Timber Supply and Demand: 2001 to 2005

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Preface

This is the 21st report prepared in accordance with Section 706(a) of the Alaska National Interest Lands Conservation Act (ANILCA), which directs the Secretary of Agriculture to monitor and report on timber supply and demand in Southeast Alaska. Susan J. Alexander, PhD, prepared this report. The report provides a summary of timber sale activity in the region and a review of the primary factors affecting timber markets from 2001 to 2005.

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Summary
The annual volume of timber sold on the Tongass National Forest in the years from 2001 to 2005 ranged from 24.4 to 87.1 million board feet (MMBF). Harvested volumes in the same time period ranged from 33.8 to 51.3 MMBF. Private suppliers, comprised by the native corporations, sold an annual average of 106 MMBF from 2001 to 2005. Harvests on State of Alaska lands were higher than that of the Forest Service in 2001 and 2002, and lower in 2003, 2004, and 2005. Wood product employment rose to 561 jobs in 2003 (in terms of annual equivalents), more than the 2002 employment of 512 jobs, fell to 450 in 2004, and rose back to 499 in 2005.

The volume of timber offered by the Forest Service exceeded the volume sold in 2001, 2002, 2003, and 2005. The volume sold was less than the volume harvested in 2002 and 2003. This was due in part to the method of counting accomplishments, and in part to an injunction in 2002 that prohibited timber harvest and road building in roadless areas, and signing decision documents for timber sales in roadless areas. Volume offered in one fiscal year can be sold and harvested in subsequent fiscal years.

As for destination markets for Southeast Alaskan wood products, 2003 shipments to foreign markets increased over 2002 levels, but were still less than half of the 2001 levels, and were one-tenth of 1999 levels. Exports in 2004 were mixed, with softwood lumber exports up and softwood log and chip exports down. Exports in 2005 were up for both logs and lumber, and slightly down for chips. Evidence suggests that a substantial proportion of regional product is now being shipped to domestic markets in the Lower 48 States. This shift entails a loss of export premiums previously associated with the Pacific Rim market, but there are also potential market opportunities as local producers gain more experience with U.S. markets, and U.S. consumers learn more about Southeast Alaska's wood products. Local producers are exploring product differentiation and niche marketing opportunities.

1. Introduction

Section 706(a) of the Alaska National Interest Lands Conservation Act (ANILCA) (Public Law 96-487, December 2, 1980) directs the Secretary of Agriculture to monitor and report on timber supply and demand in Southeast Alaska. Accordingly, this report describes the status of the timber market in Southeast Alaska during the 2001, 2002, 2003, 2004, and 2005 federal fiscal year (October 1 - September 30). Many of the statistics presented in this report, however, are based on calendar years. Fiscal years will be designated by "FY" preceding the given year and calendar years by "CY."

The report is divided into three main sections, the first providing a general overview of conditions within the region's timber economy, the second treating timber supply from federal lands and the third addressing demand for this timber. The general overview looks at current developments in the timber sector with particular emphasis on timber employment. The supply section focuses upon the ability of the Tongass National Forest to supply adequate volumes for local processors, with the timber sale program receiving the bulk of the attention. The demand section considers the various factors outside of the Tongass National Forest that help determine the willingness of local buyers to purchase

Tongass National Forest timber. These factors include Asian and domestic U.S. markets, current processing capacity in Southeast Alaska, and other suppliers of timber in the region. Supporting data for the analysis is presented in the various tables included in the appendix.

2. Overview of the Region's Timber Economy

Southeast Alaska's economic well-being is closely tied to tourism and resource-dependent industries, including fishing, forestry, and mining. Over the last decade, a year of job growth in the Southeast Alaska economy has often been followed by a year of job losses. No momentum has developed in either direction. Five years of gains and five years of losses have resulted in a net gain of just 900 jobs over the past 10 years in Southeast. A good summer visitor season and a relatively good year for fishing created small economic gains in the region in 2005 (Gilbertson 2006).

During the 1990s, changes in ownership patterns, competition with production in other regions of the Pacific Northwest, and market conditions led to the closure of the pulp mills and a loss of the ability of local producers to utilize lower quality logs that can constitute as much as half of a given timber sale on the Tongass National Forest. At the same time, decreasing private timber and weak markets in Japan led to declines in log exports (Tsournos and Haynes 2004). Crone (2004) stated that by the early 1990s, market upturns in the pulp market could no longer ensure viability of the Southeast Alaska pulp industry, for several reasons. The Tongass Timber Reform Act of 1990 (TTRA)(Public Law 101-626, November 28, 1990) required the Forest Service to revise the long-term contracts with the Ketchikan Pulp Company (KPC) and Alaska Lumber and Pulp Company (APC), essentially increasing the cost of production. According to Crone, this was due in part to the TTRA requirement that timber sales meet the same standards as independent timber sales in terms of planning, management requirements, and environmental assessments. In addition, the TTRA decreased the annual appropriation to fund road preparation, cultural treatments, and logging systems, and directed the Forest Service to seek to provide sufficient timber each year to meet "market demand." The most accessible timber had been harvested, the pulp companies' costs were increasing, and the cumulative effect of the TTRA provisions was to further increase costs (Crone 2004).

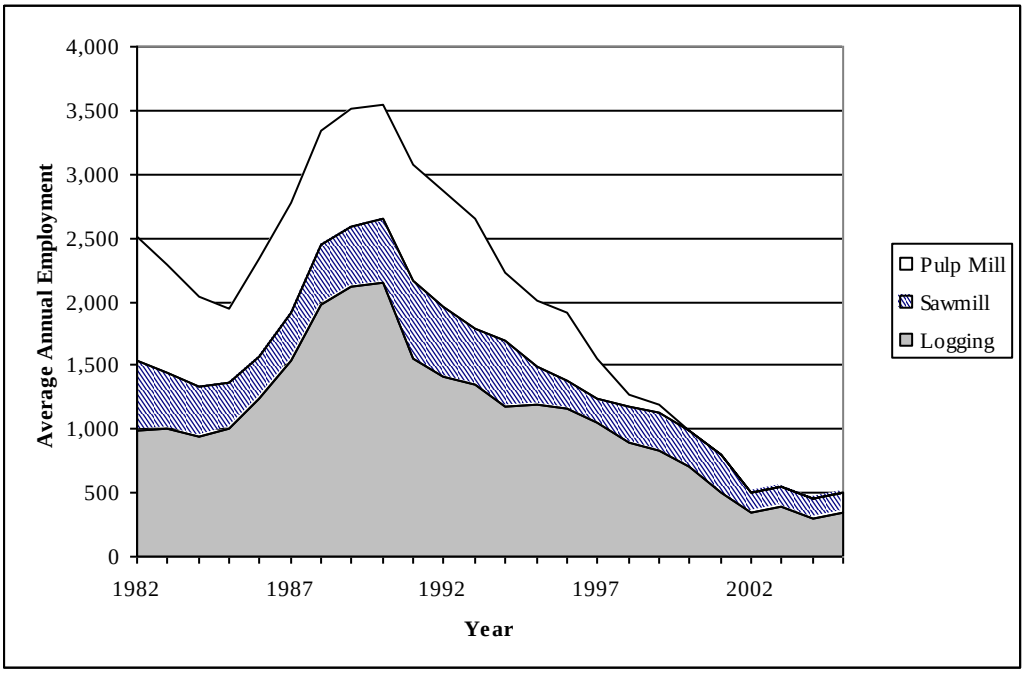
With the closure of the region's two pulp mills in the 1990s and numerous closures of sawmill facilities, operating capacity has declined. The housing market in Japan has been slack since about 1998. There could be a high demand for forest products in Asia in the near future, but Pacific Rim prices may be unable to compete with domestic markets (Brackley et al. 2006a). Haynes at al. (2007) found that since 1994, the value of U.S. forest product exports has been in gradual decline while the value of imports has steadily increased. Hansen (2006) states that U.S. companies have historically jumped into the export market when the domestic market is down, and shifted back to the U.S. market when the domestic market improves. In recent years, the U.S. domestic market has been very attractive with high housing starts and strong prices in many forest product categories. Haynes et al. (2007) state that U.S. demand for forest products is varied and

large, averaging 71.4 cubic feet per person per year. This per capita consumption of wood products in the U.S. has been relatively constant for 50 years. Total U.S. forest products consumption is projected to continue to rise. U.S. imports of wood products are projected to rise at a somewhat faster rate than domestic wood supply. U.S. import dependence is projected to reach more than one-quarter of the total of all wood products consumed and exported in the US by 2010. Economic globalization throughout wood products manufacturing is contributing to a global realignment of growth in raw material demands. In addition to this realignment of where manufacturing takes place, sheer population growth will drive increases in wood products demand both in the US and world-wide. Ince et al. (2007) state that countries such as China are emerging in the 21st century as growth leaders in wood raw material and industrial wood product demand.

On the supply side, the cost of preparing stumpage for sale and delivering it to mills has increased, due to decreased size of sales, legal and procedural challenges to federal timber sales, and more constraints on harvest activity in the interest of resource protection. The uncertainty surrounding Tongass National Forest sale quantities has increased the risk faced by potential purchasers and investors in local processing capacity.

From the standpoint of the region's communities, timber sector employment is one of the most relevant indicators of the problems faced by the industry (see Figure 1, and Table A-2 in appendix). Total sector employment fell from a high of 3,543 average annual employees in Southeast Alaska in the wood products industry (logging, pulp and paper, and sawmilling) in 1990 to 499 in 2005. Tongass National Forest-related employment in logging and sawmilling (there is essentially no employment in pulp and paper any longer in Southeast Alaska) has declined from 409 in 2001 to 184 in 2005 (see Table A-2 in the appendix for how the Tongass National Forest -related employment numbers were calculated). Through 2002, we could assume that virtually all sawmill employment came from harvests from National Forest lands. However, data from Kilborn et al. (2004) and Brackley et al. (2006b) show that the Tongass National Forest contributed 73 percent of wood sawn in Southeast Alaska in 2002, 59 percent in 2003, 64 percent in 2004, and 65 percent in 2005. State of Alaska lands have become an important source of logs processed by local sawmills in Southeast. Supplies from State lands are projected to decrease in coming years, as their land base is limited.

Figure 1. Southeast Alaska Wood Products Employment, 1982-2005.



Source: Alaska Department of Labor; Kilborn et al. (2004); Brackley et al. (2006b).

According to Robertson and Brooks (2001), mills in Alaska used an average of 6.04 hours of production worker labor per thousand board feet (MBF) of lumber output from 1987 to 1994, which is equivalent to 2.9 annualized full-time equivalent employees per MMBF. Mills in the Pacific Northwest used 4.78 hours of production labor per MBF of lumber output, equivalent to 2.3 full-time annual positions per MMBF. Although data for sawmill lumber output is not available for Southeast Alaska in recent years, information on sawlog volume used to manufacture sawn products is. Using data from Kilborn et al. (2004), and Brackley et al. (2006b), it took approximately 9 hours of sawmill employee labor to process one MBF of sawlog volume over the 2000-2004 period in Southeast Alaska, equivalent to 4.31 full-time positions per MMBF. Using data about Tongass National Forest logging employment and stumpage output from 2001 to 2004, one MMBF of stumpage harvested on the Tongass National Forest created 2.07 average annualized logging jobs. Robertson and Brooks (2001) point out that Alaska forests are largely remote, with difficult terrain, and loggers can't take advantage of many mechanized harvesting opportunities. Also, logging production wages are higher in Alaska than in the Pacific Northwest. They calculated that between the higher wages and lower productivity, it cost $24 more in labor to produce an MBF of lumber in Alaska over the 1987-94 period than in the Pacific Northwest. Mill efficiency is continuously increasing in the Pacific Northwest, with high levels of competition in tighter markets. Due to these changes, the labor cost difference between Alaska and the Pacific Northwest could be even greater now. Most remaining sawmills in the Pacific Northwest process logs that are fairly uniform in size, and generally can not efficiently saw logs larger than a 32 inch scaling diameter. The sawmill industry in Southeast Alaska has undergone

tremendous changes from 2000 to 2004. Six mills closed or became idle. Remaining mills must remain flexible as wood sizes processed in Alaska vary from large old-growth logs to small diameter material. As the industry changes, and remaining facilities become more efficient, the amount of labor required to produce lumber and to harvest trees will also change.

While supply and demand are treated separately in the following sections, it is important to remember that the interaction of these two forces is what is important. Both supply and demand present challenges for the region's timber sector as it is currently configured.

