%	3568	3128	88%	14,248	11,861	83%
1973	10679	8725	82%	3730	3280	88%	14,409	12,005	83%
1974	9795	8126	83%	3698	3281	89%	13,493	11,407	85%
1975	8969	7623	85%	3101	2783	90%	12,070	10,406	86%
1976	10226	8466	83%	3413	3043	89%	13,639	11,509	84%
1977	11099	8953	81%	3852	3487	91%	14,951	12,441	83%
1978	11613	9188	79%	4516	4084	90%	16,129	13,272	82%
1979	11679	9324	80%	5135	4722	92%	16,815	14,046	84%
1980	10414	8353	80%	5698	5364	94%	16,113	13,717	85%
1981	10135	8144	80%	5547	5196	94%	15,682	13,340	85%
1982	9930	7912	80%	5816	5463	94%	15,746	13,375	85%
1983	11419	8950	78%	6201	5744	93%	17,619	14,693	83%
1984	11947	9257	77%	6880	6382	93%	18,827	15,639	83%
1985	12005	9202	77%	6835	6272	92%	18,840	15,474	82%
1986	12646	9880	78%	6906	6321	92%	19,552	16,201	83%
1987	13184	10341	78%	6995	6365	91%	20,179	16,706	83%
1988	12884	10142	79%	7037	6436	91%	19,921	16,578	83%
1989	12693	9819	77%	7108	6561	92%	19,800	16,380	83%
1990	12277	9697	79%	7103	6592	93%	19,380	16,289	84%
1991	11509	9165	80%	6829	6364	93%	18,338	15,530	85%
1992	12035	9459	79%	7035	6520	93%	19,070	15,980	84%
1993	12041	9162	76%	7377	6790	92%	19,418	15,952	82%
1994	12419	9403	76%	7515	6899	92%	19,934	16,302	82%
1995	12441	9212	74%	7578	6890	91%	20,019	16,102	80%
1996	12413	9169	74%	7245	6589	91%	19,658	15,758	80%
1997	12531	9264	74%	6530	5933	91%	19,061	15,196	80%
1998	12827	9491	74%	6761	6118	90%	19,588	15,609	80%
1999	13310	9759	73%	6669	5990	90%	19,980	15,749	79%

Sources: Tables 31-1, 31-2, 31-3

Table 31-5. Apparent roundwood production, trade, and consumption; and production and trade versus consumption (million cubic feet roundwood equivalent, and percent)

Year	Production		Trade		Consumption	Production & trade versus consumption			
	Industrial roundwood (1)	Fuelwood (2)	Total (3) = (1)+(2)	Imports (4)	Exports (5)	Percent of consumption from U.S. production for domestic use (8) = ((3)-(5))/(7)	Imports as a percent of consumption (9) = (4)/(7) [100%-(8)]	Net imports as a percent of consumption (6)/(7)	
1900	7280	4800	12080			-140	11940		-1%
1901	7580	4650	12230			-110	12120		-1%
1902	7880	4500	12380			-60	12320		0%
1903	8215	4350	12565			-140	12425		-1%
1904	8490	4200	12690			-150	12540		-1%
1905	8625	4050	12675			-90	12585		-1%
1906	9225	3900	13125			-95	13030		-1%
1907	9555	3825	13380			-115	13265		-1%
1908	8725	3975	12700			-80	12620		-1%
1909	9275	3825	13100			-50	13050		0%
1910	9295	3910	13205			-80	13125		-1%
1911	9020	4035	13055			-150	12905		-1%
1912	9330	3760	13090			-145	12945		-1%
1913	9170	3780	12950			-165	12785		-1%
1914	8565	3975	12540			-15	12525		0%
1915	8285	3975	12260			-135	12125		-1%
1916	8530	3955	12485			165	12650		1%
1917	7940	4040	11980			170	12150		1%
1918	7310	4290	11600			180	11780		2%
1919	7725	4075	11800			125	11925		1%
1920	7770	4065	11835			205	12040		2%
1921	6565	4270	10835			165	11000		2%
1922	7605	3760	11365			290	11655		2%
1923	8535	3375	11910			345	12255		3%
1924	8245	3380	11625			285	11910		2%
1925	8350	3225	11575			360	11935		3%
1926	8220	3065	11285			375	11660		3%
1927	7775	3200	10975			340	11315		3%
1928	7670	3225	10895			290	11185		3%
1929	8045	3170	11215			330	11545		3%
1930	6305	3790	10095			400	10495		4%
1931	4610	4390	9000			335	9335		4%
1932	3400	4980	8380			305	8685		4%
1933	4040	5005	9045			345	9390		4%
1934	4340	4825	9165			355	9520		4%
1935	5095	4510	9605			420	10025		4%
1936	5980	4265	10245			560	10805		5%
1937	6370	4075	10445			610	11055		6%
1938	5570	4325	9895			470	10365		5%
1939	6370	4190	10560			535	11095		5%
1940	6990	3890	10880			420	11300		4%
1941	8055	3595	11650			650	12300		5%
1942	8085	2865	10950			705	11655		6%
1943	7560	2785	10345			565	10910		5%
1944	7455	2915	10370			555	10925		5%
1945	6605	2975	9580			685	10265		7%

