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New Estimates of Hardwood-Log Exports to Europe and Asia

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Abstract

Current and historic estimates of hardwood log exports to Europe and Asia are in error because of a combination of reporting errors and computer programming problems at the U.S. Department of Commerce. This paper discusses past problems with log export data, explains how a new set of hardwood-log export statistics were developed, and provides a detailed set of new hardwood-log export estimates for European and Asian markets.

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Introduction

Hardwood logs are an important and controversial part of the overall hardwood-product export market (Barrett 1989). Log export statistics historically have been affected by both minor and major errors resulting from shippers, misreporting of volumes. For instance, an apparent reporting error for a walnut-log shipment to Germany in 1981 was found that amounted to 29 percent of total U.S. hardwood-log exports reported for that year. In 1986, two errors in white oak log shipments to Germany amounted to 24 percent of the total U.S. exports for that year. More recently, additional errors resulting from computer programming problems at the U.S. Department of Commerce (USDC) were found and corrected (Luppold and Thomas 1991).

In addition to historical data problems, there is a new set of misreporting problems resulting from the implementation of the harmonized system of international trade accounting. The harmonized system allows trade statistics developed by major U.S. trading partners to be comparable to each other on both product definition and volume of measurement. Under this system, logs are termed "wood in the rough" and are measured in cubic meters. Unfortunately, many of the freight forwarders who document U.S. hardwood exports have confused rough lumber for wood in the rough, and did not know how to transform

Doyle and Scribner log-scale measurements into cubic meters. As a result, a considerable number of errors have been found in recent hardwood-log export statistics. A USDC study of red oak log exports for May, June, and July 1989 found large errors in each month (Table 1).

The numerous problems in current and historic estimates of hardwood-log exports have made any interpretation highly suspect at a time when these statistics are needed to evaluate export policy. This paper presents a detailed set of alternative hardwood log export statistics for European and Asian markets. All volumes presented are in terms of cubic meters and will be comparable to future volume estimates developed by the USDC once reporting-error problems are corrected. A comparison and evaluation of the volumes presented in this paper versus volumes published by the USDC and by major importing countries is presented in Luppold and Thomas (1991).

The remainder of this paper is presented in three parts. The first discusses the development from ship manifest data of alternative estimates of export volumes; the second provides an introduction to the appendix Tables 2 through 21; and the last section provides a detailed set of new estimates of hardwood log exports, by species, for all major European and Asian markets (appendix Tables 2 through 21).

Data Development

All revised-estimate data were based on analyses of data purchased from the Journal of Commerce PIERS (1981-90) service. This service provides detailed information on product shipments from individual ship manifests. In order to avoid possible undercounting due to misclassification, export information on all forest products and furniture was acquired.

The first step in developing new estimates of hardwood-log exports was to classify all observations into the specific 10-digit codes used by USDC. Although most of the observations fell into one of these classification codes, a number of observations failed to be classified. The failed observations for 1986 and 1988 were analyzed to determine if any systematic patterns could be used for classification. It was felt that a review of these years would provide information needed to develop a procedure to automatically classify observations that failed the initial screening. Many of the classification problems were remedied by including common misspellings and abbreviations into the initial classification program. However, the largest number of observations failed to be classified because they were termed logs without reference to species.

The unclassified observations labeled as "logs" were handled in a number of ways. If a shipper was associated with only hardwood logs in the unfailed data, or if the shipper was listed as a hardwood producer in a state that produced hardwood primarily, the term "logs" would be interpreted as hardwood logs. However, if the shipper was a known softwood producer, or if the shipper exported

from the West Coast and could not be identified as a hardwood-log producer or shipper, the term "logs" would be interpreted as softwood logs. This process classified most of the observations; the remainder were classified on an individual basis.

The next step in developing the export volumes was to transform all data into cubic meters. Shipping manifests usually had two pieces of information: weight of the shipment and number of logs. Since weight is roughly linear in measurement to cubic volume, a set of coefficients representing weight per cubic meter was developed for all major hardwood species. Estimates of export volumes were then developed by dividing shipping weight by these coefficients. The last step in the process was to summarize export volumes by species on a year-by-year, country-by-country basis.

New estimates of hardwood log exports for 1981 through 1990 are shown for European (appendix Tables 2-11) and Asian (appendix Tables 12-21) markets. Some exports leaving the United States do not go through U.S. ocean ports; therefore, an inland exit multiplier was developed from export value data reported by the USDC. Specifically, this multiplier was developed by dividing total value of shipments in a specific year for a specific country by the value of shipments leaving ocean ports. These multipliers are reported in the "inland multiplier" line of each appendix table. The estimate of total exports including the nonocean exit points for each country and year is provided in the last line of each appendix table. Estimates of export volumes by species are for ocean exit points only.

Literature Cited

Barrett, George. 1989. **Inter-industry log export action committee: an update on what is happening in the fight to curb U.S. hardwood log exports (editorial)**. *Weekly Hardwood Review*. 4(52): 1, 19.

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Table 1.—True composition of exported wood products classified as red oak logs for May, June, and July 1989

Species	May	June	July
	-----cubic meters-----		
Reported volume			
Red oak logs	10,788	11,240	7,793
Actual volume			
Red oak logs	7,434	8,079	3,653
White oak logs	78	0	0
Birch logs	0	25	30
Pine lumber	0	46	0
Cypress lumber	65	0	0
Red oak lumber	4,916	5,389	4,890
White oak lumber	148	194	48
Red alder lumber	0	29	0
Hard maple lumber	28	0	0
Yellow-poplar lumber	0	37	42
Ash lumber	0	61	84
Hickory lumber	0	22	38
Other lumber	0	30	122
Wood moldings	0	0	4,727
Edge-glued lumber	40	41	42

