

**TIMBER HARVEST AND WOOD  
PRODUCTS MANUFACTURE IN  
ALASKA: 1996 UPDATE (DRAFT)**

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## INTRODUCTION

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This report provides information about the timber and wood products industry gathered from a variety of sources. It includes data for the entire state and for three regions, and brings together previously available data on timber harvests and wood products exports, as well as new data derived from information ISER collected in surveys of loggers and wood processors. We hope the data will be useful for both public and private planning efforts, as well as informed policy debate over management and development of the forest products industry.

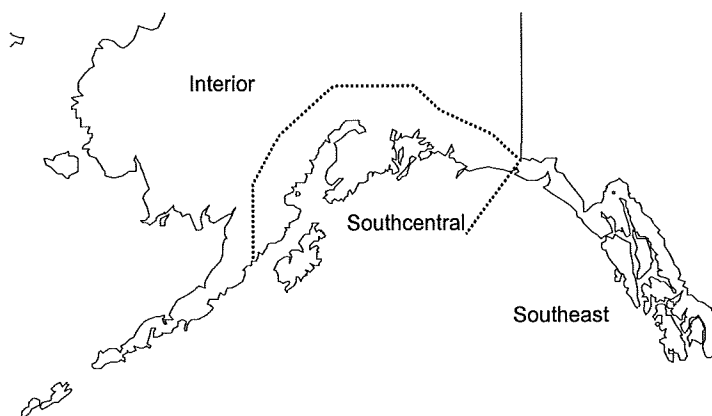
## ALASKA'S FORESTS

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Alaska's richest timber resource is its coastal forest, a narrow band of temperate rain forest extending from the southern border of the state north and west to Kodiak Island. Sitka spruce is a major component of this forest, with western hemlock in the southeastern area, and mountain hemlock west of Prince William Sound. In the interior, white spruce, paper birch, quaking aspen and alder predominate on well drained sites, while black spruce and larch grow in wetter areas. There are long 'stringers' of potential commercial forest along major rivers, but the bulk of the interior forest is too poorly stocked for commercial harvest<sup>1</sup>.

We divide Alaska into three regions: southeast, southcentral coast, and interior. The southeastern region includes Alaska's panhandle, up to Yakutat Bay, and includes all of the Tongass National Forest. The southcentral coast region follows the Gulf of Alaska west from Yakutat Bay, across Prince William Sound, takes in the entire Kenai Peninsula, the coastal forest along the west side of Cook Inlet, and the Kodiak archipelago. The Chugach National Forest lies completely within this region, and we have tried to include all the coastal forest areas and none of the interior type forest areas. There is a small area of interior forest type, (the northwest portion of the Kenai Peninsula) in this region. The interior region includes the remainder of Alaska. Timber harvests from this area are primarily from the commercially viable forests along the Yukon, Koyukuk, Tanana, Kuskokwim, Susitna and Copper Rivers.

**Figure 1. Alaska Regions**



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<sup>1</sup> Alaska's Forest Resources, Alaska Geographic Vol. 12 No. 2

## TIMBER IN ALASKA'S ECONOMY

Alaska's forest products industry contributes to the state economy in several ways. The largest is employment: jobs in timber harvesting and processing provide income to Alaska residents. Where Alaska residents are corporation owners (such as small proprietorships and Native corporations), profits may also go to Alaska owners. And businesses operating in the state pay taxes here. Employment in Alaska's forest products industry has been declining since 1990 (see Figure 2). The industry has been centered in southeast Alaska, originally in the Tongass National Forest, and in recent years on Native-owned lands in southeast as well. Long-term contracts with the U. S. Forest Service (USFS) kept two pulp mills and several saw mills supplied since the 1950s. However, the economics of pulp and raw lumber production have not proved attractive in recent years. In the 1970s, the Tongass timber harvest accounted for 80–90 percent of Alaska's total harvest; this declined in the 1980s to about 40 percent, and by 1996 less than 20 percent of the estimated state total<sup>2</sup>. The Sitka pulp mill closed in 1994 and the Ketchikan pulp mill in March 1997. Installed mill capacity has declined to only about one-quarter the level of less than 10 years ago (Table 1). Tongass timber harvests will likely continue to decline, and a greater share of the total harvest will come from private ownership. Since private owners find it more profitable to export logs without local processing, numbers of jobs will continue to decline also.

Private timber harvests in Alaska are primarily Native-owned timber. These harvests rose sharply in the 1980s to become more than half of southeast's total harvest, and they comprise virtually the entire harvest in southcentral. Privately owned timber is not subject to primary processing requirements, and is usually exported as round logs. Figure 3 shows round log exports by region, which fairly accurately reflect trends in Native harvests. In southeast

Alaska, Native harvests peaked in the late 1980s and then declined. Many village corporations in the region have largely exhausted their supplies of commercially viable timber<sup>3</sup>. In southcentral, Native harvests increased through the early 1990s. Production could continue near current levels for some time, although major increases in the future are unlikely.