1946	7705	2675	10380			810	11190			7%
1947	8090	2685	10775			815	11590			7%
1948	8375	2665	11040			1090	12130			9%
1949	7355	2820	10175			935	11110			8%
1950	8530	2270	10800	1525	140	1,385	12185	87%	13%	11%
1951	8745	2230	10975	1465	260	1,205	12180	88%	12%	10%
1952	8775	2010	10785	1375	215	1,160	11945	88%	12%	10%
1953	8790	1920	10710	1425	190	1,235	11945	88%	12%	10%
1954	8755	1835	10590	1465	270	1,195	11785	88%	12%	10%
1955	9225	1745	10970	1610	340	1,270	12240	87%	13%	10%
1956	9620	1655	11275	1640	315	1,325	12600	87%	13%	11%
1957	8615	1565	10180	1495	340	1,155	11335	87%	13%	10%
1958	8530	1480	10010	1495	310	1,185	11195	87%	13%	11%
1959	9390	1390	10780	1700	355	1,345	12125	86%	14%	11%
1960	8925	1300	10225	1680	455	1,225	11450	85%	15%	11%
1961	8745	1215	9960	1745	500	1,245	11205	84%	16%	11%
1962	9035	1125	10160	1910	505	1,405	11565	83%	17%	12%
1963	9560	1055	10615	1990	640	1,350	11965	83%	17%	11%
1964	10170	985	11155	2035	735	1,300	12455	84%	16%	10%
1965	11,238	915	12146	1,604	561	1,042	13188	88%	12%	8%
1966	11,537	845	12365	1,679	658	1,020	13385	87%	13%	8%
1967	11,380	780	12113	1,612	819	792	12905	88%	12%	6%
1968	11,884	700	12484	1,807	978	829	13313	86%	14%	6%
1969	11,963	620	12438	1,944	1,047	897	13335	85%	15%	7%
1970	12,001	535	12386	1,896	1,211	685	13071	85%	15%	5%
1971	12,237	500	12614	2,107	1,017	1,090	13704	85%	15%	8%
1972	12,613	475	12931	2,388	1,227	1,161	14092	83%	17%	8%
1973	12,921	505	13210	2,404	1,421	983	14193	83%	17%	7%
1974	12,271	535	12566	2,086	1,399	687	13253	84%	16%	5%
1975	11,102	570	11474	1,664	1,266	398	11872	86%	14%	3%
1976	12,348	600	12703	2,130	1,439	691	13394	84%	16%	5%
1977	12,790	1,000	13530	2,510	1,350	1,160	14690	83%	17%	8%
1978	13,155	1,525	14455	2,857	1,408	1,449	15904	82%	18%	9%
1979	13,501	2,205	15426	2,769	1,660	1,109	16535	83%	17%	7%
1980	12,359	3,105	15186	2,395	1,747	648	15834	85%	15%	4%
1981	11,687	3,180	14647	2,342	1,527	815	15462	85%	15%	5%
1982	11,506	3,355	14683	2,371	1,487	885	15568	85%	15%	6%
1983	13,047	3,235	16126	2,926	1,589	1,337	17463	83%	17%	8%
1984	13,513	3,620	16988	3,189	1,494	1,695	18683	83%	17%	9%
1985	13,544	3,450	16850	3,366	1,520	1,846	18696	82%	18%	10%
1986	14,795	3,096	17740	3,351	1,689	1,661	19401	83%	17%	9%
1987	15,543	3,076	18461	3,473	1,913	1,560	20021	83%	17%	8%
1988	15,836	3,066	18684	3,343	2,324	1,019	19703	83%	17%	5%
1989	15,722	3,041	18763	3,420	2,383	1,037	19800	83%	17%	5%
1990	15,577	3,019	18596	3,091	2,307	784	19380	84%	16%	4%
1991	14,894	3,028	17922	2,808	2,393	415	18337	85%	15%	2%
1992	15,280	3,044	18324	3,090	2,344	746	19070	84%	16%	4%
1993	15,011	3,084	18095	3,465	2,143	1,323	19418	82%	18%	7%
1994	15,306	3,134	18440	3,632	2,139	1,493	19933	82%	18%	7%
1995	15,430	2,937	18367	3,917	2,265	1,652	20019	80%	20%	8%
1996	15,258	2,739	17997	3,899	2,239	1,661	19658	80%	20%	8%
1997	14,790	2,542	17332	3,864	2,136	1,729	19061	80%	20%	9%

1998	14,899	2,523	17422	3,979	1,812	2,166	19588	80%	20%	11%
1999	15,032	2,542	17574	4,231	1,825	2,406	19980	79%	21%	12%

Sources: 1900–1949: (USDC BOC 1975 table L 72-86); 1950-1965: (USDA FS 1988 table 4); 1965-1999: (Howard 2001 table 5a)