Appendix

Table 2.—Hardwood log export estimates for 1981, Europe

Species	United Kingdom	West Germany	Belgium and Luxembourg	Netherlands	Other Countries, Northern Europe	Italy	France	Spain	Other Countries, Southern Europe	Denmark	Finland	Sweden	Norway	Iceland	Central Europe	Total Europe
	-----cubic meters-----															
Red oak	0	1,485	1,216	3,148	0	0	43	0	0	0	0	0	0	0	0	5,891
White oak	692	38,261	3,675	15,218	84	84	200	85	217	0	0	606	0	0	0	59,121
Beech	0	0	0	0	0	16	0	0	0	0	0	0	0	0	0	16
Maple, hard	0	850	0	0	0	148	0	0	0	0	0	0	0	0	0	998
Maple, soft	0	0	195	0	0	1,196	0	0	0	0	0	0	0	0	0	1,391
Maple, nspf ^a	0	63	44	0	0	661	0	23	0	0	0	0	0	0	23	814
Alder	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Cherry	0	1,288	242	474	0	318	321	127	0	0	0	0	0	0	0	2,769
Yellow-poplar	0	374	0	180	0	2,054	0	0	0	0	0	0	0	0	0	2,608
Birch	0	0	0	0	0	24	0	0	0	0	0	0	0	0	0	24
Ash	0	1,682	750	1,661	735	3,855	0	0	0	0	0	0	0	0	0	8,682
Walnut	388	2,663	313	1,552	48	1,215	270	798	0	0	0	685	0	0	146	8,079
Basswood	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Elm	389	173	202	255	44	495	139	0	0	0	0	0	0	0	178	1,876
Cottonwood	0	7	0	0	0	0	0	0	0	0	0	0	0	0	0	7
Sassafras	0	2	0	0	0	0	0	0	0	0	0	0	0	0	0	2
Aspen	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Sap gum	0	0	0	0	0	654	0	0	0	0	0	0	0	0	0	654
Sycamore	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Paulownia	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Persimmon	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Hackberry	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Tupelo	0	0	0	0	0	889	0	0	0	0	0	0	0	0	0	889
Tropical	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Not defined by species	20	17,928	1,538	2,309	317	3,588	1,769	880	0	0	294	683	0	0	478	29,804
Total ocean ports ^b	1,489	64,774	8,174	24,797	1,228	15,196	2,742	1,913	217	0	294	1,973	0	0	825	123,623
Inland multiplier	3.81	1.05	1.02	1.23	1.06	1.40	1.04	1.00	1.00	.00	1.00	1.00	.00	.00	1.00	1.16
Total all ports ^b	5,674	68,013	8,338	30,500	1,298	21,274	2,852	1,913	217	0	294	1,973	0	0	825	143,171

^aNonspecific

^bTotals reflect rounding to nearest cubic meter.

Table 3.—Hardwood log export estimates for 1982, Europe

Species	United Kingdom	West Germany	Belgium and Luxembourg	Netherlands	Other Countries, Northern Europe	Italy	France	Spain	Other Countries, Southern Europe	Denmark	Finland	Sweden	Norway	Iceland	Central Europe	Total Europe
Red oak	0	5,013	2,859	3,099	0	0	29	36	0	0	0	0	0	0	0	11,034
White oak	550	28,524	3,811	12,120	0	160	360	90	0	0	0	0	0	0	0	45,616
Beech	0	0	0	0	0	47	0	0	0	0	0	0	0	0	0	47
Maple, hard	0	272	0	0	0	0	0	0	0	0	0	0	0	0	0	272
Maple, soft	0	0	590	0	0	1,097	0	0	0	0	0	0	0	0	0	1,686
Maple, nspf ^a	0	613	187	0	0	1,030	18	1	0	0	0	0	0	0	0	1,850
Alder	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Cherry	0	1,370	80	790	0	111	873	181	0	0	0	0	0	0	0	3,405
Yellow-poplar	0	79	0	0	0	1,071	0	0	0	0	0	0	0	0	0	1,151
Birch	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Ash	22	1,538	962	607	0	4,249	2	68	0	0	0	0	0	0	0	7,449
Walnut	255	2,014	461	1,720	34	682	222	424	0	0	0	59	0	0	0	5,870
Basswood	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Elm	0	9	0	210	0	177	22	0	0	0	0	0	0	0	0	419
Cottonwood	0	51	0	0	0	0	0	0	0	0	0	0	0	0	0	51
Sassafras	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Aspen	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Sap gum	0	0	0	0	0	445	0	0	0	0	0	0	0	0	0	445
Sycamore	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Paulownia	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Persimmon	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Hackberry	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Tupelo	0	0	0	0	0	255	0	0	0	0	0	0	0	0	0	255
Tropical	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Not defined by species	54	18,653	5,203	10,430	0	4,856	1,302	1,181	0	0	0	78	0	0	0	41,756
Total ocean ports ^b	881	58,136	14,152	28,976	34	14,182	2,828	1,981	0	0	0	137	0	0	0	121,306
Inland multiplier	2.58	1.01	1.00	1.15	1.13	1.32	1.15	1.00	.00	.00	.00	1.00	.00	.00	.00	1.09
Total all ports ^b	2,273	58,717	14,152	33,322	38	18,721	3,252	1,981	0	0	0	137	0	0	0	132,592

^aNonspecific^bTotals reflect rounding to nearest cubic meter.

Table 4.—Hardwood log export estimates for 1983, Europe

Species	United Kingdom	West Germany	Belgium and Luxembourg	Netherlands	Other Countries, Northern Europe	Italy	France	Spain	Other Countries, Southern Europe	Denmark	Finland	Sweden	Norway	Iceland	Central Europe	Total Europe
	-----cubic meters-----															
Red oak	9	8,645	3,964	4,605	0	0	38	44	0	0	0	0	0	0	70	17,375
White oak	243	53,616	5,989	10,762	70	150	527	281	0	0	0	61	0	0	0	71,699
Beech	0	0	0	0	0	147	0	0	0	0	0	0	0	0	0	147
Maple, hard	0	313	0	0	0	19	0	0	0	0	0	0	0	0	0	333
Maple, soft	0	11	23	0	0	1,281	0	0	0	0	0	0	0	0	0	1,316
Maple, nsp ^a	0	542	23	22	0	696	0	0	0	0	0	0	0	0	0	1,282
Alder	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Cherry	12	4,853	346	573	0	536	673	124	0	0	0	0	0	0	0	7,117
Yellow-poplar	0	211	229	0	0	2,427	0	0	0	0	0	0	0	0	0	2,866
Birch	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Ash	12	4,759	1,184	2,838	0	5,863	0	103	0	0	0	0	0	0	0	14,758
Walnut	0	6,068	1,280	5,614	0	957	55	829	0	0	0	20	0	0	23	14,845
Basswood	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	1
Elm	0	29	68	55	0	0	0	0	0	0	0	0	0	0	0	153
Cottonwood	0	27	0	0	0	0	0	0	0	0	0	0	0	0	0	27
Sassafras	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Aspen	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Sap gum	0	31	0	0	0	101	0	0	0	0	0	0	0	0	0	132
Sycamore	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Paulownia	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Persimmon	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	1
Hackberry	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Tupelo	0	0	0	0	0	121	0	0	0	0	0	0	0	0	0	121
Tropical	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Not defined by species	19	9,042	1,174	5,039	0	796	270	375	0	0	0	0	28	0	0	16,745
Total ocean ports ^b	294	88,150	14,281	29,507	70	13,093	1,564	1,757	0	0	0	81	28	0	92	148,917
Inland multiplier	3.32	1.12	1.03	1.38	1.23	1.53	1.29	1.03	.00	.00	.00	1.00	1.00	.00	1.00	1.20
Total all ports ^b	977	98,728	14,709	40,719	86	20,032	2,018	1,809	0	0	0	81	28	0	92	179,281

^aNonspecific

^bTotals reflect rounding to nearest cubic meter.