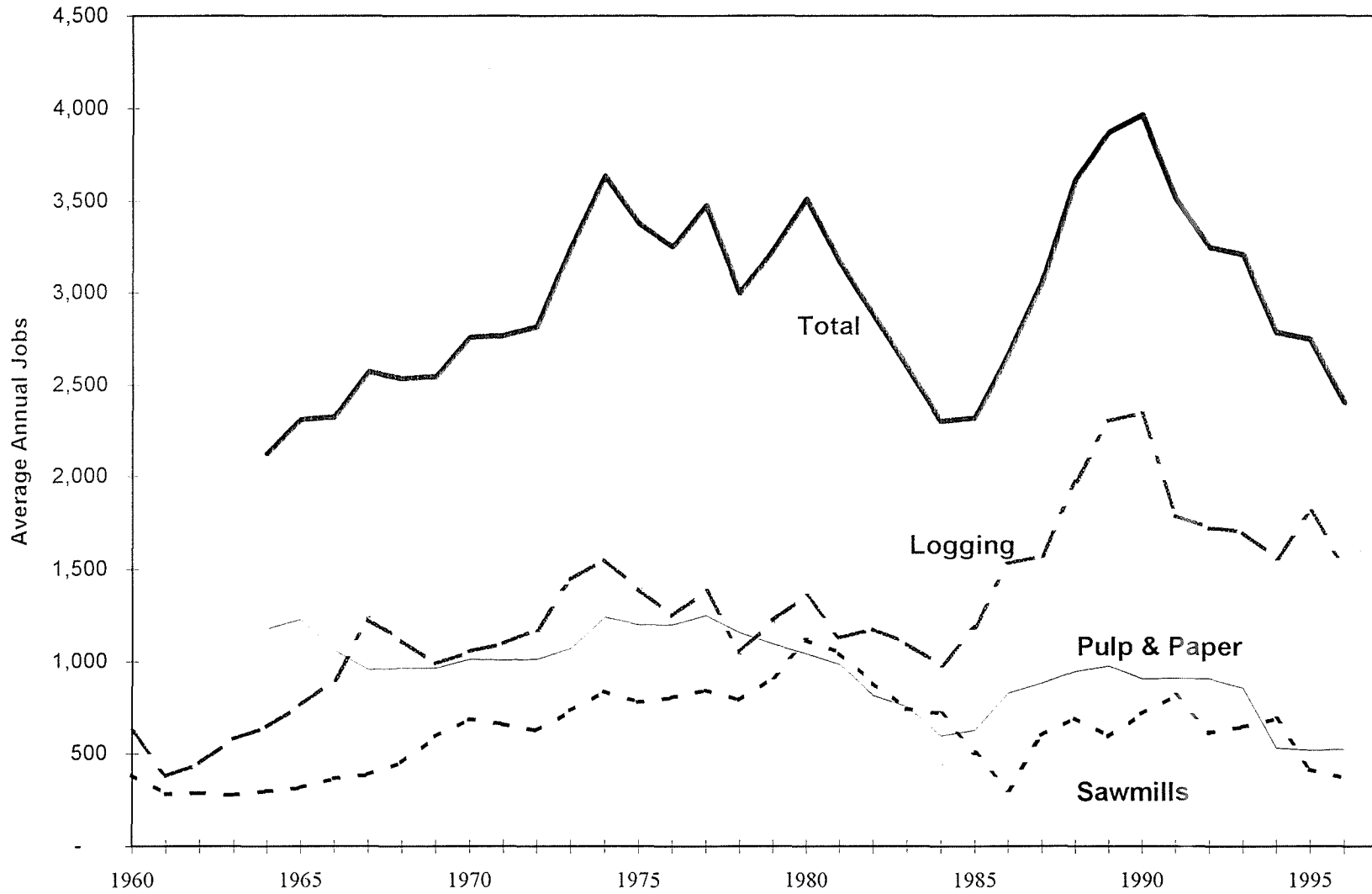
In addition to these major parts of the industry, there is some logging in the Chugach National Forest, in the Haines and Tanana Valley State Forests, on University of Alaska land, on land owned by local governments, and on private land other than Native corporation land. Altogether, these sources make up only about two percent of the state's harvest.

	1990	1995	KPC closure
<b>KPC</b>			
Ketchikan Pulp Mill	190	190	0
Ketchikan Saw Mill	40	50	50
Annette I. Saw Mill	70	60	60
<b>APC</b>			
Sitka Pulp Mill	170	0	0
Wrangell Saw Mill	110	0	0
<b>Other</b>			
Chilkoot Lumber	50	0	0
Klawok Timber	65	0	0
Seley Corp	40	35	35
Other	10	62	62
<b>Total</b>	<b>745</b>	<b>397</b>	<b>207</b>
Source: USFS			