3. Supply

The supply of timber from the Tongass National Forest is determined by two main factors. The first is the volume of timber offered for sale by the Forest Service. This is estimated annually, using procedures that were developed by the Alaska Region of the Forest Service with the aim of adjusting volume offered to meet projected demand (Morse 2000; see also Brooks and Haynes 1997). Although long-term demand estimates were re-calculated by the US Forest Service Pacific Northwest Research Station in 2006 (Brackley et al. 2006a), the basic procedure of calculating needed annual offerings as outlined by Morse (2000) will not change. The second factor affecting timber supply is the cost of harvesting and delivering wood to its respective intermediate markets: mills in the case of locally processed material, and ports in the case of log exports.

This section of the report begins with a description of the Tongass National Forest timber sale program as it stood at the end of FY 2005, concentrating on the volumes of timber in various stages of the Forest Service sale process. This is followed by a discussion of the estimated harvest costs that, in conjunction with final market prices, determine the rates at which the Forest Service sells its timber and, ultimately, the economic feasibility of any given timber sale.

While timber harvests from sources other than the Forest Service help determine regional log supply, their impact on the FS sale program is, if anything, on the demand side. This is because these other sources may act as substitutes for federal timber. Accordingly, private and Alaska state harvests will be discussed in the next section on timber demand.

3.1 The Timber Sale Preparation Process

The Forest Service timber sale process involves a number of stages (or "gates"). The first stage (Gate 1) involves the completion of a "Position Statement," which provides a brief analysis of the project area with the intent of determining the feasibility of the potential timber sale. Gate 2 entails gathering public comment and conducting environmental analysis in accordance with the National Environmental Policy Act (NEPA). The remaining gates involve, respectively, plan implementation and field layout (Gate 3), sale appraisal and advertising the sale (Gate 4), bid opening (Gate 5), and sale award (Gate 6).

The NEPA process entailed in Gate 2 often comprises the bulk of work devoted by the Forest Service to any given sale. This work formally begins with public scoping, describing the Forest Service's proposed action and intent to conduct an environmental analysis. This stage concludes with the publication of an Environmental Assessment or (in the case of projects with potentially significant effects) an Environmental Impact Statement, and ultimately a Decision Notice or a Record of Decision in which the Forest Service documents the conditions for implementing the sale. Tongass timber sale NEPA decisions are frequently subject to administrative appeals and litigation. Having cleared these requirements, timber sales can then be offered for sale in accordance with the remaining four gates.

The volume cleared by the NEPA decision is often broken up into separate sales, which may or may not be prepared and offered in the same fiscal year as that in which the decision was made. During the period covered by this report, volume was officially reported as being offered at the time of advertisement. In 2005, as directed by Public Law No. 108-108 (Sec. 318, HR 2691; 2004), the Alaska Region began using a residual value approach in sale appraisals. Using forest cruise data, current market prices for products, mill processing information, and estimates of harvest, transportation, and processing costs, the Forest Service determines the value at which the sale will be advertised. Further details on appraisal methods in the Alaska Region can be viewed at http://www.fs.fed.us/r10/ro/policy-reports/for_mgmt/, under "Timber Valuation". Private firms are invited to bid at or above the advertised rate. Sales are then awarded to the high bidder subject to certain additional considerations designed to ensure the bidder's ability to comply with the conditions laid out in the sale contract.

For various reasons, within any given year, a portion of the timber volume planned for sale may not be sold. In some instances, sales or portions of sales that are planned are not offered. In other instances, a sale is offered and does not receive a valid bid. If there is no indication of competition from other purchasers, those sales may be available to purchasers at their original advertised rates and conditions for up to one year without additional advertisement. The Forest Service may repackage the sale to enhance its economic attractiveness. If the sale is redesigned, it is considered new volume when offered and will be re-advertised.

After a sale has been awarded, the purchaser usually has around three to five years in which to harvest the sale volume. The sum total of awarded volume yet to be harvested is termed "volume under contract," and this constitutes a pool of timber from which contract holders may draw depending on market conditions and their business plans. A central objective of the Tongass National Forest timber sale program is maintenance of the timber program so that the volume under contract can be replenished in an orderly and continuous fashion. Starting in 1999, Congress appropriated additional timber "pipeline" funds so that the Forest could increase the number of timber sale projects, above the regular program, in an effort to supply enough volume in a timely manner so the timber industry in Southeast Alaska can reach, and maintain, a three-year supply of timber volume under contract.

In 2002 on the Tongass National Forest, an injunction was placed on permitting timber harvest and road building in inventoried roadless areas, which included the signing of decision documents for timber sales in inventoried roadless areas (Sierra Club v. Rey, J00-0009CV (JKS)). Although the injunction ended in spring 2003, the effects lasted throughout the rest of the year. Volume under contract in 2003 (appendix table A-10b) dropped to 193 MMBF from 230 MMBF of available volume in 2002 (appendix table A-10a). In 2002, an additional 65 MMBF was under injunction and so unavailable for harvest. Volume under contract continued to decline in 2004 to 78 MMBF (appendix table A-10c) and rose slightly to 83 MMBF in 2005 (appendix table A-10d). The decline in volume under contract in 2004 and 2005 from levels in previous years was largely due to cancelled timber sales.

In 2004, Section 339 of the Department of the Interior and Related Agencies Appropriations Act for fiscal year 2004, Public Law No. 108-108, provided that the Secretary of Agriculture may cancel, with the consent of the timber purchaser, a number of timber sale contracts on the Tongass National Forest awarded between October 1 1995 and January 1 2002. A given sale could be cancelled provided that the Secretary determined, at the Secretary's sole discretion, that the sale would result in a financial loss to the purchaser, and the costs to the government of seeking a legal remedy against the purchaser would likely exceed the cost of terminating the contract. By the end of FY 2005, a total of seventeen sales (with approximately 122 MMBF) on the Tongass National Forest were cancelled. It is the intent of the Tongass National Forest to reconfigure cancelled timber sales and re-offer that portion of the volume that is economically viable.

To evaluate the status of the timber flow, Morse (2000) established that it is important to assess the ratio of contract volume to harvest. This ratio can indicate how many years of supply (volume under contract) mills have compared to what they are sawing (i.e., harvest). During the 1981-1995 time period, historical ratios of volume under contract to harvest for the independent sale program (in other words, not including volume in the long-term contracts associated with the pulp mills in Ketchikan and Sitka) ranged from 1.0 to 3.4 with an average of 1.8 (Morse 2000). As shown in Table 1, the ratio of contract volume to harvest peaked in 2002, at 6.8, but dropped closer to the three-year supply objective in 2003. In 2004 and 2005 the ratio dropped to 1.7.

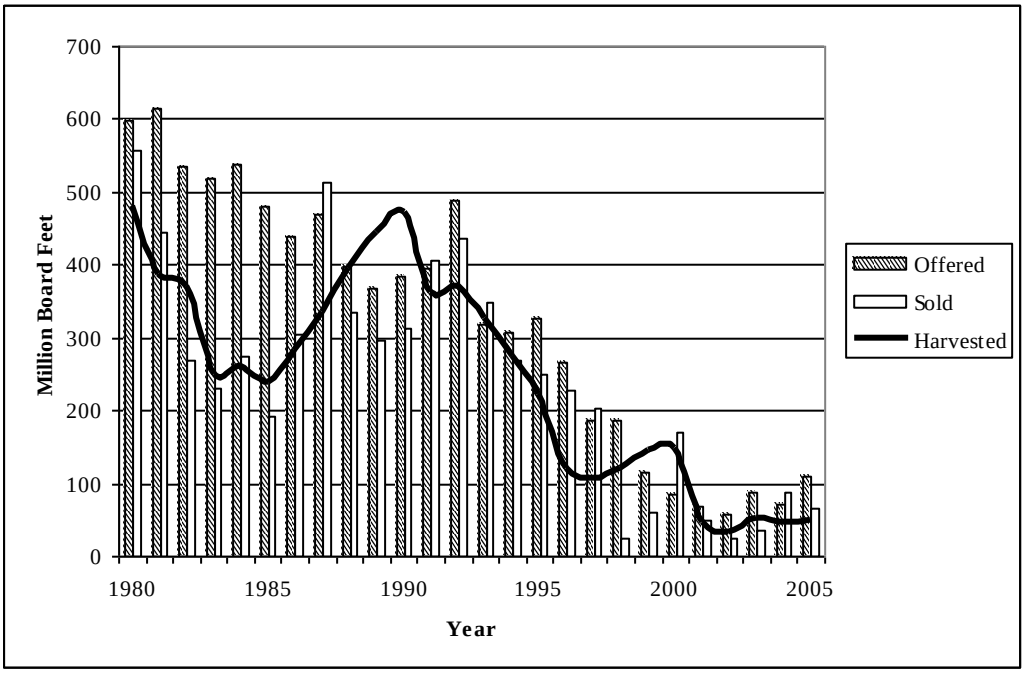
Table 1. Historical Available Timber Volumes and Harvest (Fiscal Years, MMBF).

	1994	1995	1996	1997	1998	1999	2000	2001	2002	2003	2004	2005
Volume Under Contract	326	226	465	498	395	313	332	322	230	193	78	83
Harvest	276	221	120	107	120	146	147	48	34	51	46	50
Contract Volume / Harvest ratio	1.2	1.0	3.9	4.7	3.3	2.1	2.3	6.7	6.8	3.8	1.7	1.7

Source: USDA Forest Service, Alaska Region. Data on file with: Regional Economist, Ecosystems Planning, USDA Forest Service, PO Box 21628, Juneau, AK 99802-1628.

Recent ratios of volume under contract to harvest are potentially misleading. Harvests have declined considerably over the past few years (figure 2), resulting in increasing contract volume to harvest ratios through 2002 in spite of declining contract volumes. Some volume under contract in 2002 and 2003 was in sales cancelled in 2004 and 2005. Timber flow volumes have recently not only dropped below the desired objective of a three year supply of harvestable timber under current harvest rates, but also would be completely inadequate for allowable harvest rates outlined in the 1997 Tongass Land Management Plan (TLMP). The allowable sale quantity (ASQ) is partitioned into two non-interchangeable components (NICs). About 219 MMBF would be available for harvest under most market conditions (NIC I), as this volume is located on the most operable, accessible ground. The maximum ASQ is 267 MMBF, of which about 48 MMBF is in areas that are difficult to harvest or are isolated (NIC II) (USDA 1997).

Figure 2. Historical volumes of timber offered, sold and harvested from the Tongass National Forest, 1980-2005 (Fiscal Years, MMBF).



Source: USDA Forest Service, Alaska Region. Data on file with: Regional Economist, Ecosystems Planning, USDA Forest Service, PO Box 21628, Juneau AK 99802-1628.

4. Demand

Economists commonly define "demand" as the different amounts of a product buyers are willing to purchase at different prices. As such, demand cannot be characterized as a single number but should be viewed as a series of price-quantity relationships. The same is true for "supply," and it is the combination of these two forces (supply and demand)

that determine both the quantity and price of goods produced and consumed in the market place.

Softwood lumber exports from Alaska (Appendix Table A-7) recovered from 2003 to 2005, and wood chip exports from the Anchorage customs district picked up in 2003, 2004, and 2005 (Appendix Table A-8), while chip values fluctuated. Alaskan chip exports were due in large part to the extensive mortality of trees throughout South-central Alaska and the Kenai Peninsula. The volumes of log exports from the Tongass National Forest (Appendix Tables A-4a through A-4e, and A-5) were too small to make specific inferences from one year to the next, but trends were apparent. Most of these log exports were to Asian markets.

Shipments of finished products milled in Southeast Alaska to domestic markets are becoming more significant, as can be seen in Table 2. Table 2 summarizes data gathered directly from sawmill operators in Southeast Alaska in log scale. The conversion from log scale to lumber tally in Southeast Alaska at present is roughly 30 percent; i.e., lumber tally will be 1.3 times greater (approximately) than log scale. Appendix Table A-7 summarizes lumber export data from the Anchorage customs district in MBF lumber tally. There are three reasons the data in Appendix Table A-7 is different from the data in Table 2, although they are both about sawn product exports from Alaska. The first is that Appendix Table A-7 summarizes data from all Alaska foreign exports. The second is that the tables are in different scales (lumber tally versus log scale). The third is the issue of where the products were routed before being shipped out of the U.S. One would expect the data in Appendix Table A-7 (all Alaska) to be equal to or greater than the amount reported in Table 2 (Southeast only), taking the conversion of log scale to lumber tally into account, if all products were shipped directly to their destination from Alaska producers. By comparing the data in Appendix Table A-7 with data in Table 2, it can be seen that the export data from the Alaska customs district for at least the past 6 years has represented only about 15 percent, on average, of foreign exports of sawn products from Southeast Alaska alone. It is likely that Southeast Alaska sawn product exports are being shipped from the Seattle customs district, an issue called transshipments (products are shipped to other domestic ports and then re-routed to foreign destinations). These two tables illustrate some of the data issues regarding wood product production and trade in Alaska.