Table 5.—Hardwood log export estimates for 1984, Europe

Species	United Kingdom	West Germany	Belgium and Luxembourg	Netherlands	Other Countries, Northern Europe	Italy	France	Spain	Other Countries, Southern Europe	Denmark	Finland	Sweden	Norway	Iceland	Central Europe	Total Europe
	-----cubic meters-----															
Red oak	4	11,546	3,928	2,252	0	21	0	9	0	0	0	0	0	0	0	17,761
White oak	504	40,203	5,987	11,293	0	1,041	289	23	0	0	83	0	56	0	18	59,496
Beech	0	0	0	0	0	181	0	0	0	0	0	0	0	0	0	181
Maple, hard	0	114	0	0	0	108	0	0	0	0	0	0	0	0	0	222
Maple, soft	0	10	92	0	0	936	0	0	0	0	0	0	0	0	0	1,037
Maple, nspf ^a	0	324	25	50	25	1,885	8	0	0	0	0	0	0	0	0	2,318
Alder	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Cherry	29	3,843	103	1,058	0	109	160	101	0	0	0	0	28	0	0	5,430
Yellow-poplar	0	287	0	0	0	4,951	0	0	0	0	0	0	0	0	0	5,237
Birch	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Ash	0	4,226	157	1,663	0	7,093	0	392	0	0	0	0	0	0	0	13,532
Walnut	0	4,013	2,391	4,243	17	1,405	72	432	0	0	0	0	0	0	0	12,573
Basswood	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Elm	0	0	0	74	0	142	0	0	0	0	0	0	0	0	0	215
Cottonwood	0	53	0	0	0	0	0	0	0	0	0	0	0	0	0	53
Sassafras	0	3	0	0	0	0	0	0	0	0	0	0	0	0	0	3
Aspen	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Sap gum	0	0	0	0	0	26	0	0	0	0	0	0	0	0	0	26
Sycamore	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Paulownia	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Persimmon	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Hackberry	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Tupelo	0	0	0	0	0	68	0	0	0	0	0	0	0	0	0	68
Tropical	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Not defined by species	28	6,384	1,586	6,927	49	1,316	601	23	22	0	0	0	0	0	0	16,937
Total ocean ports ^b	565	71,007	14,270	27,562	91	19,280	1,130	979	22	0	83	0	84	0	18	135,091
Inland multiplier	3.06	1.05	1.13	1.23	1.34	1.06	1.13	1.03	1.00	.00	1.00	.00	1.00	.00	1.00	1.11
Total all ports ^b	1,729	74,558	16,125	33,901	122	20,437	1,277	1,009	22	0	83	0	84	0	18	149,363

^aNonspecific^bTotals reflect rounding to nearest cubic meter.

Table 6.—Hardwood log export estimates for 1985, Europe

Species	United Kingdom	West Germany	Belgium and Luxembourg	Netherlands	Other Countries, Northern Europe	Italy	France	Spain	Other Countries, Southern Europe	Denmark	Finland	Sweden	Norway	Iceland	Central Europe	Total Europe
	-----cubic meters-----															
Red oak	0	11,369	2,831	2,450	0	270	0	442	22	0	0	0	0	0	0	17,384
White oak	89	30,576	4,662	11,535	0	1,097	601	69	0	0	0	0	0	41	0	48,669
Beech	0	0	0	0	0	51	0	0	0	0	0	0	0	0	0	51
Maple, hard	0	38	0	0	0	0	0	11	0	0	0	0	0	0	0	49
Maple, soft	0	59	249	0	0	701	0	0	0	0	0	0	0	0	0	1,010
Maple, nsp ^a	0	295	53	172	0	1,200	0	93	0	0	2	0	0	0	0	1,815
Alder	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Cherry	0	1,755	45	157	28	585	97	168	0	0	0	0	0	0	0	2,836
Yellow-poplar	0	279	35	0	0	2,533	0	0	74	0	0	0	0	0	0	2,921
Birch	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Ash	0	4,156	597	2,068	32	7,673	110	58	0	0	0	0	0	0	0	14,693
Walnut	0	3,728	834	3,285	0	1,315	155	955	0	0	0	0	0	0	0	10,273
Basswood	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Elm	0	60	0	2	0	24	0	0	0	0	0	0	0	0	0	87
Cottonwood	0	124	102	0	0	67	0	0	0	0	0	0	0	0	0	293
Sassafras	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Aspen	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Sap gum	0	0	0	0	0	143	0	0	0	0	0	0	0	0	0	143
Sycamore	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Paulownia	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Persimmon	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Hackberry	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Tupelo	0	0	0	0	0	55	0	0	0	0	0	0	0	0	0	55
Tropical	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Not defined by species	0	3,496	989	4,544	73	1,982	587	433	0	0	85	0	0	0	0	12,190
Total ocean ports ^b	89	55,937	10,397	24,213	133	17,695	1,551	2,229	96	0	87	0	0	41	0	112,468
Inland multiplier	1.17	1.14	1.16	1.11	3.75	1.11	1.26	1.02	1.00	.00	1.00	1.00	.00	1.00	.00	1.13
Total all ports ^b	104	63,768	12,060	26,876	497	19,642	1,954	2,274	96	0	87	0	0	41	0	127,400

^aNonspecific

^bTotals reflect rounding to nearest cubic meter.

Table 7.—Hardwood log export estimates for 1986, Europe

Species	United Kingdom	West Germany	Belgium and Luxembourg	Netherlands	Other Countries, Northern Europe	Italy	France	Spain	Other Countries, Southern Europe	Denmark	Finland	Sweden	Norway	Iceland	Central Europe	Total Europe
Red oak	0	3,203	2,322	155	82	97	0	219	99	0	0	302	0	0	0	6,480
White oak	50	34,189	5,595	9,471	85	594	1,707	648	67	19	0	0	0	0	0	52,426
Beech	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Maple, hard	0	50	0	0	0	0	12	24	0	0	0	0	0	0	0	86
Maple, soft	0	181	262	9	0	795	0	0	0	0	0	0	0	0	0	1,247
Maple, nspf ^a	0	383	65	47	0	847	118	111	0	0	0	0	0	0	0	1,570
Alder	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Cherry	0	3,019	9	252	0	1,494	317	256	0	0	0	0	0	0	0	5,347
Yellow-poplar	0	352	132	0	0	2,534	0	34	0	0	0	0	0	0	0	3,051
Birch	0	0	9	0	0	0	0	0	0	0	0	0	0	0	0	9
Ash	26	6,312	1,126	1,498	0	6,319	0	201	627	22	0	0	0	0	0	16,131
Walnut	0	6,566	424	2,144	0	1,865	47	1,308	472	19	0	0	0	0	0	12,845
Basswood	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Elm	0	31	0	0	0	92	0	0	0	0	0	0	0	0	0	123
Cottonwood	0	70	0	0	0	0	0	0	0	0	0	0	0	0	0	70
Sassafras	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Aspen	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Sap gum	0	0	0	0	0	168	0	0	0	0	0	0	0	0	0	168
Sycamore	0	15	0	0	0	0	0	0	0	0	0	0	0	0	0	15
Paulownia	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Persimmon	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Hackberry	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Tupelo	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Tropical	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Not defined by species	0	4,591	73	3,242	126	968	216	19	0	0	0	0	0	0	0	9,236
Total ocean ports ^b	76	58,962	10,017	16,820	293	15,772	2,418	2,820	1,265	60	0	302	0	0	0	108,805
Inland multiplier	1.08	1.21	1.12	1.15	2.13	1.10	1.54	1.06	1.00	1.00	.00	1.00	.00	.00	.00	1.18
Total all ports ^b	82	71,344	11,220	19,343	623	17,349	3,723	2,989	1,265	60	0	302	0	0	0	128,300