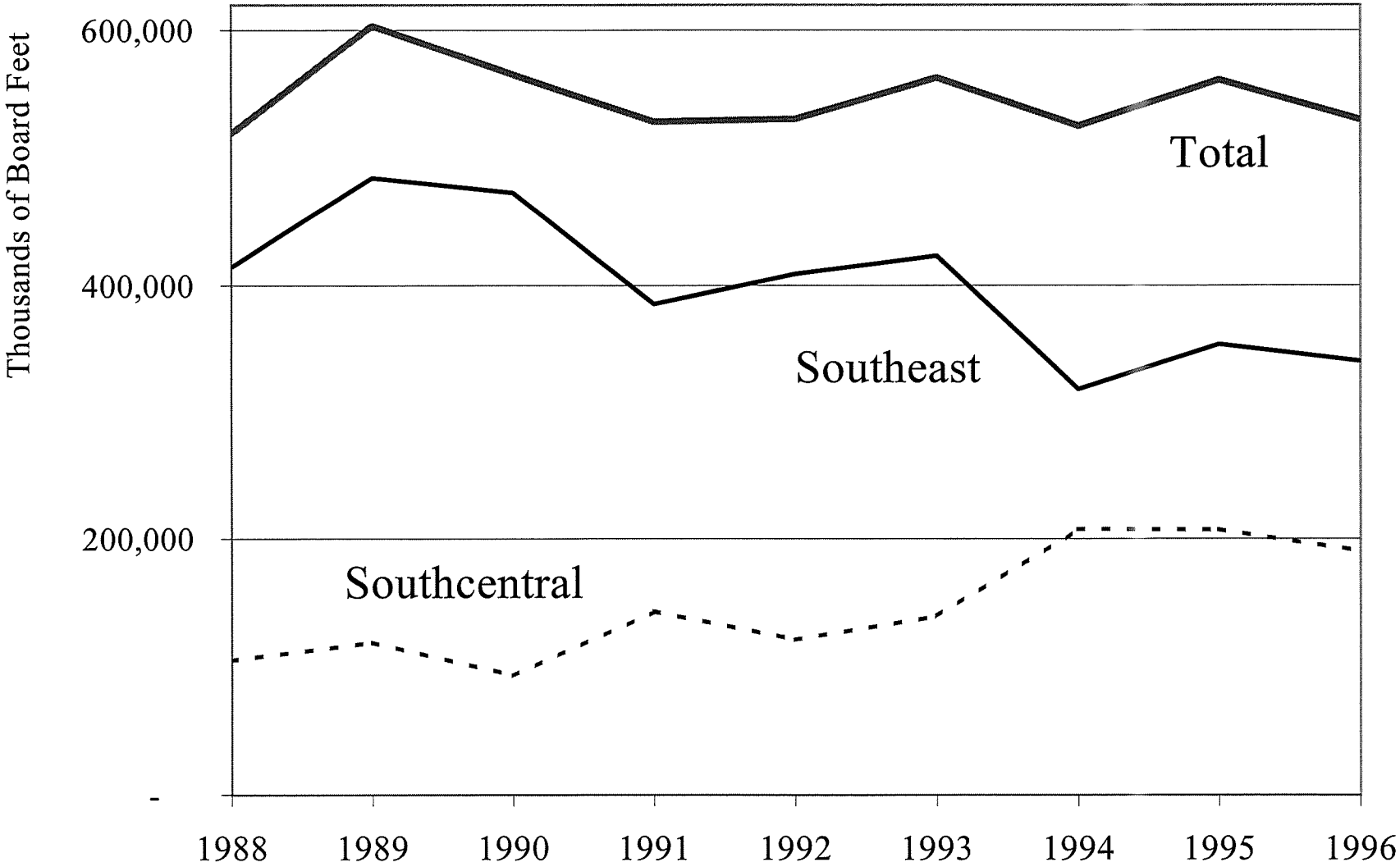
<sup>2</sup> Percentages estimated from Warren, *Production, Prices, Employment and Trade in Northwest Forest Industries*, various quarters and from USFS Region 10 preliminary 1996 numbers

<sup>3</sup> Knapp, Gunnar; *Native Timber Harvests in Southeast Alaska*; p37

Figure 2. Wood Products Employment, 1960 - 1995



**Figure 3. Softwood Log Exports by Region**



Alaska's forest products industry today was shaped by the two long-term contracts for wood to be harvested from the Tongass and supplied to southeast Alaska's pulp mills. As the supply of old growth forest elsewhere declined, sawtimber from the Tongass increased in value, and the pulp companies could increase profits by selling their better quality logs as cants and lumber and pulping only lower quality wood. Most saw logs go through only minimal processing, and are exported as cants (logs flattened on two sides). Low-cost timber provided under the 50-year contracts made the sawmills profitable, but those long-term contracts depended on pulp mill operations. When Alaska Pulp Corporation shut down the Sitka mill, the USFS cancelled the remainder of the corporation's long-term contract, ending its supply of low-cost saw timber as well as pulp logs. Sawmill employment dropped by half from 1991 to 1995. The closure of the Ketchikan Pulp Company's (KPC) mill has not led to an immediate contract cancellation. The forest service has agreed to make enough timber available under a renegotiated version of the contract to keep KPC's sawmills in Ketchikan and Metlakatla open for at least two years. Tongass timber will still be available through independent sales. In the last decade, these sales have accounted for from one sixth to one third of Tongass timber harvested. Without KPC to purchase lower quality logs for its pulp mill, it remains to be seen how attractive independent sales will be.

Logging and sawmill operations will continue to make up the greater part of wood processing employment. However, ISER surveys of loggers and wood products manufacturers in the spring of 1996 revealed small amounts of diverse forest products employment throughout the state: logs are sold as firewood and house logs and are made into furniture, bowls, souvenirs and musical instruments. About 8 percent of jobs reported in our wood processors' survey were for these companies. These jobs represented about 3 – 5 percent of all forest products jobs.