Table 2. Destination of Products Manufactured by Southeast Alaska Sawmills (MBF log scale).

	Alaska	Other US states	Canada	Other foreign exports	Total
2000[a]	8,135	54,287	3,774	20,920	87,116
Percent of total	9	62	4	24	100
2002	1,842	30,847	480	6,532	39,701
Percent of total	5	78	1	16	100
2003	1,758	24,591	382	5,274	32,005
Percent of total	5	77	1	16	100
2004	1,468	19,553	5,951	4,056	31,027
Percent of total	5	63	19	13	100
2005	2,342	26,177	724	5,423	34,665
Percent of total	7	75	2	16	100

a. Data for 2001 are not available.

The volume of timber sold from the Tongass National Forest in the past five years ranged from a low of 24 MMBF in 2002 to a high of 87 MMBF in 2004 (Appendix Table A-3). In the same time period, the timber offered for sale ranged from 57 MMBF in 2002 to 110 MMBF in 2005. Harvested volumes ranged from 34 MMBF in 2002 to 51 MMBF in 2003. Harvested volume in 2005 was close to the five-year high at 50 MMBF.

Although a significant issue, reduced volume offered for sale by the Tongass National Forest is not the sole reason for recent harvest declines. Rather than merely securing volume, the challenge facing Tongass National Forest timber purchasers is being able to make a profit from new sales volume and volumes currently under contract. Profitability for Tongass National Forest Timber can be affected by (1) the combination of valuable materials versus logging costs in a given timber sale, (2) market options for lower grade material coming off the Forest, and (3) price fluctuations for Southeast Alaskan premium species and grades in domestic and export markets. Limited market options for lower grade material are at least partially the result of the closure of the region's two pulp mills in the 1990s, though the removal and sale of hemlock utility logs had been a challenge for independent operators in low markets prior to the closures. Contracts now allow the option of leaving utility logs in the woods. Details of prescriptions, production costs, and species mixes for sales from 2001 to 2005 are presented in Appendix Tables A-1a to A-1e.

In contrast to the lower valued species and grades, higher grade Sitka spruce lumber and cedar logs could, in the past, generate considerable profits owing to the high price premiums paid by the Japanese for these products (Robertson and Brooks 2001). These premiums in export markets have shrunk in the last decade. In 2002, the average export value of Sitka spruce logs, for example, was 46 percent less than the 1993 peak (see Appendix Table A-7). Values for Sitka spruce logs recovered considerably in 2004 and 2005. In 2005, values for Sitka spruce lumber increased over the 2003 and 2004 values, but export volumes in this category have been so small in recent years that average values are subject to sharp fluctuations and are thus not very reliable. Even though wood from US Forest Service lands contributes very little to foreign export volumes, the prices paid

for these products and species are an indicator of North American and world-wide demand.

The mid 1990s were peak years for wood product prices in Japan and the Pacific Rim, and current prices are not all that different from those prevailing throughout the 1980s, even when inflation is taken into account. This means that recent price levels may be quite consistent with historical price levels.

One result of declining exports to Japan is that Southeast Alaskan producers have come to rely on the domestic market in the lower 48 states to a much greater extent than in the past. This is a very different market, one which does not offer the same premiums for logs and cants as did the Japanese market. Since it is a relatively new market for Southeast Alaskan wood products, however, it offers new opportunities and niches as buyers become better acquainted with the specific properties of the region's different species. Current efforts to develop and promote unique grades for Southeast Alaskan products should facilitate this process. Recent evidence shows that Alaskan producers are taking advantage of the unique opportunities inherent in being one of the last suppliers of wood products with old-growth characteristics (Brackley and Haynes, in press).

New processing facilities and technologies for better utilizing the region's low-grade hemlock volume are currently being explored. To the extent that these efforts are able to leverage the unique qualities of the wood resource to offset generally high production costs in the region, new operations may present more manufacturing options for lower grade material. Economies of scale and the ability to establish integrated manufacturing in the region are important factors. Different processing facilities will entail different minimum wood requirements.

Braden et al. (2000) state that interregional productivity and economies-of-scale differences between Alaska and its closest competitors in the US Pacific Northwest and British Columbia, Canada, can be partially attributed to dated, under-equipped mills. To be competitive, the Alaska wood products industry must upgrade current facilities and attract business startups with capital investment of either their own funds, or funding from venture capitalists. Parrent (2000) states that, to be effective, Alaska's wood producers must be highly efficient in their processes and use the minimum amount of labor possible. However, Southeast Alaska generally has old, low-tech, low-productivity equipment. Alaska is not currently particularly well positioned to compete in the world marketplace for commodity goods. Several mills in Southeast Alaska have recently added improvements such as small diameter sawlog processing capacity and kilns. Getting funding and credit for wood manufacturing investments can be difficult in Southeast Alaska (Donovan et. al 2005). Some marketing options are niche products and import substitution (i.e., making products in Alaska for local consumption and substituting them for products currently imported). Parrent (2000) states that this is possible for sawn lumber products and finished solid wood products such as furniture and molding. He goes on to say that products that can't be manufactured on a small scale, such as plywood and oriented strand board, are poor candidates for production and import

substitution in Alaska. Parrent contends that the market is not big enough to absorb the production of a panel plant, and Alaska would most likely be a high-cost producer.

Niche products are an option for Alaska wood products producers. Niche products unique to Alaska could include yellow cedar structural elements, hemlock and spruce millwork and structural elements, musical instruments components, and alder, cottonwood, and birch furniture and interior woodwork. The US Forest Service established the Alaska Wood Utilization Research and Development Center in 1999, in part to explore such possibilities. Among their many projects and publications, Donovan et al. (2003) discuss niche markets for Alaska birch (*Betula papyrifera* var. *humilis*), red alder (*Alnus rubra*), and Alaska yellow-cedar (*Chamaecyparis nootkatensis*).

Stevens and Brooks (2003) showed that Alaska's forest products exports and production share a partially integrated market with Canada and the US Pacific Northwest. As a consequence, Alaska's forest products industry is "sensitive to international market conditions, including competition from other North American regions." The authors imply that, because of the partial integration with competitors in western North America, Alaska's high forest product manufacturing costs play a significant role in limiting the region's market in Asia. The authors note that while Alaska species have unique qualities, high-value logs and lumber obtained from old-growth Sitka spruce and Alaska yellow-cedar represent a very small portion of Alaska's total production. These high-value products have little impact on Alaska's market share in the commodity markets within which Alaska competes (Brackley et al. 2006a). However, as Brackley and Haynes (in press) state, the Stevens and Brooks (2003) study "focused on Alaska competing in integrated commodity markets, which are dominated by dimension lumber used in residential construction (i.e., 2 by 4, 2 by 6, 2 by 8, etc). This view in light of the Capacity studies is now outdated since it does not recognize the extent to which southeast Alaska producers have transitioned to compete in the high quality domestic markets since 2000." Brackley and Haynes (in press) did find that from 1975 to 2005, logging, manufacturing, and transportation costs averaged roughly $149 per thousand board feet higher in southeast Alaska than in the pacific Northwest, limiting the ability of Alaskan producers to compete in the lower value commodity markets. However, current production levels and shipments in southeast Alaska "demonstrate how the industry has transitioned to operate in current markets…where they focus on higher value markets."

Crone (2004) states that wood product manufacturers remaining in Southeast Alaska have survived by finding niche markets for at least some of their products. Tight-grained old-growth western hemlock (*Tsuga heterophyla*) is used to produce window and door casings. The Alaska Manufacturers' Association and the Alaska Science and Technology Foundation (ASTF) initiated a lumber-grading project in 1998. By 2002 about 90 percent of all lumber produced was graded (Alaska Manufacturing Association 2002). The expectation is that lumber grading will result in increased markets and higher prices. The Tongass National Forest is using graded Alaska yellow-cedar on trail projects (Figure 3). The ASTF created a testing laboratory in Ketchikan (Ketchikan Daily News 2002) to quantify the superior mechanical properties of Alaskan western hemlock, yellow-cedar, Sitka spruce (*Picea sitchensis*) and white spruce (*Picea glauca*). A number of mills in

Southeast Alaska were awarded USDA grants to construct lumber dryers, so they can produce finished lumber products.

Figure 3. Boardwalk in karst viewing area on Prince of Wales Island, constructed with graded Alaska yellow-cedar.

Photo by Susan J. Alexander

A final consideration in relation to regional demand for Tongass National Forest timber is the supply of timber from other producers in the Southeast Alaska. Both the Native Corporations and the State of Alaska also produce timber. Since the early 1980s, the Native Corporations have harvested over half of the total log volume produced in the region. In 2001 and 2002, owing primarily to sales on Mental Health Trust and University of Alaska lands, the State emerged as a major supplier, producing over 50 MMBF and outstripping Forest Service production in both 2001 and 2002 (see Appendix Table A-6). In 2003, State harvests dropped to about 35 MMBF and the Forest Service harvest increased to over 50 MMBF. In 2004, State harvests dropped further to 25 MMBF while Forest Service harvest held somewhat steady at 46 MMBF. In 2005 State harvests increased to 43 MMBF, almost at the Forest Service level of 50 MMBF. Native Corporation harvests have declined from a high of 434 MMBF in 1990 to a range of 99 to 115 MMBF in each of the last five years—a level close to earlier predictions of the long-term supply potential of Native Corporation lands (Knapp 1992). Sealaska Timber Corporation (STC) has been able to mitigate lost payroll in the forest products industry to some degree. STC direct spending in Southeast Alaska was $37,583,094 in 2003, mostly for logging and ship loading. Their employment from timber harvest, ship loading, and silviculture activities was 330 annualized jobs and about $16 million in payroll (Sealaska Timber Corporation communication, 2004). Sealaska Timber Corporation recently announced that their projected harvest levels will be declining in the near future.

According to Alaska State forestry specialists, Native Corporation, Mental Health Trust, and University timber, can be, and frequently is, exported in raw log form. By regulation, Tongass National Forest logs must be processed locally except where a special permit is obtained. Like federal timber, timber sold by the Alaska Department of Natural Resources (DNR) must be processed locally unless there is no local market. Native Corporation and trust sales don't compete with National Forest timber in the local processing market. DNR sales may compete locally, but ultimately the volume available from the relatively small State timber base is far less than the volume from federal lands in Southeast Alaska. Although private and trust sales may compete with National Forest log exports (of yellow cedar, for example), the total market share of Alaska wood in the export market is too small for any one owner to influence demand for wood from other sources in Southeast Alaska (Brackley et al. 2006a).

Conclusion

Declining supply and shrinking demand has seemed to level off. The impacts on local communities of the continued struggles of the timber industry, combined with downturns in other sectors such as fishing, have contributed to declines in employment and population in numerous small communities in Alaska. Short-term fluctuations in market conditions, however, do not always indicate long-term structural changes, and the future direction of the region's wood products industry continues to be uncertain. On the supply side, legal challenges, regulatory uncertainty and the crucial question of whether the Forest Service can put together profitable sales all point to continuing challenges. On the demand side, changing domestic and export markets and competition from producers in other regions mean that traditional sources of profit have decreased. At the same time, though, new market opportunities are currently being explored and taken advantage of. Assuming stable demand for the region's wood products, a more stable and orderly sale program in the future may alleviate uncertainty on the part of investors and improve the health of the industry.

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Table A-10a. Tongass National Forest Volume Under Contract, FY 2002.

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Table A-10d. Tongass National Forest Volume Under Contract, FY 2005.

Note: data on Tongass National Forest volume under contract is not available for 2001.