^aNonspecific^bTotals reflect rounding to nearest cubic meter.

Table 8.—Hardwood log export estimates for 1987, Europe

Species	United Kingdom	West Germany	Belgium and Luxembourg	Netherlands	Other Countries, Northern Europe	Italy	France	Spain	Other Countries, Southern Europe	Denmark	Finland	Sweden	Norway	Iceland	Central Europe	Total Europe
-----cubic meters-----																
Red oak	13	7,599	3,544	555	0	0	40	350	0	0	0	0	0	0	56	12,157
White oak	6	44,805	5,925	8,539	36	378	1,882	355	4,091	0	0	0	0	0	23	66,040
Beech	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Maple, hard	0	0	0	0	0	218	0	21	0	0	0	0	0	0	0	239
Maple, soft	0	20	233	0	0	1,099	0	0	0	0	0	0	0	0	0	1,352
Maple, nspt ^a	0	232	52	6	0	476	0	0	0	0	0	0	0	0	0	766
Alder	0	0	0	0	0	0	0	0	22	0	18	0	0	0	0	40
Cherry	0	3,529	953	88	0	3,495	699	299	45	0	0	0	0	0	0	9,115
Yellow-poplar	0	367	0	31	0	6,678	0	311	127	0	0	0	0	0	0	7,514
Birch	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Ash	17	10,361	950	1,377	0	7,078	70	784	227	0	0	0	0	0	30	20,895
Walnut	9	4,773	510	1,166	39	3,266	198	1,242	52	0	0	0	0	0	0	11,255
Basswood	0	17	0	0	0	0	0	0	0	0	0	0	0	0	0	17
Elm	0	0	0	0	0	133	0	0	0	0	0	0	0	0	0	133
Cottonwood	0	167	0	0	0	0	0	0	0	0	0	0	0	0	0	167
Sassafras	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Aspen	0	0	0	118	0	25	0	0	0	0	0	0	0	0	0	143
Sap gum	0	59	0	27	0	182	0	28	0	0	0	0	0	0	0	296
Sycamore	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Paulownia	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Persimmon	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Hackberry	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Tupelo	0	0	0	0	0	215	0	0	0	0	0	0	0	0	0	215
Tropical	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Not defined by species	22	1,360	130	910	0	1,661	70	26	363	0	0	0	0	0	0	4,542
Total ocean ports ^b	74	73,291	12,298	12,816	75	24,905	2,959	3,415	4,927	0	18	0	0	0	109	134,887
Inland multiplier	1.09	1.21	1.11	1.07	11.77	1.05	1.43	1.03	1.00	.00	1.00	.00	.00	.00	1.00	1.16
Total all ports ^b	81	88,682	13,651	13,713	886	26,151	4,231	3,518	4,927	0	18	0	0	0	109	155,965

^aNonspecific

^bTotals reflect rounding to nearest cubic meter.

Table 9.—Hardwood log export estimates for 1988, Europe

Species	United Kingdom	West Germany	Belgium and Luxembourg	Netherlands	Other Countries, Northern Europe	Italy	France	Spain	Other Countries, Southern Europe	Denmark	Finland	Sweden	Norway	Iceland	Central Europe	Total Europe
Red oak	0	7,720	3,478	6	0	0	107	188	0	18	0	0	0	0	0	11,517
White oak	50	41,102	7,160	2,387	0	156	3,669	1,760	5,720	137	0	0	0	0	1,163	63,304
Beech	0	0	10	0	0	0	0	0	0	0	0	0	0	0	0	10
Maple, hard	0	117	0	0	0	196	0	21	0	0	0	0	0	0	0	333
Maple, soft	0	40	438	0	0	1,319	0	0	12	0	0	0	0	0	0	1,809
Maple, nspf ^a	0	813	205	27	0	1,258	26	79	0	0	0	0	0	0	0	2,408
Alder	0	0	0	0	0	0	0	0	0	0	18	0	0	0	0	0
Cherry	0	6,649	1,253	578	0	5,148	6,816	626	227	40	0	0	0	0	160	21,497
Yellow-poplar	0	443	0	0	0	9,455	0	385	34	0	0	0	0	0	0	10,316
Birch	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Ash	0	10,977	912	341	0	7,398	114	1,343	505	0	0	0	0	0	0	21,588
Walnut	20	4,042	971	694	0	8,718	142	1,341	396	0	0	0	0	0	0	16,322
Basswood	0	106	0	32	0	0	0	0	0	0	0	0	0	0	0	138
Elm	0	47	0	0	0	0	71	0	0	0	0	0	0	0	0	119
Cottonwood	0	111	0	0	0	25	0	0	5,621	0	0	0	0	0	0	5,757
Sassafras	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Aspen	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Sap gum	0	4	0	0	0	714	0	0	0	0	0	0	0	0	0	718
Sycamore	0	8	0	0	0	0	0	0	0	0	0	0	0	0	0	8
Paulownia	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Persimmon	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Hackberry	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Tupelo	0	0	0	0	0	44	0	0	0	0	0	0	0	0	0	44
Tropical	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Not defined by species	1	1,568	313	158	41	2,070	228	22	118	0	0	0	0	0	0	4,519
Total ocean ports ^b	71	73,746	14,740	4,222	41	36,501	11,172	5,766	12,631	196	0	0	0	0	1,323	160,408
Inland multiplier	1.11	1.12	1.00	1.05	4.10	1.07	1.36	1.00	1.00	1.00	.00	.00	.00	.00	1.00	1.10
Total all ports ^b	79	82,596	14,740	4,433	169	39,056	15,194	5,766	12,631	196	0	0	0	0	1,323	176,181

^aNonspecific^bTotals reflect rounding to nearest cubic meter.