## **ALASKA TIMBER HARVESTS**

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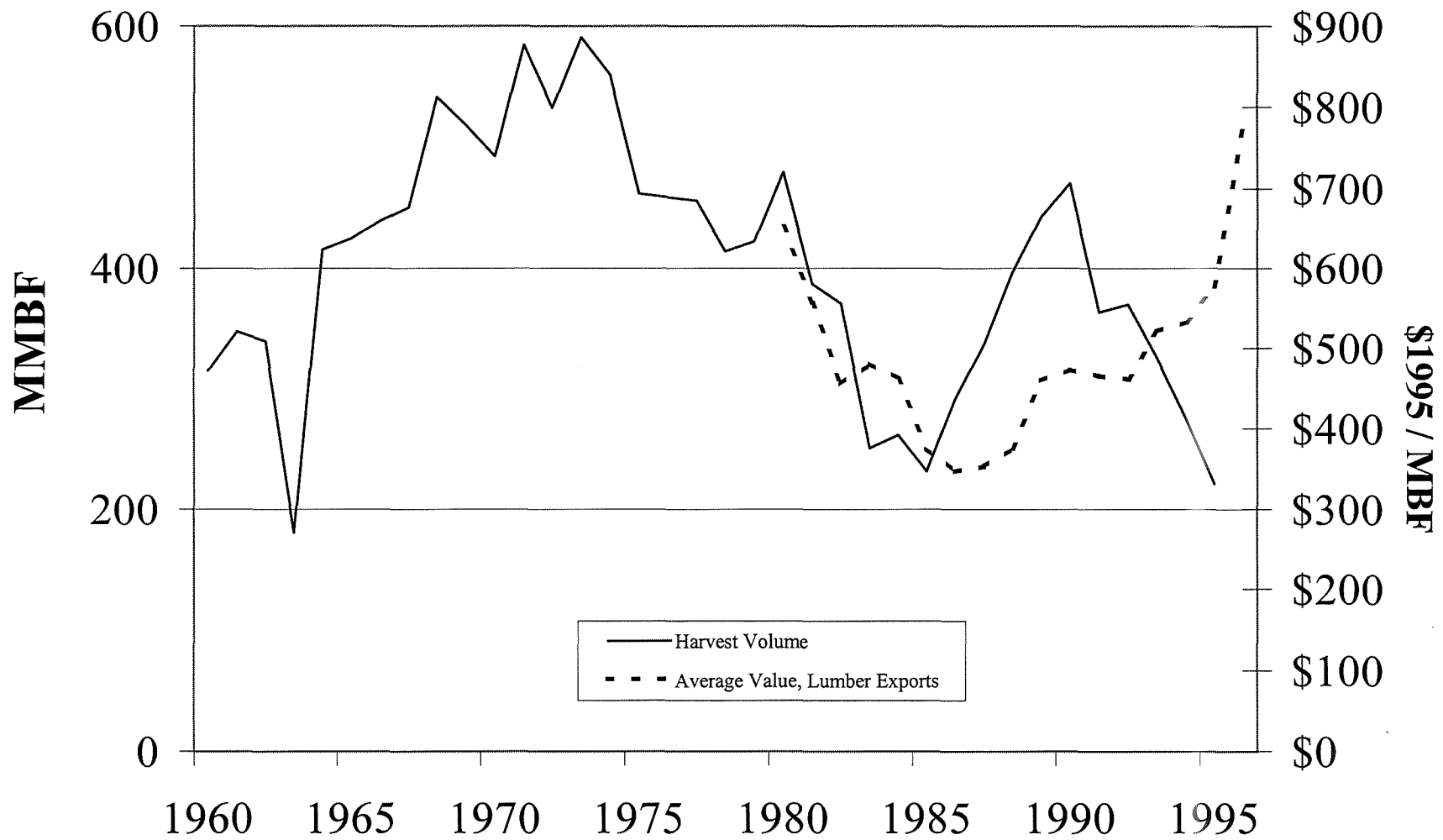
### **Tongass National Forest**

Tongass harvests (Figure 4) have varied widely in the past 35 years depending on markets for cants and pulp as well as other factors. The closure in March 1997 of KPC's pulp mill means there is no longer a large local market for lower grade logs and mill residue. And, much of the harvest is too low grade for sawmills, and operators using Tongass timber will likely be looking to export chips. It is not only markets for wood products that will determine future Tongass harvests, but also the new revision of the Tongass Land Use Management Plan.

### **Other Public Lands**

The harvest from the Chugach National Forest has grown relative to that of the Tongass, but is still only a tiny fraction -around two percent in 1994 and less in 1995- of its harvest volume. Total volume has varied over the last 10 years from 0.4 to 6.5 million board feet (MMBF). In 1996, the Chugach National Forest harvest was 3.3 MMBF. Several proposals to increase logging to harvest timber killed by spruce bark beetles have not resulted in much harvest increase. Much of the beetle kill is on the Kenai Peninsula, where recreation and tourism interests often oppose logging, and future harvest levels in this area are uncertain.

**Figure 4. Tongass Harvest Volume, 1960 - 1995**



The amount of timber harvested from lands owned by the State of Alaska has varied in the last decade from under 10 MMBF to over 25 MMBF. Recently, the state has tried to promote greater harvest of spruce bark beetle killed timber, both to salvage the economic value of this timber and to reduce wild fire hazard. As with federal efforts to harvest beetle killed spruce, success has varied. Much of the harvest from state lands is exported with no Alaska processing.