Table 31-6. U.S. per capita apparent roundwood production, trade, and consumption, 1900-1999
(million cubic feet roundwood equivalent)

Year	Population (millions)	Production/ per capita			Trade per capita			Consumption per capita
		Industrial roundwood (1)	Fuelwood (2)	Total (3) = (1)+(2)	Imports (4)	Exports (5)	Net imports (6) = (4)-(5)	Consumption (7) = (3)+(6)
1900	76.4	95	63	158			-2	156
1901	77.9	97	60	157			-1	156
1902	79.4	99	57	156			-1	155
1903	80.9	102	54	155			-2	154
1904	82.5	103	51	154			-2	152
1905	84.0	103	48	151			-1	150
1906	85.5	108	46	154			-1	152
1907	87.0	110	44	154			-1	152
1908	88.5	99	45	144			-1	143
1909	90.0	103	43	146			-1	145
1910	91.5	102	43	144			-1	143
1911	93.0	97	43	140			-2	139
1912	94.5	99	40	139			-2	137
1913	96.0	96	39	135			-2	133
1914	97.6	88	41	128			0	128
1915	99.1	84	40	124			-1	122
1916	100.6	85	39	124			2	126
1917	102.1	78	40	117			2	119
1918	103.6	71	41	112			2	114
1919	105.1	74	39	112			1	113
1920	106.8	73	38	111			2	113
1921	108.4	61	39	100			2	101
1922	110.1	69	34	103			3	106
1923	111.8	76	30	107			3	110
1924	113.5	73	30	102			3	105
1925	115.1	73	28	101			3	104
1926	116.8	70	26	97			3	100
1927	118.5	66	27	93			3	95
1928	120.1	64	27	91			2	93
1929	121.8	66	26	92			3	95
1930	122.7	51	31	82			3	86
1931	123.7	37	35	73			3	75
1932	124.6	27	40	67			2	70
1933	125.6	32	40	72			3	75
1934	126.5	34	38	72			3	75
1935	127.4	40	35	75			3	79
1936	128.3	47	33	80			4	84
1937	129.2	49	32	81			5	86
1938	130.1	43	33	76			4	80
1939	131.0	49	32	81			4	85
1940	132.6	53	29	82			3	85
1941	134.2	60	27	87			5	92
1942	135.7	60	21	81			5	86
1943	137.3	55	20	75			4	79
1944	138.9	54	21	75			4	79
1945	141.1	47	21	68			5	73
1946	143.2	54	19	72			6	78
1947	145.4	56	18	74			6	80
1948	147.5	57	18	75			7	82
1949	149.7	49	19	68			6	74
1950	152.4	56	15	71	10	1	9	80
1951	155.0	56	14	71	9	2	8	79
1952	157.7	56	13	68	9	1	7	76
1953	160.3	55	12	67	9	1	8	75
1954	163.0	54	11	65	9	2	7	72
1955	166.0	56	11	66	10	2	8	74
1956	168.9	57	10	67	10	2	8	75
1957	171.9	50	9	59	9	2	7	66
1958	174.8	49	8	57	9	2	7	64
1959	177.8	53	8	61	10	2	8	68
1960	180.6	49	7	57	9	3	7	63
1961	183.4	48	7	54	10	3	7	61
1962	186.3	48	6	55	10	3	8	62
1963	189.1	51	6	56	11	3	7	63
1964	191.9	53	5	58	11	4	7	65
1965	194.3	58	5	63	8	3	5	68
1966	196.6	59	4	63	9	3	5	68
1967	198.7	57	4	61	8	4	4	65
1968	200.7	59	3	62	9	5	4	66
1969	202.7	59	3	61	10	5	4	66
1970	205.1	59	3	60	9	6	3	64
1971	207.7	59	2	61	10	5	5	66
1972	209.9	60	2	62	11	6	6	67

1973	211.9	61	2	62	11	7	5	67
1974	213.9	57	3	59	10	7	3	62
1975	216.0	51	3	53	8	6	2	55
1976	218.0	57	3	58	10	7	3	61
1977	220.2	58	5	61	11	6	5	67
1978	222.6	59	7	65	13	6	7	71
1979	225.1	60	10	69	12	7	5	73
1980	227.7	54	14	67	11	8	3	70
1981	230.0	51	14	64	10	7	4	67
1982	232.2	50	14	63	10	6	4	67
1983	234.3	56	14	69	12	7	6	75
1984	236.3	57	15	72	13	6	7	79
1985	238.5	57	14	71	14	6	8	78
1986	240.7	61	13	74	14	7	7	81
1987	242.8	64	13	76	14	8	6	82
1988	245.0	65	13	76	14	9	4	80
1989	247.3	64	12	76	14	10	4	80
1990	249.9	62	12	74	12	9	3	78
1991	252.6	59	12	71	11	9	2	73
1992	255.4	60	12	72	12	9	3	75
1993	258.1	58	12	70	13	8	5	75
1994	260.7	59	12	71	14	8	6	76
1995	263.2	59	11	70	15	9	6	76
1996	265.6	57	10	68	15	8	6	74
1997	266.5	55	10	65	15	8	6	72
1998	268.8	55	9	65	15	7	8	73
1999	271.7	55	9	65	16	7	9	74