Table 10.—Hardwood log export estimates for 1989, Europe

Species	United Kingdom	West Germany	Belgium and Luxembourg	Netherlands	Other Countries, Northern Europe	Italy	France	Spain	Other Countries, Southern Europe	Denmark	Finland	Sweden	Norway	Iceland	Central Europe	Total Europe
	cubic meters															
Red oak	0	9,770	4,601	43	0	46	0	370	360	7	0	0	0	0	0	15,196
White oak	40	47,150	7,336	8,397	42	132	1,920	1,756	6,040	0	39	0	0	0	25,561	98,412
Beech	0	0	11	0	0	0	0	0	0	0	0	0	0	0	0	11
Maple, hard	0	109	0	0	0	0	0	0	0	9	0	0	0	0	0	118
Maple, soft	0	247	571	0	0	2,009	57	0	0	0	24	0	0	0	0	2,907
Maple, nspf ^a	0	1,291	283	49	0	1,012	102	59	0	0	0	0	0	0	0	2,796
Alder	23	0	0	0	0	0	89	0	0	0	0	0	0	0	0	112
Cherry	52	9,255	1,441	400	65	6,376	12,739	299	715	0	0	0	0	0	0	31,342
Yellow-poplar	0	771	6	0	0	15,595	0	460	0	0	0	0	0	0	0	16,832
Birch	0	10	0	0	0	0	0	0	0	0	24	0	0	0	0	34
Ash	0	10,907	1,230	366	0	5,877	178	1,209	183	9	0	0	0	0	65	20,025
Walnut	71	4,365	879	363	12	13,308	328	1,623	539	0	0	0	0	0	1,578	23,066
Basswood	0	115	0	37	0	0	0	0	0	0	0	0	0	0	0	153
Elm	0	504	0	0	0	285	44	0	0	0	0	0	0	0	0	833
Cottonwood	0	181	0	0	0	0	0	0	0	0	0	0	0	0	0	181
Sassafras	0	107	112	0	0	0	0	0	0	0	0	0	0	0	0	220
Aspen	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Sap gum	0	0	0	0	0	404	0	27	0	0	0	0	0	0	0	431
Sycamore	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Paulownia	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Persimmon	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Hackberry	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Tupelo	0	0	0	0	0	91	0	0	0	0	0	0	0	0	0	91
Tropical	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Not defined by species	67	2,067	266	175	93	1,782	373	110	31	0	0	8	0	0	1,741	6,712
Total ocean ports ^b	252	86,850	16,737	9,831	212	46,915	15,831	5,913	7,867	25	86	8	0	0	28,945	219,473
Inland multiplier	1.11	1.06	1.04	1.03	5.30	1.11	1.07	1.06	1.00	1.15	1.00	1.00	.00	.00	1.01	1.06
Total all ports ^b	280	92,061	17,406	10,126	1,126	52,076	16,939	6,268	7,867	28	86	8	0	0	29,119	233,391

^aNonspecific

^bTotals reflect rounding to nearest cubic meter.

Table 11.—Hardwood log export estimates for 1990, Europe

Species	United Kingdom	West Germany	Belgium and Luxembourg	Netherlands	Other Countries, Northern Europe	Italy	France	Spain	Other Countries, Southern Europe	Denmark	Finland	Sweden	Norway	Iceland	Central Europe	Total Europe
Red oak	0	13,387	2,268	591	0	0	20	63	1,340	0	0	0	0	0	0	17,668
White oak	0	44,676	6,660	441	23	160	3,351	2,019	22,950	96	0	0	0	0	17,387	97,763
Beech	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Maple, hard	0	0	84	0	0	0	0	0	0	0	0	0	0	0	0	84
Maple, soft	0	0	0	0	0	475	0	0	0	0	0	0	0	0	0	475
Maple, nspf ^a	0	1,412	283	65	0	1,489	42	24	0	0	0	0	0	0	0	3,316
Alder	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Cherry	327	12,228	1,591	818	55	5,001	12,609	471	2,306	0	0	0	0	0	0	35,407
Yellow-poplar	60	684	235	0	0	17,946	0	294	512	0	0	79	0	0	0	19,811
Birch	0	33	0	0	0	0	0	0	0	0	0	0	0	0	0	33
Ash	97	9,978	1,287	0	0	4,767	119	1,011	1,294	0	0	0	0	0	169	18,721
Walnut	56	4,981	1,470	100	0	15,930	264	2,769	1,460	0	0	0	0	0	0	27,031
Basswood	0	0	0	40	0	0	0	0	0	0	0	0	0	0	0	40
Elm	0	153	0	0	0	130	0	0	0	0	0	0	0	0	0	283
Cottonwood	0	0	0	0	0	0	0	0	5,251	0	0	0	0	0	0	5,251
Sassafras	0	14	0	0	0	15	0	0	0	0	0	0	0	0	0	28
Aspen	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Sap gum	0	0	0	0	0	830	0	0	5,546	0	0	0	0	0	0	6,376
Sycamore	0	181	0	0	0	0	0	0	0	0	0	0	0	0	0	181
Paulownia	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Persimmon	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Hackberry	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Tupelo	0	0	0	0	0	198	0	0	0	0	0	0	0	0	0	198
Tropical	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Not defined by species	1	1,962	366	192	119	2,693	141	474	5,397	0	0	0	0	0	1,795	13,140
Total ocean ports ^b	542	89,690	14,245	2,247	197	49,633	16,546	7,125	46,056	96	0	79	0	0	19,350	245,807
Inland multiplier	1.29	1.13	1.16	1.07	3.39	1.09	1.19	1.00	1.00	1.15	.00	1.22	.00	.00	1.01	1.09
Total all ports ^b	699	101,349	16,524	2,404	670	54,100	19,690	7,125	46,056	111	0	97	0	0	19,458	268,283

^aNonspecific^bTotals reflect rounding to nearest cubic meter.

Table 12.—Hardwood log export estimates for 1981, Asia

Species	Japan	Taiwan	Korea	Hong Kong	Australia	Singapore	Other Pacific Rim	Total Pacific Rim
	-----cubic meters-----							
Red oak	148	2,536	94	19	0	0	0	2,797
White oak	94	988	0	0	58	753	3	1,896
Beech	0	55	0	0	0	0	0	55
Maple, hard	8	53	0	0	0	0	0	60
Maple, soft	0	0	0	0	0	0	0	0
Maple, nspf ^a	1,670	144	0	0	0	0	0	1,814
Alder	4,926	0	0	0	0	0	26	4,953
Cherry	0	33	0	0	0	0	0	33
Yellow-poplar	0	0	0	0	0	0	0	0
Birch	0	0	0	0	0	0	0	0
Ash	1	1,438	71	0	0	0	0	1,510
Walnut	1,788	448	759	0	0	8	0	3,003
Basswood	0	0	0	0	0	0	0	0
Elm	0	0	0	0	0	0	0	0
Cottonwood	828	0	0	0	0	0	0	828
Sassafras	0	0	0	0	0	0	0	0
Aspen	0	0	0	0	0	0	0	0
Sap gum	0	0	0	0	0	0	0	0
Sycamore	0	0	0	0	0	0	0	0
Paulownia	16,726	46	0	157	0	0	0	16,928
Persimmon	0	0	0	0	0	0	0	0
Hackberry	0	0	0	0	0	0	0	0
Tupelo	0	0	0	0	0	0	0	0
Tropical	0	0	0	0	0	0	0	0
Not defined by species	2,209	1,774	178	120	0	72	481	4,834
Total ocean ports ^b	28,397	7,515	1,102	296	59	832	510	38,710
Inland multiplier	1.01	1.00	1.01	1.02	1.12	1.00	1.00	1.01
Total all ports ^b	28,681	7,515	1,113	302	66	832	510	39,018

^aNonspecific

^bTotals reflect rounding to nearest cubic meter.