The state owns a substantial amount of the commercial forest land in the Tanana Valley and Haines State Forests. Unlike federal lands, where timber from the southeast dominates, interior harvests have made up a substantial percentage of state owned timber. Since 1985, interior harvests have ranged from 16 to 70 percent of total state harvest. Some observers believe that greater market acceptance of hardwood lumber could open the door for greater harvests of interior forests<sup>4</sup>, where hardwoods are mixed with currently marketable white spruce.

## Private Lands

Harvests on private land have exceeded those on federal land every year since 1983. As discussed above, Native harvests comprise virtually the entire private timber harvest. There are no good data on private timber harvests. The USFS estimates private as well as public harvests for southeast and southcentral Alaska by looking at exports and mill activity, estimating the amount of private harvests which is not exported, and estimating the harvest which would have been necessary to produce those figures. For 1991-1994, the Alaska Department of Natural Resources (DNR) was able to estimate private harvests, based on information about acres harvested that operators provided under requirements of the Forest Practices Act. In 1996, ISER conducted a telephone survey of logging companies in which we asked how much wood was harvested, who owned the timber, and whether the logs were exported or sold domestically. From this information we were able to develop an estimate of the 1995 harvest on private land. The Alaska Department of Commerce and Economic Development is planning similar surveys covering 1996, and results from these surveys will be provided under separate cover. Until then, 1995 data is the most recent available.

The USFS reports 484.5 MMBF of private harvest in 1995, and ISER estimates 607 MMBF. The difference stems from :

- different assumptions about the amount of private harvest exported as round logs (the major factor),
- different estimates of Tongass logs exported, and
- slightly different estimation periods (ISER's is calendar year, USFS is federal fiscal year).

Figure 5 shows Alaska's timber harvests with the total using each of the two series compared. The DNR/ ISER estimates are higher for three of the five years of comparison, and about the same in 1991 and 1994. We believe the USFS estimates may be somewhat low; in 1995 those estimates would require all privately harvested timber as well as almost 60 MMBF of Tongass harvest to be exported. Only one of the five of our survey respondents who had harvested Native-owned timber reported exporting all of his harvest; the others sold an average of 5 to 10 percent of their harvest locally.

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<sup>4</sup> Alaska DCED, Division of Trade and Development, *Alaska Economy Performance Report, 1996*.



## Wood Processing

Most of Alaska's wood processing activity has been 1) pulp mills, and 2) sawmills processing Tongass timber. In general, it's more profitable to export Alaska timber without processing, as shown by the average unit values Alaska exporters received for their various wood products (Figure 6). Until 1995, exported logs brought, on the average, higher prices per thousand board feet than exported lumber. This disparity also reflects producers' choices about which wood to export. Top quality logs (exported in the round) naturally are more valuable than lower quality logs, even after those logs are milled into lumber.

However, much of Alaska's timber is low quality, suitable primarily for pulp mills. Alaska harvesters aren't necessarily restricted to Alaska pulp mills. In 1994, 73,000 tons of chips were exported from Homer. The amount doubled to 146,000 tons in 1995, with the increase fueled by steadily rising chip prices through late 1995. By the fourth quarter of 1996, average chip prices were half of 1995's annual average, and 1996 quarterly chip exports were 20 to 30 percent below 1995 levels.

## Wood Products Survey

In addition to the logging survey, ISER conducted a wood products manufacturers survey. We contacted all major wood processors and many smaller firms. Our respondents reported exports of cants and lumber, chips, and pulp slightly in excess of the US Department of Commerce data. The employment data we collected also totals about the same as Alaska Department of Labor data<sup>5</sup> Therefore, there's no reasonable way to weight this survey, although we do know that we didn't interview all small wood processors. We believe the processors we did speak to represent the range of processing activities throughout the state, and that the total volume of the small processors, while greater than indicated by our survey, is still only a very small part of Alaska's wood processing industry.

Our respondents reported a wide variety of products. Besides the major products of cants, flitches, lumber and pulp, they also reported:

Frame cabins	Flooring	Door Stock
Log cabins	Cabinets	Molding
House Logs	Firewood	Shop Board
Siding	Furniture	Musical Instruments
Paneling	Shingles	Wood for temples and shrines

Most of these products stayed in Alaska for local consumption. A very small amount-less than 2 percent- was shipped to the Lower 48, and none was reported as exported.

It's difficult to compare the volume of wood used for these products with the total volume harvested and used in Alaska. Many small operators don't record their production in terms that can be converted to board feet. Cabin builders typically reported the number of cabins completed; house logs were often reported in linear feet, with no diameters specified, and those making flooring, furniture and molding often couldn't report any volume estimates.

Employment data collected in our survey indicates that production of house logs and other wood products<sup>6</sup> account for about 8 percent of total wood processing employment. Figure 7 shows how employment is distributed across different products.

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<sup>5</sup> Our survey found 1,029 jobs in all wood processing (including pulp), compared to 935 for Alaska Department of Labor. Our survey includes some proprietor jobs not counted by DoL.