Table 31-7. Lumber production, imports, exports, and consumption, by softwoods and hardwoods, 1965–1999

Year Total (billion board feet)	Production			Imports			Exports			Consumption			Percent of consumption from production for domestic use			Per capita consumption		
	Total (billion board feet)	Softwoods (billion board feet)	Hardwoods (billion board feet)	Total (billion board feet)	Softwoods (billion board feet)	Hardwoods (billion board feet)	Total (billion board feet)	Softwoods (billion board feet)	Hardwoods (billion board feet)	Total (billion board feet)	Softwoods (billion board feet)	Hardwoods (billion board feet)	Total	Softwoods	Hardwoods	Total (board feet)	Softwoods (board feet)	Hardwoods (board feet)
	Year	Softwoods	Hardwoods	Year	Softwoods	Hardwoods	Year	Softwoods	Hardwoods									
1965	38.7	29.3	9.4	5.2	4.9	0.3	0.9	0.8	0.1	43.0	33.4	9.6	88%	85%	97%	221	172	50
1966	38.6	28.8	9.8	5.2	4.8	0.4	1.1	0.9	0.2	42.7	32.7	10.0	88%	85%	96%	217	167	51
1967	37.5	28.2	9.3	5.1	4.8	0.3	1.2	1.0	0.2	41.4	32.0	9.4	88%	85%	97%	208	161	47
1968	38.0	29.3	8.7	6.1	5.8	0.3	1.1	1.0	0.1	43.0	34.1	8.9	86%	83%	97%	214	170	45
1969	37.1	28.3	8.7	6.3	5.9	0.4	1.1	1.0	0.1	42.3	33.2	9.0	85%	82%	96%	209	164	45
1970	35.9	27.5	8.3	6.1	5.8	0.3	1.2	1.1	0.1	40.8	32.2	8.5	85%	82%	96%	199	157	42
1971	38.5	30.0	8.4	7.6	7.2	0.4	1.1	0.9	0.2	45.0	36.3	8.6	83%	80%	95%	217	175	42
1972	39.5	31.0	8.5	9.4	9.0	0.4	1.4	1.2	0.2	47.5	38.8	8.7	80%	77%	95%	226	185	41
1973	40.4	31.6	8.8	9.5	9.0	0.5	2.0	1.8	0.2	47.9	38.8	9.1	80%	77%	95%	226	183	43
1974	36.2	27.7	8.4	7.2	6.8	0.4	1.8	1.6	0.2	41.6	32.9	8.6	83%	79%	95%	194	154	40
1975	34.1	26.7	7.3	6.0	5.7	0.3	1.6	1.4	0.2	38.5	31.0	7.4	84%	82%	96%	178	144	34
1976	37.7	29.7	8.0	8.3	8.0	0.3	1.8	1.6	0.2	44.2	36.1	8.1	81%	78%	96%	203	166	37
1977	40.2	31.7	8.5	10.7	10.4	0.3	1.6	1.4	0.2	49.3	40.7	8.6	78%	74%	97%	224	185	39
1978	41.0	32.1	9.0	12.3	11.9	0.4	1.8	1.4	0.4	51.5	42.6	9.0	76%	72%	96%	231	191	40
1979	40.7	31.4	9.3	11.6	11.2	0.4	2.2	1.8	0.4	50.1	40.8	9.3	77%	73%	96%	223	181	41
1980	35.4	26.2	9.2	9.9	9.6	0.3	2.5	2.0	0.5	42.8	33.8	9.0	77%	72%	97%	188	149	39
1981	32.2	24.7	7.5	9.5	9.2	0.3	2.4	1.9	0.5	39.3	32.0	7.3	76%	71%	96%	171	139	32
1982	31.8	23.8	8.0	9.0	8.8	0.2	2.0	1.6	0.4	38.8	31.0	7.8	77%	72%	98%	167	133	34
1983	38.5	29.7	8.8	11.7	11.5	0.2	2.3	1.8	0.5	47.9	39.4	8.5	76%	71%	98%	204	168	36
1984	41.3	31.2	10.1	13.0	12.7	0.3	2.1	1.6	0.5	52.1	42.3	9.8	75%	70%	97%	220	179	42
1985	40.9	31.3	9.6	14.4	14.1	0.3	1.9	1.5	0.4	53.4	43.9	9.5	73%	68%	97%	224	184	40
1986	45.8	35.3	10.5	14.1	13.8	0.3	2.4	1.9	0.5	57.4	47.2	10.2	75%	71%	97%	239	196	43
1987	49.5	38.2	11.3	14.6	14.2	0.4	3.2	2.5	0.7	60.9	50.0	10.9	76%	72%	96%	251	206	45
1988	49.9	38.1	11.7	13.8	13.5	0.3	4.5	3.3	1.2	59.2	48.3	10.9	77%	72%	97%	242	197	44
1989	49.6	37.5	12.1	15.3	14.9	0.4	4.2	3.4	0.9	60.6	49.1	11.6	75%	70%	97%	245	198	47
1990	48.1	35.8	12.3	13.1	12.9	0.3	3.8	2.9	0.9	57.4	45.7	11.7	77%	72%	98%	230	183	47
1991	44.3	33.2	11.2	11.8	11.5	0.2	4.0	3.1	0.9	52.1	41.6	10.5	77%	72%	98%	206	165	41
1992	45.9	34.5	11.4	13.5	13.2	0.3	3.6	2.6	1.0	55.8	45.1	10.7	76%	71%	97%	219	177	42
1993	45.2	32.9	12.2	15.4	15.1	0.3	3.4	2.3	1.0	57.2	45.7	11.5	73%	67%	97%	222	177	45
1994	46.5	34.1	12.4	16.6	16.2	0.4	3.3	2.2	1.1	59.8	48.2	11.7	72%	66%	97%	230	185	45
1995	44.9	32.2	12.6	17.6	17.2	0.4	2.9	1.9	1.1	59.5	47.6	11.9	70%	64%	97%	226	181	45
1996	45.8	33.3	12.5	18.4	18.0	0.4	2.9	1.8	1.1	61.3	49.5	11.8	70%	64%	97%	231	186	44
1997	47.3	34.7	12.7	18.5	18.0	0.5	2.9	1.6	1.2	62.9	51.0	11.9	71%	65%	96%	235	190	44
1998	48.6	34.7	13.9	19.0	18.5	0.5	2.2	1.1	1.1	65.4	52.0	13.4	71%	65%	96%	242	192	50
1999	51.0	36.7	14.3	19.9	19.2	0.7	2.5	1.4	1.2	68.3	54.5	13.8	71%	65%	95%	250	200	51