Table A-1a. Tongass National Forest Timber Sales Newly Offered and Sold in FY 2001[1]

Sale Name	Type Prescription		Proportion	Production Cost		Bid Information			
	Clear Cut (% Vol.)	Partial Cut (% Vol.)	Heli-Copter[2] (% Vol.)	Logging Cost ($/MBF)	Fix Dev.[3] Cost ($/MBF)	Expected Bid ($/MBF)	Advertised Rate ($/MBF)	High Bid ($/MBF)	Bidders (No.)
Canal Hoya	23%	77%	66%	$270.88	$85.85	-$11.31	$2.04	$5.18	1
Kuakan	0%	100%	100%	$375.32	$17.44	$68.56	$43.98	$71.56	2
South Arm	60%	40%	40%	$195.08	$100.07	-$16.36	$3.04	$4.95	1
Road 6402	0%	100%	100%	$355.78	$13.81	-$134.38	$3.15	$12.65	1
North	98%	2%	30%	$202.33	$140.04	$100.54	$61.88	$61.89	1
Salty	100%	0%	0%	$112.03	$53.21	$40.54	$27.58	$36.61	2
South Saddle	0%	100%	0%	$147.03	$85.81	$44.96	$33.72	$34.00	1
Camp Mossy Reoffer	89%	11%	0%	$155.11	$6.05	$162.62	$102.17	$102.18	1
South Sand	100%	0%	0%	$140.60	$24.15	$58.37	$40.86	$43.49	2
Twin Creek Heli	0%	100%	100%	$367.62	$0.00	-$80.86	$4.22	$4.22	1
Slider	100%	0%	0%	$142.07	$74.25	$19.37	$13.21	$28.19	1
South Park	100%	0%	0%	$166.87	$0.00	$21.16	$14.81	$20.77	2
Polkapillar	90%	10%	0%	$131.24	$18.26	$111.10	$77.76	$102.86	1
Weighted Average	41%	59%	56%	$255.72	$64.75	$8.36	$48.66	$59.49	1.3

Table A-1a. Tongass National Forest Timber Sales Newly Offered and Sold in FY 2001 (cont)

Sale Name	S. Spruce Sawlog (% Vol.)	Hemlock Sawlog (% Vol.)	Ak. Yellow Cedar (% Vol.)	W. Red Cedar (% Vol.)	SS/Hem Utility (% Vol.)	Total Sale MBF
Canal Hoya	16%	55%	11%	0%	18%	16,127
Kuakan	20%	29%	27%	15%	8%	11,179
South Arm	12%	63%	3%	4%	19%	10,094
Road 6402	19%	73%	2%	0%	6%	9,488
North	9%	40%	13%	25%	12%	7,688
Salty	7%	82%	2%	6%	3%	6,352
South Saddle	33%	57%	2%	0%	8%	2,085
Camp Mossy Reoffer	17%	44%	3%	25%	10%	1,358
South Sand	10%	75%	0%	0%	15%	1,140
Twin Creek Heli	30%	60%	4%	0%	6%	862
Slider	9%	62%	1%	25%	3%	745
South Park	3%	80%	2%	0%	15%	537
Polkapillar	20%	56%	1%	24%	0%	525
Weighted Average	16%	56%	10%	7%	12%	68,180

Source: USDA Forest Service, Alaska Region. Data on file with: Regional Economist, Ecosystems Planning, USDA Forest Service, PO Box 21628, Juneau, AK 99802-1628.

1. "Newly offered and sold" does not include re-offered or re-sold sales.
2. "Proportion Helicopter" is the proportion of the sale that was helicopter logged, and can include clear-cut and partial cut prescriptions.
3. Fixed Development Cost – Sale fixed cost including specified road, temporary road, and log transfer facility construction.

Table A-1b. Tongass National Forest Timber Sales Newly Offered and Sold in FY 2002[1]

Sale Name	Type Prescription		Proportion	Production Cost		Bid Information			
	Clear Cut (% Vol.)	Partial Cut (% Vol.)	Heli-Copter[2] (% Vol.)	Logging Cost ($/MBF)	Fix Dev.[3] Cost ($/MBF)	Expected Bid ($/MBF)	Advertised Rate ($/MBF)	High Bid ($/MBF)	Bidders (No.)
Honey/George	100%	0%	0%	$135.30	$1.35	$149.91	$149.91	$149.91	1
Pepper	100%	0%	47%	$251.20	$102.99	-$23.87	$7.34	$7.42	1
South Pass 148	0%	100%	0%	$152.65	$24.22	$138.95	$138.96	$147.98	1
Summore Change	100%	0%	26%	$296.25	$14.78	$40.36	$40.36	$54.78	1
Swan Tyee Settlement[4]	100%	0%	100%	$205.87	$0.00	$5.45	$5.45	$5.45	1
Weighted Average	97%	3%	57%	$232.39	$27.80	$24.50	$31.48	$35.60	1

Sale Name	S. Spruce Sawlog (% Vol.)	Hemlock Sawlog (% Vol.)	Ak. Yellow Cedar (% Vol.)	W. Red Cedar (% Vol.)	SS/Hem Utility (% Vol.)	Total Sale MBF
Honey/George	46%	31%	8%	3%	12%	3,525
Pepper	19%	54%	13%	9%	5%	9,254
South Pass 148	63%	35%	0%	0%	2%	1,250
Summore Change	18%	39%	19%	16%	8%	10,989
Swan Tyee Settlement	23%	51%	16%	2%	7%	16,369
Weighted Average	24%	46%	15%	7%	7%	41,387

Source: USDA Forest Service, Alaska Region. Data on file with: Susan J. Alexander, Ecosystems Planning, USDA Forest Service, PO Box 21628, Juneau, AK 99802-1628.

1. "Newly offered and sold" does not include re-offered or re-sold sales, or sales of less than 500 MBF. These data also do not include sales offered in the previous year and sold in the current year.
2. "Proportion Helicopter" is the proportion of the sale that was helicopter logged, and can include clear-cut and partial cut prescriptions.
3. Fixed Development Cost – Sale fixed cost including specified road, temporary road, and log transfer facility construction.
4. Direct sale; no bidding.

Table A-1 c. Tongass National Forest Timber Sales Newly Offered and Sold in FY 2003[1]

Sale Name	Type Prescription		Proportion	Production Cost		Bid Information			
	Clear Cut (% Vol.)	Partial Cut (% Vol.)	Heli-Copter[2] (% Vol.)	Logging Cost ($/MBF)	Fix Dev.[3] Cost ($/MBF)	Expected Bid ($/MBF)	Advertised Rate ($/MBF)	High Bid ($/MBF)	Bidders (No.)
Bowen	21%	79%	0%	252.94	49.25	8.18	8.18	10.17	1
Orion South	90%	0%	10%	194.56	64.94	8.19	8.19	10.08	1
Twin Bridges II	14%	68%	18%	410.99	83.51	9.68	9.68	20.09	2
Weighted Average	38%	48%	14%	$334.40	$75.63	$9.13	$9.13	$16.38	1.6

Sale Name	S. Spruce Sawlog (% Vol.)	Hemlock Sawlog (% Vol.)	Ak. Yellow Cedar (% Vol.)	W. Red Cedar (% Vol.)	SS/Hem Utility (% Vol.)	Total Sale MBF
Bowen	36%	45%	17%	0%	3%	705
Orion South	29%	43%	6%	22%	0%	3,431
Twin Bridges II	40%	34%	18%	4%	4%	7,014
Weighted Average	37%	38%	16%	17%	4%	11,150

Source: USDA Forest Service, Alaska Region. Data on file with: Regional Economist, Ecosystems Planning, USDA Forest Service, PO Box 21628, Juneau, AK 99802-1628.

1. "Newly offered and sold" does not include re-offered or re-sold sales.
2. "Proportion Helicopter" is the proportion of the sale that was helicopter logged, and can include clear-cut and partial cut prescriptions.
3. Fixed Development Cost – Sale fixed cost including specified road, temporary road, and log transfer facility construction.

Table A-1 d. Tongass National Forest Timber Sales Newly Offered and Sold in FY 2004[1]

Sale Name	Type Prescription		Proportion	Production Cost		Bid Information			
	Clear Cut (% Vol.)	Partial Cut (% Vol.)	Heli-Copter[2] (% Vol.)	Logging Cost ($/MBF)	Fix Dev.[3] Cost ($/MBF)	Expected Bid ($/MBF)	Advertised Rate ($/MBF)	High Bid ($/MBF)	Bidders (No.)
Licking Creek	100%	0%	0%	102.32	34.40	(15.56)	2.52	4.6	1
Midway reoffer II	100%	0%	0%	117.18	0	(24.59)	2.96	6.45	1
Mop Point Administrative	100%	0%	0%	127.49	65.33	4.61	4.61	8.42	1
Orion North	100%	0%	0%	118.72	80.62	4.02	4.02	9.69	1
Thorne Island	100%	0%	100%	186.41	0	9.81	9.81	24.80	1
Weighted Average	100%	0%	6%	$115.68	$37.72	($9.62)	$3.50	$7.52	1

Sale Name	S. Spruce Sawlog (% Vol.)	Hemlock Sawlog (% Vol.)	Ak. Yellow Cedar (% Vol.)	W. Red Cedar (% Vol.)	SS/Hem Utility (% Vol.)	Total Sale MBF
Licking Creek	10%	50%	8%	16%	16%	15,279
Midway reoffer II	23%	50%	12	0%	15%	8,222
Mop Point Administrative	33%	29%	2%	25%	11%	2,660
Orion North	17%	35%	11%	27%	10%	8,375
Thorne Island	16%	20%	10%	47%	7%	1,906
Weighted Average	17%	43%	9%	17%	13%	36,442

Source: USDA Forest Service, Alaska Region. Data on file with: Regional Economist, Ecosystems Planning, USDA Forest Service, PO Box 21628, Juneau, AK 99802-1628.

1. "Newly offered and sold" does not include re-offered or re-sold sales, except for Midway Reoffer II.
2. "Proportion Helicopter" is the proportion of the sale that was helicopter logged, and can include clear-cut and partial cut prescriptions.
3. Fixed Development Cost – Sale fixed cost including specified road, temporary road, and log transfer facility construction.

Table A-1 e. Tongass National Forest Timber Sales Newly Offered and Sold in FY 2005[1]

Sale Name[2]	Type Prescription		Proportion	Production Cost		Bid Information			
	Clear Cut (% Vol.)	Partial Cut (% Vol.)	Heli-Copter[3] (% Vol.)	Logging Cost ($/MBF)	Fix Dev.[4] Cost ($/MBF)	Expected Bid ($/MBF)	Advertised Rate ($/MBF)	High Bid ($/MBF)	Bidders (No.)
Cascade Point ROW Settlement	100%	0%	0%	109.79	33.22	(23.51)	5.19	5.19	1
Coyak Salvage[5]	100%	0%	0%	258.02	0	102.70	10.32	11.82	1
Kensignton Gold Proj. Settlement	100%	0%	0%	127.49	65.33	4.61	76.07	76.07	1
Luck Lac II	98%	2%	75%	438.10	0	14.19	14.19	14.4	1
Shady	100%	0%	0%	277.79	3.40	(57.10)	5.22	6.80	1
Weighted Average	99	1	29	321.98	4.20	31.35	13.36	$14.28	1

Sale Name	S. Spruce Sawlog (% Vol.)	Hemlock Sawlog (% Vol.)	Ak. Yellow Cedar (% Vol.)	W. Red Cedar (% Vol.)	SS/Hem Utility (% Vol.)	Total Sale MBF
Cascade Point ROW Settlement	34	48	0	0	18	635
Coyak Salvage	83	7	0	0	11	7,959
Kensignton Gold Proj. Settlement	34	50	0	0	16	888
Kosciusko Stewardship Project	69	19	0	0	13	517
Luck Lac II	22	28	27	13	10	8,586
Shady	13	59	8	2	17	4,091
Weighted Average	44	28	12	5	12	22,675

Source: USDA Forest Service, Alaska Region. Data on file with: Regional Economist, Ecosystems Planning, USDA Forest Service, PO Box 21628, Juneau, AK 99802-1628.

1. "Newly offered and sold" does not include re-offered or re-sold sales.

2. The Kosciusko Stewardship Project met the selection criteria for this report, but dropped because the Forest Service embedded the timber sale contract in a service contract.
3. “Proportion Helicopter” is the proportion of the sale that was helicopter logged, and can include clear-cut and partial cut prescriptions.
4. Fixed Development Cost – Sale fixed cost including specified road, temporary road, and log transfer facility construction.
5. The Coyak Salvage logging cost, fixed development costs, and expected bid are based on Situk Blowdown. Situk Blowdown did not sell in the first round, so the Forest Service reduced the advertised rates to base rates due to Ambrosia beetle damage.

Table A-2. Employment in the Wood Products Industry in Southeast Alaska, 1982-2005.