<sup>6</sup> "Other Wood Products" includes all the categories on the list above except house logs, log cabins and firewood

**Figure 5. Estimates of Total Alaska Timber Harvest**  
(Thousands of Board Feet, Scribner Scale)

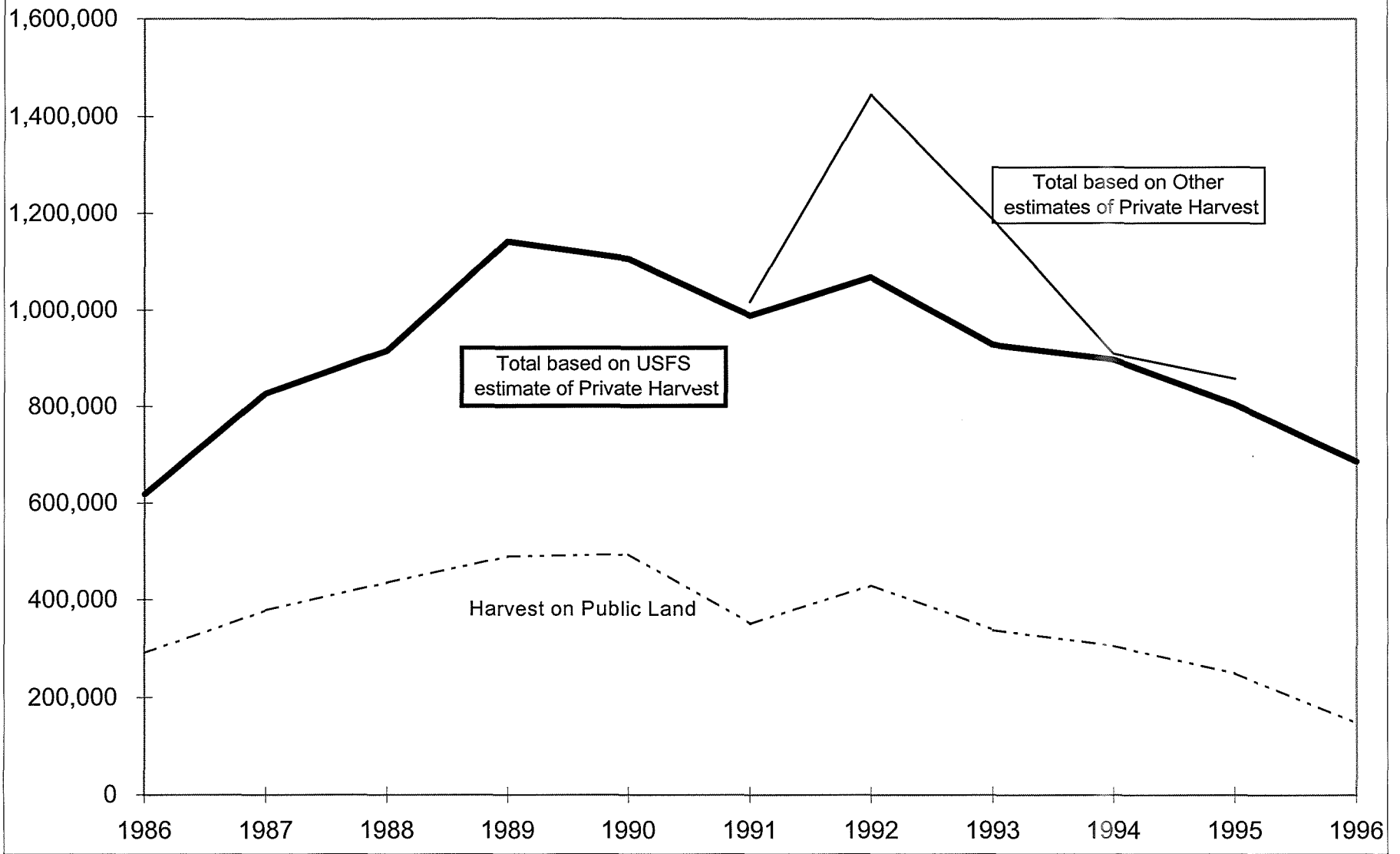
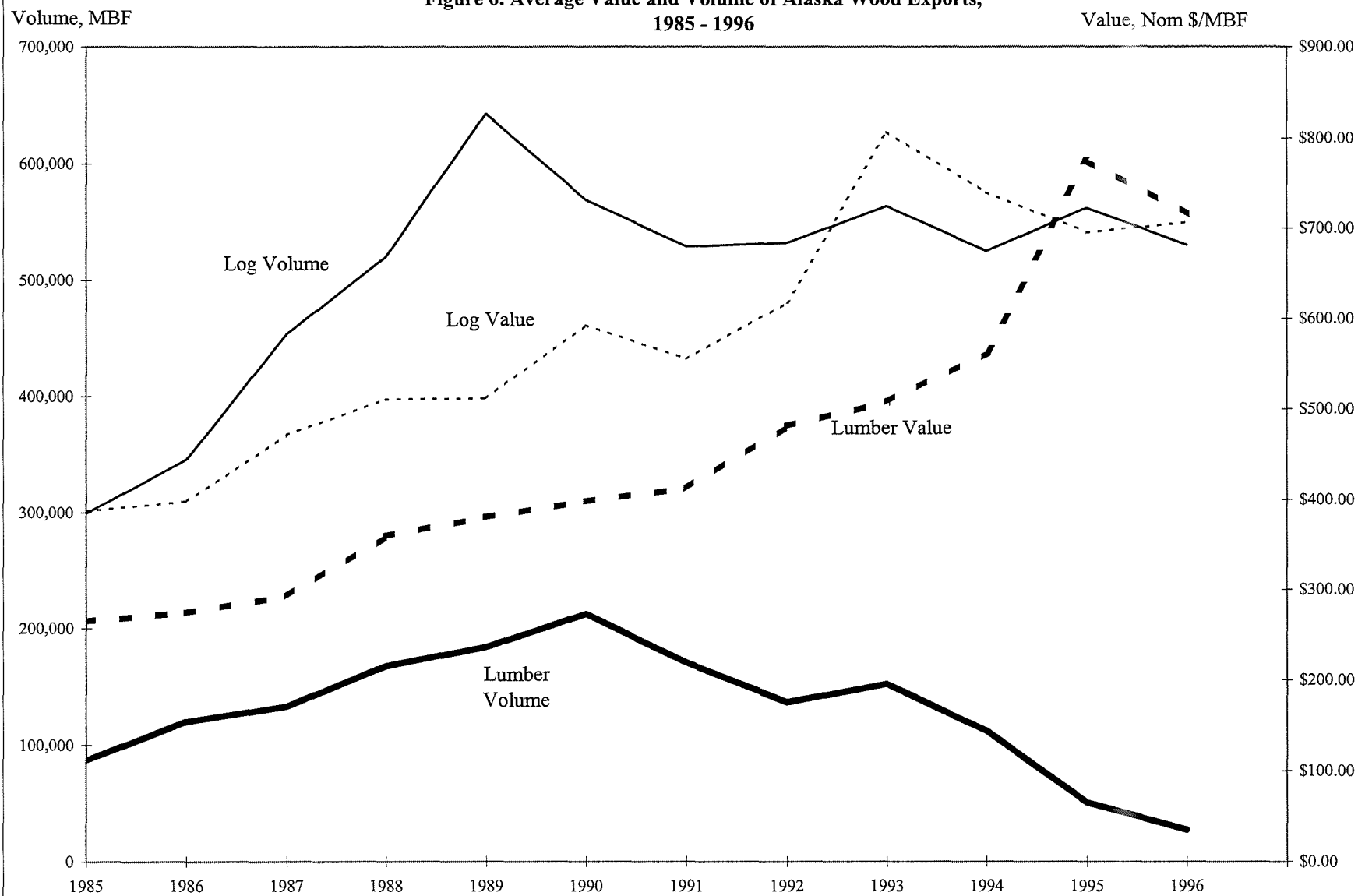
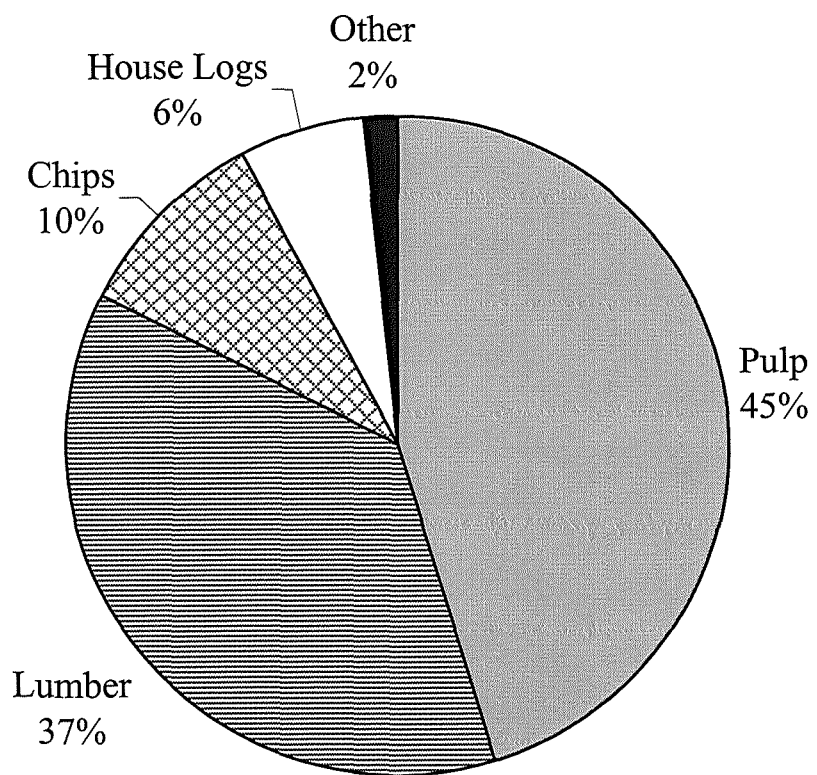