Source: (Howard 2001 table 28)

Table 31-8. Plywood production, imports, exports, and consumption, by softwoods and hardwoods, 1965–1999 (3/8-in. basis)

Year	Production			Imports			Exports			Consumption			Percent of consumption from production for domestic use			Per capita consumption		
	Total (million square feet)	Softwoods (million square feet)	Hardwoods (million square feet)	Total (million square feet)	Softwoods (million square feet)	Hardwoods (million square feet)	Total (million square feet)	Softwoods (million square feet)	Hardwoods (million square feet)	Total (million square feet)	Softwoods (million square feet)	Hardwoods (million square feet)	Total Softwoods	Hardwoods	Total (square feet)	Softwoods (square feet)	Hardwoods (square feet)	
1965	14,496	12,447	2,049	1,052	5	1,047	36	30	6	15,512	12,422	3,090	93%	100%	66%	80	64	16
1966	15,132	13,056	2,076	1,257	3	1,254	56	48	8	16,333	13,011	3,322	92%	100%	62%	83	66	17
1967	14,874	12,958	1,916	1,247	3	1,244	93	85	8	16,028	12,876	3,152	92%	100%	61%	81	65	16
1968	16,704	14,695	2,009	1,896	10	1,886	78	64	14	18,522	14,641	3,881	90%	100%	51%	92	73	19
1969	15,563	13,694	1,869	2,122	15	2,107	215	199	16	17,470	13,510	3,960	88%	100%	47%	86	67	20
1970	16,136	14,340	1,796	2,049	2	2,047	172	114	58	18,013	14,228	3,785	89%	100%	46%	88	69	18
1971	18,559	16,635	1,924	2,545	3	2,542	114	99	15	20,990	16,539	4,451	88%	100%	43%	101	80	21
1972	20,354	18,324	2,030	3,162	6	3,156	247	221	26	23,269	18,109	5,160	86%	100%	39%	111	86	25
1973	20,112	18,305	1,807	2,536	9	2,527	451	411	40	22,197	17,903	4,294	89%	100%	41%	105	84	20
1974	17,279	15,878	1,401	1,648	4	1,644	610	542	68	18,317	15,340	2,977	91%	100%	45%	86	72	14
1975	17,102	16,050	1,052	1,925	7	1,918	859	791	68	18,168	15,266	2,902	89%	100%	34%	84	71	13
1976	19,523	18,440	1,083	2,368	12	2,356	795	716	79	21,096	17,736	3,360	89%	100%	30%	97	81	15
1977	20,563	19,376	1,187	2,272	18	2,254	357	287	70	22,478	19,107	3,371	90%	100%	33%	102	87	15
1978	21,149	19,964	1,185	2,555	63	2,492	329	298	31	23,375	19,729	3,646	89%	100%	32%	105	89	16
1979	20,803	19,653	1,150	2,097	27	2,070	431	402	29	22,469	19,278	3,191	91%	100%	35%	100	86	14
1980	17,371	16,333	1,038	1,235	37	1,198	413	373	40	18,193	15,997	2,196	93%	100%	45%	80	70	10
1981	17,728	16,752	976	1,512	30	1,482	733	686	47	18,507	16,096	2,411	92%	100%	39%	80	70	10
1982	17,231	15,846	1,385	1,878	9	1,869	493	452	41	18,616	15,403	3,213	90%	100%	42%	80	66	14
1983	20,960	19,480	1,480	2,747	18	2,729	615	574	41	23,092	18,924	4,168	88%	100%	35%	99	81	18
1984	21,431	19,926	1,505	2,527	48	2,480	408	371	37	23,550	19,603	3,948	89%	100%	37%	100	83	17
1985	21,511	20,169	1,342	3,112	54	3,058	365	321	44	24,259	19,903	4,356	87%	100%	30%	102	83	18
1986	23,508	22,118	1,390	3,234	63	3,171	676	614	61	26,067	21,567	4,500	88%	100%	30%	108	90	19
1987	24,423	22,899	1,524	3,932	129	3,803	855	796	60	27,500	22,232	5,268	86%	99%	28%	113	92	22
1988	24,151	22,599	1,552	3,358	96	3,262	1108	1004	104	26,401	21,691	4,711	87%	100%	31%	108	89	19
1989	22,926	21,385	1,541	1,983	49	1,935	1562	1442	119	23,348	19,991	3,356	92%	100%	42%	94	81	14
1990	22,456	20,919	1,537	1,687	38	1,649	1766	1613	153	22,377	19,344	3,033	92%	100%	46%	90	77	12
1991	20,148	18,652	1,496	1,457	28	1,429	1553	1322	231	20,052	17,358	2,695	93%	100%	47%	79	69	11
1992	20,755	19,332	1,423	1,776	47	1,729	1760	1442	318	20,771	17,937	2,834	91%	100%	39%	81	70	11
1993	20,826	19,315	1,511	1,786	41	1,745	1677	1409	268	20,935	17,946	2,989	91%	100%	42%	81	70	12