Year[1]	Tongass Logging[2]	Tongass Sawmill	Pulp Mill	Tongass- Related Employment[3]	Other sawmill	Other Logging	Total Industry Employment
1982	335	540	975	1,850	-	656	2,506
1983	574	429	854	1,857	-	436	2,293
1984	513	395	700	1,608	-	433	2,041
1985	559	363	580	1,502	-	445	1,947
1986	692	331	772	1,795	-	547	2,342
1987	862	375	861	2,098	-	683	2,781
1988	1,010	468	892	2,370	-	971	3,341
1989	1,166	478	925	2,569	-	947	3,516
1990	1,123	500	899	2,522	-	1,021	3,543
1991	872	604	911	2,387	-	682	3,069
1992	788	538	910	2,236	-	627	2,863
1993	754	447	859	2,060	-	590	2,650
1994	621	515	533	1,669	-	556	2,225
1995	702	301	516	1,519	-	483	2,002
1996	804	230	524	1,558	-	353	1,911
1997	823	184	318	1,325	-	226	1,551
1998	579	284	96	959	-	310	1,269
1999	305	303	63	671	-	519	1,190
2000	340	280	2	623	-	371	994
2001	109	300[4]	2	409	-	391	800
2002	63	110	-	173	40	299	512
2003	108	91	-	199	64	298	561
2004	82	95	-	177	53	220	450
2005	88	96	-	184	52	263	499

Source: Alaska Department of Labor, Kilborn et al. (2004), Brackley et al. (in press), subsequent mill study. Data on file with: Regional Economist, Ecosystems Planning, USDA Forest Service, PO Box 21628, Juneau, AK 99802-1628

1. 2000 reported in calendar years. Prior to 2000, federal fiscal years were used.
2. Tongass National Forest logging estimated based on the ratio of Tongass timber harvest to total timber harvest in Southeast Alaska.
3. Through 2001, assumes all sawmill and pulp mill employment is dependent upon Tongass National Forest timber supply. From 2002 to 2005, this assumption no longer held. Data from Kilborn et al. (2004) and Brackley et al. (in press), and a subsequent mill study shows that Federal timber supplied 73% of the wood sawn in Southeast Alaska mills in 2002, 59% in 2003, 64% in 2004, and 65% in 2005. Tongass National Forest sawmill employment from 2002 through 2005 is estimated based on sawmill employment numbers and the ratio of sources of wood (Federal versus the total) reported by Kilborn et al. (2004), Brackley et al. (in press), and a subsequent mill study (data on file with the Alaska Region Regional Economist).
4. Beginning in 2001, employment estimates are being published under a new classification system. The Standard Industrial Classification (SIC) system has been replaced by the North American Industrial (NAI) Classification system. "Sawmill" in this table is reported by the Alaska Department of Labor as "wood manufacturing" which in the NAI system includes sawmills, wood preservation, veneer, plywood, engineered wood, and other wood products. In southeast Alaska, this category is assumed to represent only sawmill employment. Beginning in 2001, sawmill employment figures are adjusted based on regional mill studies, which take into account self employed mill owners.

Table A-3. Volume of National Forest Timber Offered, Sold, and Harvested in the Alaska Region, FY 2001-2005 (MMBF).[1]

Offered – Million Board Feet (MMBF)

Fiscal Year	Tongass NF	Chugach NF	Total
2001	67.9	0.1	68.0
2002	56.9	0.0*	56.9
2003	88.8	0.0*	88.8
2004	72.6	0.0*	72.6
2005	110.4	0.0*	110.4
5 yr. Average	94.2	0.0*	94.2

Sold/Released – Million Board Feet (MMBF)

Fiscal Year	Tongass NF	Chugach NF	Total
2001	49.6	0.3	49.9
2002	24.4	0.1	24.5
2003	36.5	0.0*	36.5
2004	87.1	0.0*	87.1
2005	65.1	0.1	65.1
5 yr. Average	67.3	0.1	67.4

Harvested – Million Board Feet (MMBF)

Fiscal Year	Tongass NF	Chugach NF	Total
2001	47.8	0.4	48.2
2002	33.8	0.2	34.0
2003	51.3	0.0*	51.3
2004	46.4	0.0*	46.4
2005	49.6	0.1	49.7
5 yr. Average	58.8	0.2	59.0

Source: USDA Forest Service, Alaska Region. Data on file with: Regional Economist, Ecosystems Planning, USDA Forest Service, PO Box 21628, Juneau, AK 99802-1628.

1. Volumes do not include re-offered sales, re-sold sales, or credit volumes.

* Trace amount of harvest

Table A-4a. Tongass National Forest Log Export Permits Issued in CY 2001 (MBF)

Sale	Purchaser	Permit Number	SS Util.	SS Saw.	Hem. Util.	Hem. Saw.	AYC Saw.	WRC Saw.	Total *MBF*
KPC Settlement	Ketchikan Pulp Co.	2001-1		190		385			575
Madder	Gateway	2001-2					1,003		1,003
KPC Settlement	Ketchikan Pulp Co.	2001-3a		625		628			1,253
KPC Settlement	Ketchikan Pulp Co.	2001-4		1,180		1,180			2,360
KPC Settlement	KPC (Rayonier)	2001-5	280	370	300	400			1,350
KPC Settlement	KPC (Viking Lumber)	2001-6	180		1,623	308			2,111
Camp Mossy	Silver Bay	2001-7	15		175				190
Camp Mossy	Silver Bay	2001-8					25		25
Loft Timber	PL&L	2001-9a		5					5
Cloudy	PL&L	2001-10a		20					20
Hecata Sawfly	PL&L	2001-11a		35		259			294
Peep Rock	PL&L	2001-12a		20					20
Moore Salvage	Silver Bay	2001-13	4		49				53
Longline	Gateway	2001-14	23		14				37
Cable/Drop	Gateway	2001-15	18		19				37
Kuakan	Viking Lumber	2001-16					3,651		3,651
Lower Salamander	SE AK Wood	2001-17					23		23
East Fork	Silver Bay	2001-18					250		250
Twin Creek Heli	Silver Bay	2001-19					50		50
Twin Creek 15	Silver Bay	2001-20					75		75
Twin Creek 15	Silver Bay	2001-21	10		25				35
Twin Creek Heli	Silver Bay	2001-22	25		75				100
East Fork	Silver Bay	2001-23	100		350				450
Salty	PL&L	2001-24					101		101
Rush Fast	Seaford	2001-25					128		128
Slider	Viking Lumber	2001-26					5		5
Polkapillar	Viking Lumber	2001-27					2		2
Camp Mossy	Silver Bay	2001-28						24	24
Total			**656**	**2,445**	**2,629**	**3,160**	**5,313**	**24**	**14,226**

Source: USDA Forest Service, Alaska Region. Data on file with: Regional Economist, Ecosystems Planning, USDA Forest Service, PO Box 21628, Juneau, AK 99802-1628.

For tables A-4a through A-4e, SS = Sitka spruce (*Picea sichensis*); Hem. = western hemlock (*Tsuga heterophylla)*; AYC = Alaska yellow-cedar (*Chamaecyparis nootkatensis*); WRC = western red cedar (*Thuja plicata*).

Table A-4b. Tongass National Forest Log Export Permits Issued in CY 2002 (MBF)

Sale	Purchaser	Permit Number	SS Util.	SS Saw.	Hem. Util.	Hem. Saw.	AYC Saw.	WRC Saw.	Total *MBF*
Heceta/Salty	Pacific Log and Lumber	2002-01	250.0	125.0	800.0	325.0			1,500.0
Viking Sales (6)	Viking Lumber	2002-02	176.0		528.0				704.0
South Saddle	Silver Bay	2002-03					50.0		50.0
South Saddle	Silver Bay	2002-04	37.5.0		175.0				212.5
South Central	Silver Bay	2002-05					100.0		100.0
South Central	Silver Bay	2002-06	25.0		150.0				175.0
South Pass 148	Silver Bay	2002-07	15.0		15.0				30.0
South Pass 148	Silver Bay	2002-08					25.0		25.0
Toreado Damage Raft	Chuck Slagle	2002-09	15.0		17.0				32.0
Abandon	Pacific Log and Lumber	2002-10					42.0		42.0
Alder Creek	Pacific Log and Lumber	2002-11					330.0		330.0
Junction	Pacific Log and Lumber	2002-12					58.0		58.0
Ridge	Pacific Log and Lumber	2002-13					181.0		181.0
Fork	Viking Lumber	2002-14					0.5		0.5
Knot	Viking Lumber	2002-15					20.5		20.5
Pit 5	Viking Lumber	2002-16					63.0		63.0
Pity	Viking Lumber	2002-17					30.5		30.5
Rolling Rock	Viking Lumber	2002-18					8.5		8.5
Whoop-de-do	Viking Lumber	2002-19					13.5		13.5
Swan Lake/Lake Tyee	Pacific Log and Lumber	2002-20		40.0					40.0
Swan Lake/Lake Tyee	Pacific Log and Lumber	2002-21	50.0		175.0				225.0
Ridge	Pacific Log and Lumber	2002-22	25.0		125.0				150.0
Abandon	Pacific Log and Lumber	2002-23	10.0		50.0				60.0
Alder Creek	Pacific Log and Lumber	2002-24	50.0		300.0				350.0
Junction	Pacific Log and Lumber	2002-25	5.0		25.0				30.0
South Park Resale	Silver Bay	2002-26					10.0		10.0
Shaken	Mountain Man Cutting	2002-27					26.5		26.5
South Arm	Viking Lumber	2002-28					246.5		246.5
Change Up	Mountain Man Cutting	2002-29					11.0		11.0
South Lindy	Silver Bay	2002-30					2,000.0		2,000.0
Alder Creek	Pacific Log and Lumber	2002-31						180.0	180.0

Junction	Pacific Log and Lumber	2002-32					20.0	20.0
Ridge	Pacific Log and Lumber	2002-33					25.0	25.0
Abandon	Pacific Log and Lumber	2002-34					5.0	5.0
Total			**658.5**	**165.0**	**2,360.0**	**325.0**	**3,216.5**	**230.0**	**6,955.0**

Source: USDA Forest Service, Alaska Region. Data on file with: Regional Economist, Ecosystems Planning, USDA Forest Service, PO Box 21628, Juneau, AK 99802-1628.

Table A-4c. Tongass National Forest Log Export Permits Issued in CY 2003 (MBF)

Sale	Purchaser	Permit Number	SS Util.	SS Saw.	Hem. Util.	Hem. Saw.	AYC Saw.	WRC Saw.	Total *MBF*
Honey George	Silver Bay	2003-1					312		312
Honey George	Silver Bay	2003-2	127		276				403
Honey George	Silver Bay	2003-13	20		60				80
Fire Cove Salvg Reoffr	Pacific Log & Lumber	2003-3					55		55
Longline 3rd Party	Alcan Forest Products	2003-4 &4a						350	350
Longline 3rd Party	Alcan Forest Products	2003-5 &5a					375		375
Pepper	Viking						1,318		1,318
Pepper	Viking							915	915
Summore Change	Viking						2,495		2,495
Various sales	Pacific Log & Lumber	Oversize cants							0
Curve	GooseCreek Shingle	2003-10					7		7
Swan Lake-Tyee	Ketchikan Pub. Util.	2003-11					500		500
Last Twin Reoffr	SE AK Wood Products	2003-12					35		35
Various sales	Pacific Log & Lumber	2003-14	300						300
Total			**447**	**0**	**336**	**0**	**5,096**	**1,265**	**7,144**

Source: USDA Forest Service, Alaska Region. Data on file with: Regional Economist, Ecosystems Planning, USDA Forest Service, PO Box 21628, Juneau, AK 99802-1628.

Table A-4d. Tongass National Forest Log Export Permits Issued in CY 2004 (MBF)

Sale	Purchaser	Permit Number	SS	Hem.	AYC	WRC	Total MBF
Fusion	Viking	2004-13				912	912
Pepper	Viking	2004-07				501	501
Situk BD	Alcan	2004-06	6,831	1,236			8,067
Orion S	Pacific Log and Lmbr	2004-8				88	88
Fusion	Viking	2004-11			481		481
Lucky Logger	Viking	2004-10			12		12
Pepper	Viking	2003-06			315		315
Summore Change	Viking	2003-08			488		488
Twin Bridges	Viking	2004-02			298		298
Total			**6,831**	**1,236**	**1,594**	**1,501**	**11,162**

Source: USDA Forest Service, Alaska Region. Data on file with: Regional Economist, Ecosystems Planning, USDA Forest Service, PO Box 21628, Juneau, AK 99802-1628.