Table 13.—Hardwood log export estimates for 1982, Asia

Species	Japan	Taiwan	Korea	Hong Kong	Australia	Singapore	Other Pacific Rim	Total Pacific Rim
	-----cubic meters-----							
Red oak	21	4,702	171	30	0	46	19	4,990
White oak	318	646	189	0	0	433	0	1,585
Beech	0	20	0	0	0	0	0	20
Maple, hard	0	294	0	0	0	0	0	294
Maple, soft	0	0	0	0	0	0	0	0
Maple, nspt ^a	1,671	426	21	0	0	0	0	2,119
Alder	383	2,191	0	0	0	0	0	2,574
Cherry	0	11	0	0	0	0	0	11
Yellow-poplar	0	0	0	0	0	0	0	0
Birch	0	0	0	0	0	0	0	0
Ash	27	202	0	41	0	0	0	270
Walnut	1,514	567	1,988	0	0	14	0	4,082
Basswood	0	0	0	0	0	0	0	0
Elm	2	0	0	0	0	0	0	2
Cottonwood	2,106	0	0	0	0	0	0	2,106
Sassafras	0	6	0	0	0	0	0	6
Aspen	0	0	0	0	0	0	0	0
Sap gum	0	0	0	0	0	0	0	0
Sycamore	0	0	0	0	0	0	0	0
Paulownia	16,375	723	0	332	0	0	0	17,430
Persimmon	0	0	0	0	0	0	0	0
Hackberry	0	0	0	0	0	0	0	0
Tupelo	0	0	0	0	0	0	0	0
Tropical	0	0	0	0	0	0	0	0
Not defined by species	4,744	3,030	516	46	0	148	0	8,484
Total ocean ports ^b	27,161	12,819	2,885	449	0	641	19	43,974
Inland multiplier	1.00	1.01	1.00	1.00	.00	1.00	1.00	1.00
Total all ports ^b	27,161	12,948	2,885	449	0	641	19	44,103

^aNonspecific

^bTotals reflect rounding to nearest cubic meter.

Table 14.—Hardwood log export estimates for 1983, Asia

Species	Japan	Taiwan	Korea	Hong Kong	Australia	Singapore	Other Pacific Rim	Total Pacific Rim
	-----cubic meters-----							
Red oak	169	20,600	208	183	0	520	79	21,758
White oak	843	2,594	165	55	0	266	0	3,922
Beech	0	0	0	0	0	0	0	0
Maple, hard	0	359	49	0	0	0	0	418
Maple, soft	19	22	0	0	0	0	0	40
Maple, nsp ^a	2,077	44	85	0	0	0	0	2,206
Alder	929	0	0	0	0	0	1,012	1,941
Cherry	23	68	0	0	0	0	0	92
Yellow-poplar	0	37	37	0	0	0	0	74
Birch	0	0	0	0	0	0	0	0
Ash	24	394	11	0	0	0	0	430
Walnut	1,636	846	2,893	0	0	68	0	5,442
Basswood	0	0	0	0	0	0	0	0
Elm	0	0	27	0	0	0	0	28
Cottonwood	0	0	0	0	0	0	0	0
Sassafras	38	29	0	0	0	0	0	67
Aspen	0	0	0	0	0	0	0	0
Sap gum	0	0	0	0	0	0	0	0
Sycamore	0	0	0	0	0	0	0	0
Paulownia	26,345	119	0	66	0	0	0	26,531
Persimmon	0	0	0	0	0	0	0	0
Hackberry	0	0	0	0	0	0	0	0
Tupelo	0	0	0	0	0	0	0	0
Tropical	0	0	0	0	0	0	0	0
Not defined by species	1,824	1,978	125	0	0	0	113	4,040
Total ocean ports ^b	33,927	27,102	3,600	303	0	854	1,204	66,991
Inland multiplier	1.00	1.01	1.00	1.00	1.00	1.00	1.00	1.00
Total all ports ^b	33,927	27,373	3,600	303	0	854	1,204	67,262

^aNonspecific

^bTotals reflect rounding to nearest cubic meter.

Table 15.—Hardwood log export estimates for 1984, Asia

Species	Japan	Taiwan	Korea	Hong Kong	Australia	Singapore	Other Pacific Rim	Total Pacific Rim
	-----cubic meters-----							
Red oak	883	24,209	594	0	0	1,331	0	27,017
White oak	1,546	4,856	1,783	0	0	1,128	10	9,322
Beech	0	48	71	0	0	0	0	119
Maple, hard	23	76	950	0	0	0	0	1,048
Maple, soft	0	0	154	0	0	0	0	154
Maple, nspf ^a	1,413	880	1,507	0	0	0	0	3,800
Alder	1,879	2,974	136	0	0	0	0	4,988
Cherry	0	72	0	0	0	0	0	72
Yellow-poplar	0	208	0	0	0	0	0	208
Birch	0	0	0	0	0	0	0	0
Ash	232	433	0	0	0	63	0	728
Walnut	2,074	1,296	4,621	0	0	26	10	8,028
Basswood	30	0	0	0	0	0	0	30
Elm	147	0	0	0	0	0	0	147
Cottonwood	1,946	14,651	0	0	0	0	0	16,598
Sassafras	16	108	0	0	0	0	0	124
Aspen	0	0	59	0	0	0	0	59
Sap gum	0	0	0	0	0	0	0	0
Sycamore	0	0	12	0	0	0	0	12
Paulownia	26,048	168	0	248	0	0	0	26,463
Persimmon	0	0	0	0	0	0	0	0
Hackberry	0	0	27	0	0	0	0	27
Tupelo	0	0	0	0	0	0	0	0
Tropical	0	0	0	0	0	0	0	0
Not defined by species	1,448	4,321	333	0	15	0	25	6,143
Total ocean ports ^b	37,685	54,301	10,246	248	15	2,547	45	105,088
Inland multiplier	1.00	1.00	1.00	1.00	4.00	1.00	1.00	1.00
Total all ports ^b	37,685	54,301	10,246	248	62	2,547	45	105,135

^aNonspecific

^bTotals reflect rounding to nearest cubic meter.