1994	21,439	19,638	1,801	1,693	47	1,646	1455	1211	244	21,677	18,474	3,203	92%	100%	49%	83	71	12
1995	21,209	19,367	1,842	1,951	60	1,892	1517	1267	250	21,643	18,160	3,483	91%	100%	46%	82	69	13
1996	20,965	19,181	1,784	1,780	85	1,695	1499	1248	251	21,246	18,018	3,228	92%	100%	47%	80	68	12
1997	19,835	17,963	1,872	2,111	104	2,007	1802	1548	254	20,143	16,519	3,625	90%	99%	45%	75	62	14
1998	19,738	17,776	1,962	2,429	179	2,250	970	764	206	21,198	17,191	4,007	89%	99%	44%	78	64	15
1999	19,832	17,816	2,016	2,989	469	2,519	833	595	238	21,988	17,690	4,297	86%	97%	41%	80	65	16

Source: (Howard 2001 table

37)

Table 31-9. Production, imports, exports, and consumption of structural panel products, by type, 1980–1999
 (million square feet, 3/8-in. basis)

Year square feet	Production				Imports				Exports				Percent of consumption from production for domestic use				Consumption			Per capita consumption (square feet)	
	Total (million square feet)	Softwood plywood (million square feet)	OSB & waferboard (million square feet)	Total (million square feet)	Softwood plywood (million square feet)	OSB & waferboard (million square feet)	Total (million square feet)	Softwood plywood (million square feet)	OSB & waferboard (million square feet)	Total (million square feet)	Softwood plywood (million square feet)	OSB & waferboard (million square feet)	Total (million square feet)	Softwood plywood (million square feet)	OSB & waferboard (million square feet)	Total (square feet)	Softwood plywood (square feet)	OSB & waferboard (square feet)	Softwood plywood (square feet)	OSB & waferboard (square feet)	
1980	16,468	16,333	135	360	37	323	373	373	d	98%	100%	16,455	15,997	458	72	70	2				
1981	17,023	16,752	271	349	30	319	686	686	d	98%	100%	16,686	16,096	590	73	70	3				
1982	16,403	15,846	557	268	9	259	452	452	d	98%	100%	16,219	15,403	816	70	66	4				
1983	20,821	19,480	1,341	423	18	405	574	574	d	98%	100%	20,670	18,924	1,746	88	81	7				
1984	21,968	19,926	2,042	727	48	679	371	371	d	97%	100%	22,324	19,603	2,721	94	83	12				
1985	22,838	20,169	2,669	848	54	794	321	321	d	96%	100%	23,366	19,903	3,463	98	83	15				
1986	25,631	22,118	3,513	723	63	660	614	614	d	97%	100%	25,740	21,567	4,173	107	90	17				
1987	26,975	22,899	4,076	889	129	760	796	796	d	97%	99%	27,068	22,232	4,836	111	92	20				
1988	27,203	22,599	4,604	911	96	815	1,004	1,004	d	97%	100%	27,110	21,691	5,419	111	89	22				
1989	26,490	21,385	5,105	1,160	49	1,111	1,442	1,442	d	96%	100%	26,207	19,991	6,216	106	81	25				
1990	26,337	20,919	5,418	1,351	38	1,313	1,613	1,613	d	95%	100%	26,075	19,344	6,731	104	77	27				
1991	24,265	18,652	5,613	1,016	28	988	1,379	1,322	57	96%	100%	23,901	17,358	6,544	95	69	26				
1992	25,985	19,332	6,653	1,619	47	1,572	1,491	1,442	49	94%	100%	26,113	17,937	8,176	102	70	32				
1993	26,317	19,315	7,002	2,203	41	2,163	1,470	1,409	60	92%	100%	27,051	17,946	9,105	105	70	35				
1994	27,124	19,638	7,486	2,635	47	2,588	1,289	1,211	78	91%	100%	28,469	18,474	9,995	109	71	38				
1995	27,270	19,367	7,903	3,274	60	3,214	1,348	1,267	82	89%	100%	29,196	18,160	11,036	111	69	42				
1996	28,495	19,181	9,314	4,500	85	4,414	1,405	1,248	157	86%	100%	31,590	18,018	13,572	119	68	51				
1997	28,497	17,963	10,534	5,376	104	5,272	1,715	1,548	167	83%	99%	32,158	16,519	15,639	120	62	58				
1998	29,003	17,776	11,227	6,671	179	6,492	864	764	100	81%	99%	34,810	17,191	17,619	129	64	65				
1999	29,428	17,816	11,612	7,820	469	7,351	774	595	179	79%	97%	36,474	17,690	18,783	134	65	69				