Table A-4e. Tongass National Forest Log Export Permits Issued in CY 2005 (MBF)

Sale	Purchaser	Permit Number	SS	Hem.	AYC	WRC	Total *MBF*
Fusion	Viking	2005-1	0	0		3,044.0	3.044
Fusion	Viking	Unknown	0	0	777.3	0	777.3
Luck Lac II	Viking	2005-16	0	0	0	30.9	30.9
Luck Lack II	Viking	2005-17	0	0	3.9	0	3.9
Twin Bridges II	Viking	2004-2	0	0	15.7	0	15.7
Lucky Logger	Viking	2004-10	0	0	2.1	0	2.1
Summore Change	Viking	2003-8	0	0	131.6	0	131.6
Summore Change	Viking	2005-8	0	0	0	5.0	5
Pepper	Viking	2003-6	0	0	3.4	0	3.4
Pepper	Viking	2003-7	0	0	0	34.7	34.7
Kogish Shinaku	Viking	2005-7	0	0	290.6	0	290.6
Kogish Shinaku	Viking	2005-6	0	0	0	774.0	774
Twin Bridges II	Viking	2004-2	0	0	649.7	0	649.7
Situk BD	Alcan	2004-06	8984.8	1484.1	0	0	10,468.9
Coyak	Alcan	2005-21	2644.7	307.7	0	0	2,952.4
Dry Stream	Icy Straits	2005-18	21.0	10.2	0	0	31.2
Licking Creek	Pac. Log & Lmbr	2005-2	0	0	84.0	0	84
Licking Creek	Pac. Log & Lmbr	2005-4	6.1	100.1	0	0	106.2
Total			**11,656.6**	**1,902.1**	**1,958.3**	**3,888.6**	**19,405.6**

Source: USDA Forest Service, Alaska Region. Data on file with: Regional Economist, Ecosystems Planning, USDA Forest Service, PO Box 21628, Juneau, AK 99802-1628.

Table A-5. Tongass National Forest Log Exports CY 2001-2005 (MBF)

Year Exported	Destination	SS	Hem.	AYC	WRC	Total
CY2001	Canada	955	1,497	0	0	2,452
	Lower 48	0	0	10	89	99
	Pacific Rim	573	2,411	5,029	0	8,013
	Total	1,528	3,908	5,039	89	10,564
CY2002	Canada	672	625	185	0	1,482
	Lower 48	0	0	0	115	115
	Pacific Rim	134	99	803	22	1,058
	Total	806	724	988	137	2,655
CY2003	Canada	65	375	158	0	598
	Lower 48	0	0	112	288	400
	Pacific Rim	0	0	2,938	357	3,295
	Total	65	375	3,208	645	4,292
CY2004	Canada	0	0	0	0	0
	Lower 48	0	0	0	1,412	1,412
	Pacific Rim	6,831	1,236	1,681	0	9,748
	Total	6,831	1,236	1,681	1,412	11,160
CY2005	Canada	0	0	0	0	0
	Lower 48	0	0	49	3,888	3,937
	Pacific Rim	11,712	1,925	1,909	0.3	15,547
	Total	11,712	1,925	1,958	3,889	19,485
5 Yr. Avg.	Canada	338	499	69	0	906
	Lower 48	0	0	34	1,158	1,193
	Pacific Rim	3,850	1,134	2,472	76	7,532
	Total	4,188	1,634	2,575	1,235	9,631

Source: USDA Forest Service, Alaska Region. Data on file with: Regional Economist, Ecosystems Planning, USDA Forest Service, PO Box 21628, Juneau, AK 99802-1628.

Table A-6. Timber Harvest and Imports for Southeast and Southcentral Alaska, 1992-2005[1]

		1992	1993	1994	1995	1996	1997	1998	1999	2000	2001	2002	2003	2004	2005
Southeast Alaska (MMBF)															
Tongass N. F.	Sawlogs	303.1	268.3	221.8	181.3	97.4	94.4	107.6	132.8	133.7	39.8	30.0	44.1	40.9	43.3
	Utility Logs	66.6	56.7	54.0	39.8	22.8	12.2	12.2	12.9	13.0	7.9	3.8	6.7	5.4	6.2
State of Alaska[2]	Sawlogs	14.9	5.0	18.1	3.6	4.5	5.2	5.6	7.3	47.8	48.0	48.0	32.7	21.9	40.7
	Utility Logs	0.1	0.0	2.7	2.2	2.5	0.3	1.9	0.1	12.1	5.2	9.3	2.1	2.3	2.2
BIA	Sawlogs and Utility	4.5	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	2.4	0.0	0.0	0.0	0.0
Alaska Native Corporations[3]	Sawlogs	348.7	328.2	275.0	233.9	292.4	335.9	157.6	193.6	114.6	106.5	93.6	98.1	92.0	99.3
	Utility Logs	97.0	82.2	12.3	81.1	37.7	47.6	59.0	45.4	46.0	13.3	8.1	7.6	6.9	4.6
Southeast Alaska Total	Sawlogs	671.2	601.5	514.9	418.8	394.3	435.5	270.8	333.7	296.2	194.3	171.6	174.9	154.8	183.3
	Utility Logs	163.7	138.9	69.0	123.1	63.0	60.1	73.1	58.4	71.1	26.3	21.2	15.4	14.6	13.2
	Total	834.9	740.4	583.9	541.9	457.3	495.6	343.9	392.1	367.2	220.6	192.8	190.3	169.4	196.5
Southcentral Alaska (MMBF)															
Chugach N. F.	Sawlogs	0.5	1.7	0.0	1.1	1.3	0.8	0.8	0.1	0.1	0.2	0.0	0.0	0.0	0.0
	Utility Logs	0.0	0.0	6.5	0.8	2.0	1.4	0.7	0.3	0.2	0.2	0.2	0.0	0.0	0.0
State of Alaska[2]	Sawlogs	0.8	0.0	0.0	2.6	8.1	8.6	5.0	5.4	0.0	2.1	0.4	0.8	1.3	2.8
	Utility Logs	0.2	0.0	0.0	0.0	0.0	0.0	0.1	0.0	1.8	0.0	0	14.1	2.7	0.5
BIA	Sawlogs and Utility	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	1.3	0.0	0.0	0.0
Alaska Native Corporations[3]	Sawlogs and Utility	123.5	127.2	186.0	230.1	207.6	237.1	172.2	139.9	56.3	71.3	83.0	32.2	6.0	0.0
Southcentral Alaska Total	Sawlogs and Utility	125.0	128.9	192.5	234.3	219.0	247.9	178.8	145.7	58.3	73.8	84.9	47.1	10.0	3.3
Alaskan Imports (MMBF)[4]															
	Sawlogs	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	--	--	--	--	--
	Utility Logs	3.0	3.0	3.0	11.5	34.1	0.0	0.0	0.0	0.0	--	--	--	--	--
	Chips	0.0	1.5	0.0	0.0	0.0	0.0	0.0	0.0	0.0	--	--	--	--	--

Source: USDA Forest Service, Alaska Region. Data on file with: Regional Economist, Ecosystems Planning, USDA Forest Service, PO Box 21628, Juneau, AK 99802-1628.

1. National Forest and Bureau of Indian Affairs harvests reported for fiscal years. All other ownerships reported in calendar years.
2. Harvests from Alaska Mental Health Trust and University of Alaska lands omitted prior to 2000.
3. Estimated by telephone survey. Metric tons converted to log scale at a ratio of 2.7 tons per MBF.

4. Compiled from trade statistics available from the U.S. Department of Commerce. Metric tons converted to log scale at a ratio of 2.7 tons per MBF.

Table A-7. Exports of Softwood Logs and Lumber from Alaska (Anchorage Customs District), CY 1990-2005.

Softwood Logs (MBF Scribner, $/MBF)

	All Species		Hemlock		Redcedar		Spruce	
	Volume	Average Value	Volume	Average Value	Volume	Average Value	Volume	Average Value
1990	568,597	592.33	251,500	457.05	62,609	439.35	213,334	781.02
1991	528,878	555.81	226,013	421.14	55,312	397.51	218,580	717.43
1992	531,993	619.85	212,684	464.73	47,444	517.52	225,266	726.64
1993	563,044	805.67	217,853	643.41	60,542	687.89	228,789	937.01
1994	525,404	739.45	200,129	579.34	39,563	647.25	240,323	811.57
1995	561,550	695.12	250,659	539.02	40,685	652.43	228,615	779.98
1996	530,147	705.98	223,519	537.02	22,632	678.28	257,254	817.34
1997	541,667	642.25	202,517	480.10	37,305	806.85	259,601	733.15
1998	325,386	473.55	72,186	443.51	15,232	791.62	133,334	626.71
1999	427,970	455.70	125,779	408.47	17,687	684.56	172,435	552.20
2000	436,178	426.35	127,861	403.79	22,246	766.73	148,906	541.69
2001	320,615	424.03	108,563	355.95	11,389	694.51	119,288	547.01
2002	286,976	409.70	79,406	398.67	10,820	726.22	153,548	434.34
2003	305,588	456.62	85,094	438.80	12,936	763.28	190,003	430.18
2004	175,281	552.35	50,637	490.39	7,785	804.57	104,118	576.07
2005[2]	213,486	566.23	52,048	495.90	9,962	778.22	141,508	557.69

Softwood Lumber (MBF lumber tally, $/MBF)

	Total		Western hemlock		Sitka Spruce		Cedar		Other Softwoods	
	Volume	Average Value	Volume	Average Value	Volume	Average Value	Volume	Average Value	Volume	Average Value
1990	212,010	397.56	119,231	364.44	87,776	453.14	5,002	211.72	0	--
1991	170,308	412.31	95,478	364.64	69,782	480.80	3,069	369.83	1,979	363.32
1992	136,556	481.40	81,363	393.55	52,036	629.62	575	396.52	2,582	280.40
1993	151,894	507.35	95,005	454.06	55,856	598.18	59	355.93	974	505.13
1994	111,836	561.28	68,839	468.11	42,679	713.84	0	--	318	254.72
1995	50,379	775.01	28,367	608.59	20,352	1,010.91	1,407	817.34	253	221.34
1996	26,854	715.05	14,831	557.28	11,934	914.09	20	688.30	69	204.08
1997	32,764	599.48	18,524	499.05	13,093	759.35	84	100.11	1,063	420.12
1998	9,048	460.22	4,447	386.06	3,874	540.98	261	392.86	466	534.46
1999	14,674	735.78	1,492	371.20	8,624	682.96	0	--	4,558	955.05
2000	3,609	901.62	0	--	3,254	854.45	278	1235.94	77	1691.68
2001	3,292	208.21	0	--	3,247	200.58	0	--	44	770.89
2002[1]	85	49.56	0	--	0	--	0	--	85	49.56
2003	1,217	1,023.87	0	--	1,217	1,023.87	0	--	0	--
2004	1,825	1,087.76	0	--	1,825	1,087.76	0	--	0	--
2005[2]	2,669	561.78	0	--	2,669	561.78	0	--	0	--

Source: U.S. Department of Commerce, at http://dataweb.usitc.gov/ (last accessed July 2006), and Warren, 2004.

1. Inconsistencies may result due to extremely low export volumes reported 2002 to 2005.
2. Data for 2005 is based on preliminary 2005 data from the US Department of Commerce.

Table A-8. Woodchip Exports from U.S. West Coast customs districts, CY 1990-2005

Wood Chips (In short tons, on a dry-weight basis; value in dollars per short ton)								
	Seattle		Columbia-Snake		San Francisco		Anchorage	
	Volume	Average Value	Volume	Average Value	Volume	Average Value	Volume	Average Value
1990	744,397	95.51	2,081,199	95.84	412,625	98.42	28,283	75.38
1991	681,161	103.10	2,141,958	104.73	462,808	101.21	101,397	78.01
1992	583,141	101.28	1,766,502	106.84	357,731	99.21	15,509	21.73
1993	588,564	95.63	1,544,904	104.28	330,890	99.08	56,289	110.13
1994	755,872	75.78	1,563,772	102.46	385,082	93.20	73,503	108.43
1995	542,694	113.24	1,329,590	130.04	322,454	118.58	146,277	137.38
1996	589,989	95.97	1,230,966	108.51	314,280	109.65	199,862	83.79
1997	611,888	72.28	1,247,092	89.54	371,554	97.71	105,653	72.10
1998	835,594	62.27	1,076,786	96.78	255,546	95.16	145,837	73.80
1999	753,147	60.51	1,024,223	82.64	285,740	90.57	131,699	41.75
2000	461,874	78.54	992,062	94.01	237,781	87.11	178,461	41.03
2001	353,074	86.00	856,164	96.58	166,558	90.59	154,880	61.28
2002	262,395	71.10	893,185	84.31	109,049	75.50	98,535	68.85
2003	252,050	82.58	760,965	82.39	63,037	69.10	109,621	49.66
2004	330,760	62.28	744,356	75.89	34,122	69.25	48,848	50.43
2005[1]	295,840	70.60	755,583	101.76	19,423	93.80	45,577	75.20

Source: U.S. Department of Commerce, at http://dataweb.usitc.gov/ (last accessed July 2006), and Warren, 2004. The valuation definition used in the export statistics is the value at the seaport or border port of exportation. It is based on the selling price (or cost if not sold) and includes inland freight, insurance, and other charges to the port of exportation. Seattle Customs District includes all ports in the State of Washington, except Longview and Vancouver. Columbia-Snake Customs District includes all Oregon ports and Longview and Vancouver, Washington. San Francisco Customs District includes all coastal and inland ports in the State of California from Monterey north. The Anchorage Customs District is the State of Alaska.