Table 16.—Hardwood log export estimates for 1985, Asia

Species	Japan	Taiwan	Korea	Hong Kong	Australia	Singapore	Other Pacific Rim	Total Pacific Rim
	-----cubic meters-----							
Red oak	219	27,505	68	0	0	70	59	27,922
White oak	1,045	3,602	1,051	0	0	580	0	6,278
Beech	0	19	0	0	0	0	0	19
Maple, hard	0	46	1,091	0	0	0	0	1,137
Maple, soft	0	18	129	0	0	0	0	147
Maple, nspf ^a	2,691	1,007	2,785	0	0	0	0	6,483
Alder	583	779	42	0	0	0	1,391	2,796
Cherry	0	50	0	0	0	62	51	163
Yellow-poplar	60	242	0	0	0	0	0	302
Birch	0	106	132	0	0	955	0	1,193
Ash	79	1,241	54	0	0	182	0	1,556
Walnut	2,367	788	5,164	0	0	0	14	8,333
Basswood	0	0	95	0	0	0	0	95
Elm	0	21	237	0	0	0	0	258
Cottonwood	1,169	867	8	0	0	0	0	2,044
Sassafras	13	139	0	0	0	0	0	152
Aspen	0	0	30	0	0	0	0	30
Sap gum	0	0	0	0	0	0	0	0
Sycamore	15	0	0	0	0	0	0	15
Paulownia	25,913	0	0	0	0	0	0	25,913
Persimmon	6	0	0	0	0	0	0	6
Hackberry	0	0	0	0	0	0	0	0
Tupelo	0	0	0	0	0	0	0	0
Tropical	0	0	0	0	0	0	0	0
Not defined by species	2,353	8,512	242	46	0	180	28	11,362
Total ocean ports ^b	36,515	44,943	11,129	46	0	2,028	1,543	96,204
Inland multiplier	1.01	1.00	1.00	1.00	.00	1.02	1.00	1.00
Total all ports ^b	36,880	44,943	11,129	46	0	2,068	1,543	96,610

^aNonspecific

^bTotals reflect rounding to nearest cubic meter.

Table 17.—Hardwood log export estimates for 1986, Asia

Species	Japan	Taiwan	Korea	Hong Kong	Australia	Singapore	Other Pacific Rim	Total Pacific Rim
	-----cubic meters-----							
Red oak	1,760	56,498	1,193	279	0	1,673	166	61,568
White oak	3,018	6,984	4,448	20	0	920	131	15,521
Beech	0	0	0	0	0	0	0	0
Maple, hard	107	714	5,718	23	0	0	0	6,563
Maple, soft	0	0	1,232	0	0	0	0	1,232
Maple, nspf ^a	2,999	1,554	2,295	0	0	0	0	6,848
Alder	1,773	3,075	3,717	0	0	0	0	8,564
Cherry	62	271	132	0	0	0	0	465
Yellow-poplar	43	0	715	0	0	0	0	759
Birch	0	259	482	0	0	1,309	0	2,050
Ash	225	2,683	144	0	0	275	0	3,328
Walnut	3,363	1,701	6,413	50	0	0	0	11,527
Basswood	224	29	297	63	0	0	0	612
Elm	18	22	220	0	0	0	0	261
Cottonwood	2,471	1,109	914	0	0	0	0	4,493
Sassafras	16	151	45	0	0	0	0	212
Aspen	0	0	0	0	0	0	0	0
Sap gum	0	0	0	0	0	0	0	0
Sycamore	0	0	0	0	0	0	0	0
Paulownia	34,527	0	0	0	0	184	0	34,711
Persimmon	0	0	0	0	0	0	0	0
Hackberry	0	0	0	0	0	0	0	0
Tupelo	0	0	0	0	0	0	0	0
Tropical	0	0	0	0	0	0	0	0
Not defined by species	4,071	2,546	488	53	0	19	24	7,202
Total ocean ports ^b	54,676	77,596	28,454	488	0	4,380	322	165,917
Inland multiplier	1.00	1.00	1.07	1.00	.00	1.00	1.00	1.01
Total all ports ^b	54,676	77,596	30,446	488	0	4,380	322	167,908

^aNonspecific

^bTotals reflect rounding to nearest cubic meter.

Table 18.—Hardwood log export estimates for 1987, Asia

Species	Japan	Taiwan	Korea	Hong Kong	Australia	Singapore	Other Pacific Rim	Total Pacific Rim
	-----cubic meters-----							
Red oak	2,894	50,120	1,468	89	0	1,467	90	56,128
White oak	14,833	9,281	10,716	0	0	231	200	35,262
Beech	0	59	0	0	0	0	0	59
Maple, hard	2	1,353	9,856	0	0	0	0	11,211
Maple, soft	213	1,868	4,889	0	0	0	0	6,971
Maple, ns ^a	3,773	1,332	1,498	0	0	0	10	6,613
Alder	2,586	19,221	13,328	0	0	0	0	35,135
Cherry	77	399	0	0	0	42	0	518
Yellow-poplar	201	359	996	149	0	0	0	1,706
Birch	61	2,552	0	0	0	1,888	0	4,501
Ash	920	2,364	1,034	59	0	274	0	4,650
Walnut	1,795	1,084	8,150	0	0	0	0	11,029
Basswood	2,855	134	2,035	0	0	0	0	5,024
Elm	66	0	533	0	0	24	0	623
Cottonwood	2,650	201	4,921	0	0	0	0	7,772
Sassafras	173	55	418	0	0	0	0	645
Aspen	938	0	400	0	0	0	0	1,337
Sap gum	0	0	0	0	0	0	0	0
Sycamore	0	0	0	0	0	0	0	0
Paulownia	30,309	151	509	0	0	0	108	31,077
Persimmon	19	0	0	0	0	0	0	19
Hackberry	0	26	23	0	0	0	0	49
Tupelo	0	0	0	0	0	0	0	0
Tropical	0	0	0	0	0	0	0	0
Not defined by species	2,549	2,770	1,195	197	0	97	0	6,808
Total ocean ports ^b	66,913	93,330	61,967	494	0	4,023	409	227,136
Inland multiplier	1.00	1.01	1.08	1.00	.00	1.01	1.00	1.03
Total all ports ^b	66,913	94,263	66,924	494	0	4,063	409	233,067

^aNonspecific

^bTotals reflect rounding to nearest cubic meter.