Source: (Howard 2001 table 38)

Table 31-10. Paper shipments, imports, exports, and consumption, 1965–1999

Year	Shipments (thousand tons)	Imports (thousand tons)	Exports (thousand tons)	Percent of consumption from production for domestic use	Consumption (thousand tons)	Per capita consumption (lbs)
1965	19,157	6,528	491	74%	25,194	259
1966	20,725	7,128	530	74%	27,323	278
1967	20,926	6,805	501	75%	27,230	274
1968	22,181	6,625	529	77%	28,277	282
1969	23,449	7,040	517	77%	29,972	296
1970	23,351	6,835	534	77%	29,652	289
1971	23,722	6,915	550	77%	30,087	290
1972	25,359	7,237	559	77%	32,037	305
1973	26,797	7,832	601	77%	34,028	321
1974	26,863	8,094	909	76%	34,049	318
1975	23,260	5,953	947	79%	28,266	262
1976	26,577	6,866	928	79%	32,515	298
1977	27,722	7,162	716	79%	34,168	310
1978	28,320	8,211	543	77%	35,988	323
1979	29,666	8,380	601	78%	37,445	333
1980	30,116	7,915	907	79%	37,124	326
1981	30,901	7,649	1,008	80%	37,542	326
1982	30,245	7,206	840	80%	36,611	315
1983	32,802	8,189	774	80%	40,217	343
1984	34,446	9,905	811	77%	43,540	369
1985	34,061	10,260	779	76%	43,542	365
1986	35,550	10,641	884	77%	45,307	376
1987	36,919	11,494	921	76%	47,492	391
1988	38,353	11,843	1,102	76%	49,094	401
1989	38,266	11,494	1,466	76%	48,295	391
1990	39,361	11,569	1,519	77%	49,411	395
1991	39,084	10,313	2,072	78%	47,325	375
1992	40,973	10,786	2,635	78%	49,124	385
1993	41,745	11,905	2,587	77%	51,063	396
1994	43,356	12,384	2,980	77%	52,760	405
1995	42,868	12,874	3,011	76%	52,731	401
1996	42,481	11,694	3,500	77%	50,676	382
1997	44,697	13,028	3,599	76%	54,127	404
1998	44,777	12,872	3,288	76%	54,361	402
1999	45,552	14,946	3,405	74%	57,093	418

Source: (Howard 2001 table 44)