1. Data for 2005 is based on preliminary 2005 data from the US Department of Commerce.

Table A-9. Value of Exports from Alaska (Anchorage Customs District) by Product and Country, CY 1997-2005

(1,000 $)	1997	1998	1999	2000	2001	2002	2003	2004	2005[1]
Logs									
Canada	24,773	24,963	15,124	19,501	12,385	10,694	9,537	1,097	502
China	1,225	1,874	866	2,582	6,069	3,664	2,484	2,544	7,120
Japan	253,664	99,944	134,375	118,120	83,316	62,552	75,090	50,964	57,933
Korea	70,524	24,328	39,502	35,817	30,594	35,033	48,636	37,177	51,136
Taiwan	10,323	1,554	5,195	8,137	3,584	4,618	2,646	2,936	4,659
Other	4,873	1,425	0	1,865	0	1,028	1,189	0	0
Total	**365,382**	**154,088**	**195,062**	**186,021**	**135,948**	**117,589**	**139,582**	**94,520**	**121,351**
Sawnwood									
Canada	3	48	52	544	0	0	0	0	0
Japan	18,927	3,950	10,647	2,714	651	64	1,488	2,123	3,322
Other	712	251	174	0	0	4	33	0	27
Total	**19,642**	**4,249**	**10,874**	**3,259**	**651**	**69**	**1,521**	**2,123**	**3,349**
Chips and Sawdust									
Argentina	0	0	0	3,440	0	0	0	0	0
Australia	0	0	0	3,768	0	0	0	0	0
Canada	1,761	1,477	4,674	6,142	3,954	1,915	909	1,097	1,136
Chile	0	0	0	2,196	1,388	0	0	0	0
Japan	10,482	11,673	10,987	1,930	5,615	4974	4,661	1,537	2,442
Other	402	0	0	0	0	0	0	12	3,734
Total	**12,645**	**13,150**	**15,660**	**17,475**	**10,958**	**6,889**	**5570**	**2,645**	**7,312**
Other Wood Products									
Canada	7	206	28	5	10	166	51	54	71
Hong Kong	234	341	221	175	226	389	341	351	206
Japan	1,390	1,298	1,229	432	929	574	1,932	762	269
Korea	170	36	74	807	304	131	1,403	623	28
Taiwan	78	19	177	23	179	98	140	125	35
Other	179	337	212	154	174	801	1,315	651	258
Total	**2,058**	**2,237**	**1,940**	**1,595**	**1,822**	**2,159**	**5,182**	**2,566**	**867**
Grand Total									
Canada	26,545	26,695	19,877	26,192	16,349	12,775	10,496	2,050	1,709
China	1,225	1,874	866	2,582	6,106	4,230	3,279	2,810	7,277
Hong Kong	234	341	221	175	340	393	1,527	363	211
Japan	284,462	116,864	157,238	123,195	90,568	68,164	83,171	55,387	63,966
Korea	70,694	24,363	39,576	36,623	30,949	35,164	50,039	37,800	54,894
Taiwan	10,493	1,589	5,269	8,944	3,763	4,716	2,786	3,061	4,694
Other	6,165	2,013	386	11,423	1,561	1,264	556	384	128
Total	**399,818**	**173,740**	**223,432**	**209,134**	**149,636**	**126,705**	**151,854**	**101.855**	**132,879**

Source: U.S. Department of Commerce, USITC Trade Database (http://dataweb.usitc.gov/, last accessed July 2006).

Sums do not match due to round-off error and omission of minor categories.

1. Data for 2005 is based on preliminary 2005 data from the US Department of Commerce.

Table A-10a. Tongass National Forest Remaining Volume Under Contract FY 2002[1]

Purchaser Name	Sale Name	Original Volume (MBF)	Volume Cut (MBF)	Remaining Volume (MBF)
3-D Logging	Deadwood #3 Salvage	111	0	111
Beaver Creek Logging.	Buster Bay	295	234	61
D & L Woodworks	Big Pit	123	0	123
David Seaford	Rush Fast	783	624	159
David Seaford	Log Jam	1,191	0	1,191
Gateway Forest Products	Brand X	2,052	0	2,052
Gateway Forest Products	Rio Beaver	5,520	0	5,520
Gateway Forest Products	South Lindy Mountain	13,517	0	13,517
Gateway Forest Products	Longline	5,170	3,254	1,916
Gateway Forest Products	Dumpy Atc	19,657	0	19,657
Gateway Forest Products	Cable Drop	11,918	2,372	9,546
Gateway Forest Products	North	7,688	0	7,688
Gateway Forest Products	Big Bob	7,099	0	7,099
H & L Salvage Inc.	Gnu	25	0	25
Jack Harrison	Curve	48	0	48
Ketchikan Pub Util	Swan Tyee Settlement	15,762	0	15,762
Luthier Tone Woods	Deer Run Salvage	179	140	38
Mnt. Man Cutting	Shaken	117	0	117
Mnt. Man Cutting	Change Up	44	0	44
New Age M & E	Wolf Pup	1,193	0	1,193
Pacific Log & Lumber	Ridge Timber	629	0	629
Pacific Log & Lumber	Todahl Backline	7,868	0	7,868
Pacific Log & Lumber	Rowan Mountain	20,231	0	20,231
Pacific Log & Lumber	Salty Timber Sale	6,357	6,250	107
Pacific Log & Lumber	Junction Timber	154	0	154
Pacific Log & Lumber	Abandon	278	0	278
Pacific Log & Lumber	Alder Creek Timber	2,184	0	2,184
Porter Lumber	Little Naukati Salv	91	80	11
Porter Lumber	Nossuk Creek Salvage	362	0	362
Richard Blauvelt	Microsale # 38	35	0	35
Seley Family Ltd. Partner	Picasso Timber Sale	614	376	238
Seley Family Ltd. Partner	Fire Cove Salv Ts R	520	0	520
Silver Bay Logging, Inc	Upper Carroll Sale	30,184	6,889	23,295
Silver Bay Logging, Inc	South Lindy	10,585	610	9,975
Silver Bay Logging, Inc	Crystal	7,017	0	7,017
Silver Bay Logging, Inc	King George	25,449	14,247	11,202

Table A-10a. Tongass National Forest Remaining Volume Under Contract FY 2002 (cont.)

Purchaser Name	Sale Name	Original Volume (MBF)	Volume Cut (MBF)	Remaining Vol (MBF)
Silver Bay Logging, Inc	Saook. (Cancelled)	23,348	0	0
Silver Bay Logging, Inc	South Park Re-Sale	521	286	235
Silver Bay Logging, Inc	South Sand Re-Offer	973	110	863
Silver Bay Logging, Inc	South Saddle	2,085	1,701	384
Silver Bay Logging, Inc	South Pass 148	1,424	1,093	331
Silver Bay Logging, Inc	South Lindy One	1,575	0	1,575
The Mill Inc....	Wedge	644	0	644
Thorne Bay	Deadwood #1 Salvage	147	0	147
Viking Lumber Company	6402	9,488	0	9,488
Viking Lumber Company	South Arm	10,094	0	10,094
Viking Lumber Company	Whoop-De-Do	44	0	44
Viking Lumber Company	Bohemia	35,694	27,849	7,845
Viking Lumber Company	Fourleaf	21,882	12,466	9,416
Viking Lumber Company	Shamrock	24,310	17,161	7,149
Viking Lumber Company	Pit Five	143	0	143
Viking Lumber Company	Knot	21	0	21
Viking Lumber Company	Pity	47	0	47
Whitestone Se Logging Co	Humpback/Gallagher	21,417	10,152	11,265
Jim Collier	Permit	0	0	0
Rolland Howell	Permit	2	0	2
D&L Woodworks June	Permit	13	0	13
Vince Schafer-Slb Cedar D	Permit	68	0	68
Crd - Post & Poles - Fy 2	Permit	2	0	2
3-D Logging	Permit	21	0	21
Adam Baskett	Permit	2	0	2
Brent Cole	Permit	14	0	14
Clifford Coleman	Permit	2	0	2
Danny Sunde	Permit	7	0	7
James Harrison	Permit	1	0	1
James Harrison	Permit	9	0	9
Larry Trumble	Permit	2	0	2
Russ Staton	Permit	13	0	13
Silver Bay Logging, Inc	Canal Hoya [2]	16,127	0	16,127
Gateway Forest Products	Orion Timber Sale [2]	12,189	0	12,189
Gateway Forest Products	Buckdance [2]	10,714	0	10,714
Gateway Forest Products	Madder Timber Sale [2]	25,882	0	25,882
Total		**423,972**	**105,895**	**294,729**
Total Available Volume		**359,059**	**105,894**	**229,816**

Source: USDA Forest Service, Alaska Region. Data on file with: Regional Economist, Ecosystems Planning, USDA Forest Service, PO Box 21628, Juneau, AK 99802-1628.

1. All volumes rounded to nearest MBF.
2. Sale not available due to injunction.

Table A-10b. Tongass National Forest Remaining Volume Under Contract FY 2003[1]

Purchaser Name	Sale Name	Original Volume (MBF)	Volume Cut (MBF)	Remaining Volume (MBF)
3-D Logging	Deadwood #3 Salvage	116	44	72
Alaska Timber Wolf	Basin Roadside	21	0	21
Alaska Timber Wolf	Nemo Roadside	50	0	50
Alcan Forest products LLP	Longline	4,419	4,419	0
Beaver Creek Logging.	Buster Bay	295	234	61
Brent Cole	Microsale #57	9	0	9
Brent Cole	Microsale #69	13	0	13
Walker Wood Products	Microsale #53	9	2	7
D&L Woodwork	Big Pit	122	67	55
David Seaford	Log Jam	1,191	0	1,191
David Seaford	Rush Fast	783	624	159
Gregg Jones	Summit Windjammer	20	20	0
H & L Salvage Inc.	Gnu	25	25	0
Jack Harrison	Curve	50	50	0
Ketchikan Pub Util	Swan Tyee Settlement	15,939	15,708	230
Mnt. Man Cutting	Shaken	119	119	0
Mnt. Man Cutting	Change Up	45	45	0
New Age M & E	Wolf Pup	1,193	0	1,193
Pacific Log & Lumber	Abandon	278	278	0
Pacific Log & Lumber	Alder Creek	2,183	2,183	0
Pacific Log & Lumber	Ridge	629	629	0
Pacific Log & Lumber	Todahl Backline	7,868	0	7,868
Pacific Log & Lumber	Rowan Mountain	20,231	0	20,231
Pacific Log & Lumber	Salty	6,357	6,274	82
Porter Lumber	Ahtun Point Salv III	70	70	0
Porter Lumber	Nossuk Creek Salvage	364	70	293
SE AK Wood Products	Bowen	705	0	705
SE AK Wood Products	Last Twin Re-offer	1,297	330	967
Silver Bay Logging, Inc	Upper Carroll Sale	30,184	6,889	23,295
Seley Family Partnership	Fire Cove Salv Re-Offer	552	552	0
Seley Family Partnership	Orion South	3,431	0	3,431
Seley Family Partnership	Picasso	614	376	238
Silver Bay Logging, Inc	Honey/George	3,609	3,609	0
Silver Bay Logging, Inc	South Lindy	10,591	2,027	8,564
Silver Bay Logging, Inc	Crystal	7,017	0	7,017
Silver Bay Logging, Inc	Upper Carroll	30,184	8,165	22,019
Silver Bay Logging, Inc	King George	25,459	14,887	10,572

Table A-10b. Tongass National Forest Remaining Volume Under Contract FY 2003 (cont.)