Table 19.—Hardwood log export estimates for 1988, Asia

Species	Japan	Taiwan	Korea	Hong Kong	Australia	Singapore	Other Pacific Rim	Total Pacific Rim
	-----cubic meters-----							
Red oak	6,188	87,427	2,173	756	0	2,458	2,616	101,617
White oak	17,429	25,697	11,427	118	0	995	412	56,078
Beech	47	52	0	0	0	0	0	100
Maple, hard	123	1,719	6,423	0	0	17	0	8,282
Maple, soft	2,200	4,989	5,828	0	0	0	0	13,017
Maple, nsp ^a	4,540	1,349	7,444	63	0	0	0	13,396
Alder *	71,835	7,444	35,059	0	0	0	0	114,338
Cherry	109	369	182	26	0	17	0	704
Yellow-poplar	1,141	60	1,786	0	0	0	0	2,987
Birch	0	2,863	27	0	0	499	52	3,441
Ash	1,139	4,818	2,614	210	0	512	0	9,294
Walnut	2,487	1,064	9,259	184	0	0	0	12,994
Basswood	9,989	0	874	0	0	0	0	10,863
Elm	24	46	553	0	0	0	0	624
Cottonwood	4,467	71	24,124	0	0	0	0	28,661
Sassafras	25	80	594	0	0	0	0	699
Aspen	793	0	182	0	0	0	0	975
Sap gum	0	27	0	0	0	0	0	27
Sycamore	0	0	0	0	0	0	0	0
Paulownia	36,082	441	363	0	0	105	165	37,157
Persimmon	12	0	0	0	0	0	0	12
Hackberry	0	0	0	0	0	0	0	0
Tupelo	19	0	0	0	0	0	0	19
Tropical	0	0	0	0	0	0	0	0
Not defined by species	6,966	7,022	1,153	516	0	0	11	15,668
Total ocean ports ^b	165,615	145,537	110,066	1,874	0	4,603	3,256	430,952
Inland multiplier	1.01	1.01	1.02	1.00	.00	1.01	1.00	1.01
Total all ports ^b	167,271	146,993	112,268	1,874	0	4,649	3,256	436,311

^aNonspecific

^bTotals reflect rounding to nearest cubic meter.

Table 20.—Hardwood log export estimates for 1989, Asia

Species	Japan	Taiwan	Korea	Hong Kong	Australia	Singapore	Other Pacific Rim	Total Pacific Rim
	-----cubic meters-----							
Red oak	5,037	30,897	727	69	0	2,643	5,834	45,207
White oak	28,751	6,073	10,511	11	0	854	1,007	47,206
Beech	1,309	20	70	0	0	0	0	1,399
Maple, hard	541	3,078	7,013	0	0	0	0	10,633
Maple, soft	1,206	5,793	5,998	0	0	0	0	12,997
Maple, nspf ^a	4,669	3,342	4,137	0	0	0	2	12,149
Alder	49,299	14,068	19,465	0	0	0	0	82,832
Cherry	128	328	313	0	0	40	42	850
Yellow-poplar	2,311	0	2,379	0	0	0	0	4,689
Birch	0	5,377	883	0	0	903	405	7,568
Ash	1,183	4,207	5,466	0	0	803	42	11,701
Walnut	3,438	735	13,338	0	0	9	141	17,661
Basswood	1,384	0	2,183	0	0	0	0	3,567
Elm	59	447	468	0	0	0	0	974
Cottonwood	7,363	8,637	29,623	0	0	0	0	45,622
Sassafras	266	60	1,152	0	0	0	0	1,478
Aspen	0	0	789	0	0	0	0	789
Sap gum	0	0	0	0	0	0	0	0
Sycamore	0	0	22	0	0	0	0	22
Paulownia	33,344	505	0	0	0	0	60	33,909
Persimmon	0	0	0	0	0	0	0	0
Hackberry	0	0	51	0	0	0	0	51
Tupelo	0	0	0	0	0	0	0	0
Tropical	0	0	0	0	0	0	0	0
Not defined by species	7,374	1,357	1,642	21	23	69	4,782	15,269
Total ocean ports ^b	147,663	84,924	106,229	100	23	5,321	12,314	356,573
Inland multiplier	1.01	1.01	1.00	1.00	1.00	1.00	1.00	1.01
Total all ports ^b	149,139	85,773	106,229	100	23	5,321	12,314	358,899

^aNonspecific

^bTotals reflect rounding to nearest cubic meter.

Table 21.—Hardwood log export estimates for 1990, Asia

Species	Japan	Taiwan	Korea	Hong Kong	Australia	Singapore	Other Pacific Rim	Total Pacific Rim
	-----cubic meters-----							
Red oak	5,799	18,156	988	23	0	3,755	12,829	41,550
White oak	46,588	2,828	11,095	0	19	1,475	1,055	63,060
Beech	387	31	0	0	0	0	0	419
Maple, hard	65	2,106	6,705	0	0	45	0	8,921
Maple, soft	3,395	3,635	621	0	0	0	0	7,651
Maple, nspr ^a	8,775	920	9,677	10	0	37	0	19,420
Alder	37,891	9,673	119,331	0	0	0	0	166,896
Cherry	23	287	14	0	0	126	27	476
Yellow-poplar	3,164	0	2,490	0	0	0	0	5,654
Birch	118	3,435	1,252	1	0	1,306	148	6,259
Ash	765	2,909	5,802	0	0	867	29	10,372
Walnut	2,997	406	10,936	0	0	0	129	14,468
Basswood	4,272	64	1,115	0	0	0	0	5,450
Elm	104	0	0	0	0	0	0	104
Cottonwood	6,262	0	25,310	0	0	0	0	31,572
Sassafras	131	58	262	0	0	0	0	451
Aspen	0	0	630	0	0	0	0	630
Sap gum	0	0	0	0	0	0	0	0
Sycamore	0	0	0	0	0	0	0	0
Paulownia	23,131	0	441	0	0	0	0	23,572
Persimmon	0	0	0	0	0	0	0	0
Hackberry	28	0	0	0	0	0	0	28
Tupelo	70	43	0	0	0	0	0	113
Tropical	0	0	0	0	0	0	0	0
Not defined by species	10,745	1,802	2,019	105	47	164	1,553	16,434
Total ocean ports ^b	154,710	46,354	198,686	138	67	7,774	15,770	423,499
Inland multiplier	1.00	1.01	1.00	1.00	1.00	1.00	1.00	1.00
Total all ports ^b	154,710	46,818	198,686	138	67	7,774	15,770	423,963

^aNonspecific

^bTotals reflect rounding to nearest cubic meter.

Luppold, William G.; Thomas, R. Edward. 1991. **New estimates of hardwood-log exports to Europe and Asia.** Res. Pap. NE-659. Radnor, PA: U.S. Department of Agriculture, Forest Service, Northeastern Forest Experiment Station. 24 p.

Discusses the procedures used to develop a new set of hardwood-log export estimates and presents a detailed set of new hardwood-log export estimates for European and Asian markets.

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