Table 31-11. Paperboard production, imports, exports, and consumption, 1965–1999

Year	Production (thousand tons)	Imports (thousand tons)	Exports (thousand tons)	Percent of consumption from production for domestic use	Consumption (thousand tons)	Per capita consumption (lbs)
1965	21,332	8	1,039	100%	20,301	209
1966	23,179	50	1,166	100%	22,063	224
1967	22,819	13	1,334	100%	21,498	216
1968	24,904	18	1,596	100%	23,326	232
1969	26,376	11	1,860	100%	24,527	242
1970	25,368	10	1,899	100%	23,479	229
1971	26,019	17	2,115	100%	23,921	230
1972	28,483	8	2,231	100%	26,260	250
1973	29,549	33	2,015	100%	27,567	260
1974	28,894	34	2,149	100%	26,779	250
1975	24,736	8	1,453	100%	23,291	216
1976	28,416	13	1,709	100%	26,720	245
1977	28,935	28	1,830	100%	27,133	246
1978	30,251	100	2,040	100%	28,311	254
1979	31,404	82	2,263	100%	29,223	260
1980	30,926	98	3,334	100%	27,690	243
1981	31,208	130	2,622	100%	28,716	250
1982	29,045	115	2,654	100%	26,506	228
1983	32,146	168	3,012	99%	29,302	250
1984	34,002	243	2,731	99%	31,514	267
1985	32,922	184	2,511	99%	30,595	257
1986	35,355	281	3,088	99%	32,548	270
1987	37,442	361	3,190	99%	34,613	285
1988	38,234	341	3,137	99%	35,438	289
1989	38,519	533	3,247	99%	35,805	290
1990	39,318	626	3,644	98%	36,300	291
1991	40,343	773	4,363	98%	36,753	291
1992	41,895	944	4,386	98%	38,453	301
1993	43,113	1,085	4,248	97%	39,950	310
1994	45,724	1,267	4,556	97%	42,435	326
1995	46,641	1,418	4,610	97%	43,449	330
1996	47,900	1,329	5,618	97%	43,611	329
1997	50,332	1,497	6,769	97%	45,060	336
1998	49,749	1,666	5,815	96%	45,600	337
1999	51,059	1,971	6,072	96%	46,958	344

Source: (Howard 2001 table 45)

Table 31-12. Wood energy consumption per capita by end use and in roundwood equivalent, 1949-1999

Year	Residential Btu)	Commercial Btu)	Industrial (million Btu)	Electric power (million Btu)	Total (million Btu)	Total in roundwood equivalent (cubic feet)
1949	7.2	0.1	3.2	0.0	10.5	42
1950	6.7	0.1	3.6	0.0	10.4	42
1951	6.3	0.1	3.6	0.0	10.1	40
1952	5.8	0.1	3.6	0.0	9.5	38
1953	5.3	0.1	3.6	0.0	9.0	36
1954	5.0	0.1	3.6	0.0	8.7	35
1955	4.8	0.1	3.9	0.0	8.7	35
1956	4.5	0.1	4.0	0.0	8.5	34
1957	4.2	0.1	3.6	0.0	7.9	32
1958	4.0	0.1	3.6	0.0	7.7	31
1959	3.7	0.1	4.0	0.0	7.7	31
1960	3.5	0.1	3.8	0.0	7.4	30
1961	3.2	0.1	3.9	0.0	7.2	29
1962	3.1	0.1	4.0	0.0	7.1	28
1963	2.9	0.1	4.2	0.0	7.1	28
1964	2.6	0.1	4.4	0.0	7.1	28
1965	2.4	0.0	4.5	0.0	7.0	28
1966	2.3	0.0	4.6	0.0	7.0	28
1967	2.2	0.0	4.6	0.0	6.8	27
1968	2.1	0.0	4.9	0.0	7.1	29
1969	2.1	0.0	5.1	0.0	7.2	29
1970	2.0	0.0	5.0	0.0	7.0	28
1971	1.9	0.0	5.1	0.0	7.0	28
1972	1.8	0.0	5.4	0.0	7.2	29
1973	1.7	0.0	5.5	0.0	7.3	29
1974	1.8	0.0	5.5	0.0	7.3	29
1975	2.0	0.0	5.0	0.0	7.0	28
1976	2.2	0.0	5.6	0.0	7.9	32
1977	2.5	0.0	5.9	0.0	8.4	34
1978	2.8	0.1	6.4	0.0	9.2	37
1979	3.3	0.1	6.3	0.0	9.7	39
1980	3.8	0.1	7.1	0.0	11.0	44
1981	3.8	0.1	7.0	0.0	11.0	44
1982	4.1	0.1	6.6	0.0	10.8	43
1983	4.0	0.1	7.3	0.0	11.4	45
1984	3.9	0.1	7.2	0.0	11.2	45
1985	3.8	0.1	7.0	0.0	10.9	44
1986	3.7	0.1	6.8	0.0	10.6	42
1987	3.5	0.1	6.5	0.0	10.2	41
1988	3.6	0.1	6.7	0.0	10.5	42
1989	3.7	0.1	5.7	1.2	10.8	43
1990	2.3	0.1	5.1	1.3	8.8	35
1991	2.5	0.2	4.8	1.4	8.8	35
1992	2.6	0.2	4.9	1.5	9.1	36
1993	2.1	0.2	4.9	1.5	8.7	35
1994	2.1	0.2	5.2	1.5	9.0	36
1995	2.3	0.2	5.4	1.4	9.3	37
1996	2.3	0.2	5.5	1.4	9.4	37
1997	1.6	0.2	5.7	1.3	8.8	35
1998	1.5	0.2	5.9	1.2	8.7	35
1999	1.5	0.2	6.4	1.4	9.5	38
2000	1.6	0.2	6.3	1.5	9.5	38

Source: Table 29-xx (USDOE EIA 2001) (USDA EIA 2002), Population: Table 31-6