Purchaser Name	Sale Name	Original Volume (MBF)	Volume Cut (MBF)	Remaining Vol (MBF)
Silver Bay Logging, Inc	Appleton Resale	26,241	26,241	0
Silver Bay Logging, Inc	Rio Beaver	5,520	0	5,520
Silver Bay Logging, Inc	South Central	942	942	0
Silver Bay Logging, Inc	South Park Re-Sale	302	302	0
Silver Bay Logging, Inc	South Sand Re-Offer	704	704	0
Silver Bay Logging, Inc	Canal Hoya	16,127	0	16,127
Silver Bay Logging, Inc	South Saddle	1,701	1,701	0
Silver Bay Logging, Inc	South Lindy One	1,575	0	1,575
The Mill Inc....	Wedge	644	0	644
Thorne Bay	Deadwood #1 Salvage	147	0	147
Viking Lumber Company	6402	9,488	0	9,488
Viking Lumber Company	South Arm	10,094	5,345	4,749
Viking Lumber Company	Pepper	9,257	2,226	7,031
Viking Lumber Company	Summore Change	10,986	1,195	9,791
Viking Lumber Company	Bohemia	35,694	27,849	7,845
Viking Lumber Company	Kuakan	11,160	11,160	0
Viking Lumber Company	Fourleaf	21,906	21,906	0
Viking Lumber Company	Twin Bridges II	7,014	0	7,014
Viking Lumber Company	Shamrock	24,312	20,764	3,548
Viking Lumber Company	Crane	7,707	7,707	0
Viking Lumber Company	Pit Five	143	143	0
Whitestone Se Logging Co	Humpback/Gallagher	21,417	10,152	11,265
Peavey Logging	Microsale #52	4	0	4
Tom Bouy	Microsale #55	3	0	3
Danny Sunde	Microsale #59	9	0	9
Larry Trumble	Microsale #63	19	0	19
Hummer Enterprises	Microsale #63	19	0	19
Herman Ludwigsen	Microsale #1	2	0	2
Pete Smith	Pete Smith	0[2]	0	0[2]
PRD-Special For Prod	PRD-Special For Prod	1	0	1
TBRD-Com. Firewood	TBRD-Com. Firewood	5	0	5
TBRD-Com. Firewood	TBRD-Com. Firewood	10	0	10
Vince Schafer-SLB Cedar	Vince Schafer-SLB Cedar	68	0	68
WRD Com Firewood D	WRD Com Firewood D	6	0	6
Total		**392,433**	**199,144**	**193,288**

Source: USDA Forest Service, Alaska Region. Data on file with: Regional Economist, Ecosystems Planning, USDA Forest Service, PO Box 21628, Juneau, AK 99802-1628.

1. All volumes rounded to nearest MBF.
2. Less than 0.5 MBF

Table A-10c. Tongass National Forest Remaining Volume Under Contract FY 2004[1]

Purchaser Name	Sale Name	Original Volume (MBF)	Volume Cut (MBF)	Remaining Volume (MBF)
Alaska Timber Wolf	Nemo Roadside	53	53	0
Alcan Forest Products LLP	Situk Blowdown reoffer	24,250	16,350	7,900
Beaver Creek Logging	Buster Bay	295	234	61
D&L Woodworks	Beaver Pond	190	0	190
David Seaford	Rush Fast	639	626	14
Dean Blankenship	Surku Swing salvage	315	0	315
Gregg Jones	False Island Alder	16	16	0
Gregg Jones	Summit Windjammer	20	20	0
H&L Salvage, Inc	Microsale #15	7	0	7
Howard A. Rhodes	Microsale # 80	1	1	0
Hummer Enterprise	Microsale #73	13	0	13
Hummer Enterprise	Permit	4	0	4
Icy Straights Lmbr & Mill	Upside	238	0	238
JR Sokol	Woodchine	50	16	34
Jack Harrison	Prime special salvage	148	15	132
Keith Dahl	Lucky Duck reoffer	453	0	453
Keith Landers	Rocky Ratz spec. salvage	42	0	42
Keith Landers	Stirred reoffer	16	0	16
Ketchikan Pub. Util.	Swan Tyee settlement	17,960	16,627	1,333
Kwaan Elec. Transmssn.	KGCMC-Intertie sttlmnt.	43	0	43
Mnt. Man Cutting	Shaken	120	120	0
Mnt. Man Cutting	Change Up	45	45	0
Mnt. Man Cutting	Vestal reoffer	135	135	0
Norsemen Wood Products	Micro Sale #17	25	3	22
Pacific Log & Lmbr Ltd.	Mop Point	2,660	554	2,106
Pacific Log & Lmbr Ltd.	Orion North	8,375	0	8,375
Pete Smith	Microsale #83	6	6	0
Porter Lumber	Microsale #74	5	0	5
Porter Lumber	Nossuk Creek salvage	371	158	213
Porter Lumber	Stromboli special salvage	73	0	73
Porter Lumber	Yatuk Creek salvage	273	0	273
Ronger E Grant	Election special salvage	56	0	56
Ronger E Grant		1	0	1

Table A-10c. Tongass National Forest Remaining Volume Under Contract FY 2004(cont.)

Purchaser Name	Sale Name	Original Volume (MBF)	Volume Cut (MBF)	Remaining Vol (MBF)
SE Alaska Wood Products	Bowen	707	563	144
SE Alaska Wood Products	Last Twin reoffer	1,303	797	506
Seley Family Partnership	Orion South	2,906	2.906	0
Silver Bay Logging Inc	Appleton resale	26,241	26,241	0
Silver Bay Logging Inc	South Central	942	942	0
Silver Bay Logging Inc	South Park resale	302	302	0
Silver Bay Logging Inc	Soth Sand reoffer	753	753	0
T&T Lumber	Flora's Folly	192	81	112
The Mill Inc.	Wedge	644	0	644
Viking Lumber Co.	Crane	7,707	7,707	0
Viking Lumber Co.	Finger Point	10,311	0	10,311
Viking Lumber Co.	Fourleaf	21,906	21,906	0
Viking Lumber Co.	Fusion	31,889	6,840	25,049
Viking Lumber Co.	Kuakan	11,160	11,160	0
Viking Lumber Co.	Lucky Logger	497	497	0
Viking Lumber Co.	Summore Change	11,016	6,267	4,749
Viking Lumber Co.	Thorne Island	1,906	0	1,906
Viking Lumber Co.	Twin Bridges II	7,457	2,685	4,772
William Thomason	Microsale #79	4	0	4
Brent Cole	Microsale #68	9	0	9
Glenn Keller	Permit	8	0	8
Harold A Rhodes	Permit	18	0	18
Kennecott Greens Ck Mine	Greens Creek settlement	29	0	29
TBRD cmmrcl firewood	Permit	5	0	5
TBRD cmmrcl firewood	Permit	3	0	3
TBRD cmmrcl firewood	Permit	5	0	5
TBRD cmmrcl sawlog	Permit	2	0	2
TBRD cmmrcl sawlog	Permit	2	0	2
TBRD cmmrcl sawlog	Permit	3	0	3
William Kaufman	Permit	8	0	8
William Kaufman	Microsale #77	11	0	11
WRD cmmrcl fuelwood	Permit	28	0	28
Total		**197,476**	**124,626**	**77,953**

Source: USDA Forest Service, Alaska Region. Data on file with: Regional Economist, Ecosystems Planning, USDA Forest Service, PO Box 21628, Juneau, AK 99802-1628.

1. All volumes rounded to nearest MBF. Does not include sales cancelled in FY 2004.

Table A-10d. Tongass National Forest Remaining Volume Under Contract FY 2005[1]

Purchaser Name	Sale Name	Original Volume (MBF)	Volume Cut (MBF)	Remaining Volume (MBF)
Alcan Forest Products LLP	Situk Blowdown Reoffer	25,602	23,389	2,213
Beaver Creek Logging	Buster Bay	295	227	68
Coeur Alaska, Inc	Kensington Gold Project	888	0	888
CSL Farm and Services	Kosciusko Stewardship	517	0	517
D&L Woodworks	Beaver Pond	190	54	136
D&L Woodworks	Big Bear	150	0	150
David Seaford	Rush Fast	837	790	47
Dean Blankenship	Surku Swing Salvage	315	0	315
Dept of Transportation	Cascade Point ROW Settlement	635	0	635
Ernie Eads	Prime Special Salvage	154	0	154
Fred Ensign	Microsale #9	1	1	0
Gregg Jones	False Island Alder	16	16	0
Gregg Jones	Summit Windjammer	20	20	0
H&L Salvage Inc	Ambrosia	143	0	143
H&L Salvage Inc	Microsale #67	16	0	16
H&L Salvage Inc	Vientos Cinco #5	70	0	70
Harold A Rhodes	Microsale #105	42	0	42
Hummer Enterprise	Microsale #73	13	13	0
Icy Straits Lumber & Mill	Dry Stream Special Salvage	112	0	112
Icy Straits Lumber & Mill	Midway Reoffer II	8,222	0	8,222
Icy Straits Lumber & Mill	Upside	238	123	115
James Harrison	Binder	44	44	0
Jeff Larson	Microsale #110	4	0	4
Keith Dahl	Lucky Duck Reoffer	494	248	246
Keith Landers	Rocky Ratz Special Salvage	42	0	42
Ketchikan Public Utility	Swan Tyee Settlement	17,960	16,410	1,550
Kwaan Electric Transmission	B Road Powerline	313	0	313
Kwaan Electric Transmission	KGCMC-Intertie Settlement	63	0	63
Mel Cook	Angel	101	0	101
Norsemen Wood Products	Microsale #17	26	26	0
Pacific Log and Lumber Ltd	Licking Creek	15,308	7,268	8,040
Pacific Log and Lumber Ltd	Orion North	8,375	0	8,375
Porter Lumber	Nossuk Creek Salvage	386	177	209
Porter Lumber	Stromboli Special Savvage	74	55	19
Porter Lumber	Yatuk Creek Salvage	273	27	246
Red Esslinger	Microsale #102	22	22	0
Rodney Howard	Microsale #111	10	0	10
Ronger E. Grant	Election Special Salvage	56	0	56
SE Alaska Wood Products	Last Twin Reoffer	797	797	0
SE Alaska Wood Products	Shady	4,091	0	4,091

Table A-10d. Tongass National Forest Remaining Volume Under Contract FY 2005(cont.)

Purchaser Name	Sale Name	Original Volume (MBF)	Volume Cut (MBF)	Remaining Vol (MBF)
SE Alaska Wood Products	Woodchine Resale	42	42	0
Seley Family Partnership	Orion South	2,906	2,906	0
Silver Bay Logging Inc	Appleton Resale	26,241	26,241	0
Silver Bay Logging Inc	King George	25,479	15,625	9,855
Silver Bay Logging Inc	South Park Resale	302	302	0
Silver Bay Logging Inc	South Sand Reoffer	753	753	0
Steve Johnson	Microsale #106	7	7	0
T&T Lumber	Flora's Folly	192	81	111
The Mill Inc	Wedge	644	0	644
Viking Lumber Co	Crane	7,707	7,707	0
Viking Lumber Co	Finger Point	10,311	0	10,311
Viking Lumber Co	Fourleaf	21,906	21,906	0
Viking Lumber Co	Fusion	31,949	26,294	5,655
Viking Lumber Co	Kogish Shinaku II	8,028	4,312	3,716
Viking Lumber Co	Kuakan	11,160	11,160	0
Viking Lumber Co	Luck Lac II	8,586	0	8,586
Viking Lumber Co	Summore Change	11,016	6,837	4,179
Viking Lumber Co	Thorne Island	1,906	0	1,906
Viking Lumber Co	Twin Bridges II	5,626	5,483	443
William Kaufman Murwood	Microsale #109	6	6	0
William Thomason	Microsale #112	12	0	12
Winrod Logging	Microsale #20	5	0	5
Commercial sawlog	permit	3	0	3
Commercial sawlog	permit	7	0	7
Commercial sawlog	permit	4	0	4
Commercial sawlog	permit	5	0	5
Harold A Rhodes	Flyboy Salvage	11	0	11
William Kaufman Murwood	Microsale #113	6	0	6
Total		**262,033**	**179,368**	**82,665**

Source: USDA Forest Service, Alaska Region. Data on file with: Regional Economist, Ecosystems Planning, USDA Forest Service, PO Box 21628, Juneau, AK 99802-1628.

1. All volumes rounded to nearest MBF. Does not include sales cancelled in FY 2005.