Figure 6. Average Value and Volume of Alaska Wood Exports, 1985 - 1996



**Figure 7. 1995 Wood Processing Employment by Type of Product**



Source: ISER 1996 Wood Processors Survey

## FUEL WOOD HARVESTS

Firewood is an important fuel in Alaska. Statewide, over 14,000 homes, or about one in about 13 households use wood as their primary heating fuel; ranging from fewer than one in 100 in Anchorage, to almost one in two in the Yukon-Koyukuk Census area.<sup>7</sup> Many more households use wood for secondary heat. And vacation cabins and second homes are often heated with wood as well. Total firewood demand is on the order of magnitude of tens of thousands of cords.

Firewood comes from private and public lands. Individuals are often able to cut for free, or for a modest permit fee, and do not have to report exactly how much they take. Commercial cutters have more restrictions, but harvest reporting requirements vary. Many individuals in urban areas (such as Fairbanks, Anchorage, Palmer and Wasilla) buy much of their wood from commercial providers. Those commercial fuel wood sellers may buy wood directly from land owners, or may purchase the 'left overs' of other commercial harvesters who are primarily interested in sawlogs. Thus a substantial amount of commercial fuel wood harvesting on public lands may appear as part of utility harvest, or may not appear at all.

### Public Lands

#### Local Governments

ISER called borough governments in areas where the Census indicated wood heat was relatively common: Fairbanks North Star Borough, Denali Borough, Matanuska-Susitna Borough, City and Borough of Yakutat, and Haines Borough. In general, borough land doesn't seem to be a significant source of fuel wood.

Estimated 1996 Fuel Wood Harvest on Borough Lands		
Borough	Number of Permits	Estimated Harvest
Fairbanks	10 to 15	60 to 70 cords
Denali	No program	None
Matanuska- Susitna	No private permits	None
	Commercial sales for saw logs and house logs	Minimal amount
Yakutat	None (no trees on borough land)	None
Haines	2 or 3	20 to 30 cords

#### State Land

State land is a source of fuel wood for many Alaskan, especially in the Fairbanks area, near the Tanana State Forest. The state holds commercial use fuel wood sales as well as issuing personal use. Fees vary; in areas where the state wants to encourage the removal of dead beetle-killed spruce, harvest permits may be free; elsewhere, harvesters pay varying prices. The Tanana Valley area accounted for 470 of the state's 1996 total of 545 permits issued for personal fuel wood harvest, and 13 out of 17 commercial fuel wood sales.

<sup>7</sup> Data from the 1990 Public Use Microdata Sample from the US Census; and from published tables

<b>Fuel Wood Harvest Contracts Issued on State Lands, 1996</b>		
<b>Region<sup>8</sup></b>	<b>Commercial Permits</b>	<b>Personal Use Permits</b>
Southeast	0	0
Southcentral Coast	4	63
Interior	13	482

Personal use permits in the Fairbanks area allow the permittee to harvest up to 10 cords per year for \$5 per cord. The Fairbanks Regional Forester estimates an average harvest of about 5 cords per year. Commercial sales vary widely, and, as mentioned above, commercial harvesters interested in saw logs and house logs often sell fuel wood as well, either directly or through other businesses. For example, one interior harvester we talked to sold about 100 cords of firewood that came from the tops of trees that were primarily used for lumber and saw logs – his commercial permit was for saw logs, not fuel wood.

### **Federal Land**

In addition to personal use fuel wood permits in the Tongass, there is fuel wood harvest on some BLM lands and on federal military reservations. As with state land, saw log harvesters may also sell fuel wood.

<b>Estimated 1996 Fuel Wood Harvest on Military Reservations</b>		
<b>Borough</b>	<b>Number of Permits</b>	<b>Estimated Harvest</b>
Ft Wainwright	10 to 20	Less than 20 cords
Eielson AFB	Na	About 20 cords
Ft Greely	13 (down/dead wood only)	About 13 cords
	1 commercial sale	75 cords
Ft. Richardson	About 500	About 500 cords
Elmendorf AFB	N/a	Up to 581 cords

Harvest on military reservations varies greatly. Ft. Richardson is currently clearing land for an expanded drop zone by allowing people to harvest for a minimal fee; when this clearing is complete, harvest will decline. A similar program on Eielson AFB several years ago boosted their annual harvest from around 20 to 100 cords. Finally, BLM, which leases much of the reservation lands to the military, occasionally holds timber sales on that land.

### **Private Lands**

ISER was unable to estimate fuel wood harvest on private lands. The multiplicity of owners and small size of these harvests make data collection time consuming and of uncertain accuracy

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<sup>8</sup> The regions defined in this report don't correspond with the regions reported by the State. We've re-grouped their reported areas as follows: Haines, Juneau and Ketchikan into Southeast; Anchorage/Mat-Su and Kenai/Kodiak into Southcentral Coast, and Southwest, Fairbanks, Delta, Tok, and Valdez/Copper River into Interior.

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## Personal Contacts

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Doug Braddock, Property Management, Fairbanks North Star Borough

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**Table A-1. Timber Harvest on Public Lands, 1986 - 1996**

Thousands of Board Feet

Alaska Total		Year	1986	1987	1988	1989	1990	1991	1992	1993	1994	1995	1996
Federal	Forest Svc		272,142	352,231	408,947	461,860	474,000	326,499	395,321	327,050	282,300	223,000	123,500
	BLM		252	185	112	295	407	675	850	1,061			
	BIA		0	0	0	3,600	300	7,253	6,163	1,180			
Total Federal			272,394	352,416	409,059	465,755	474,707	334,427	402,334	329,291	282,300	223,000	123,500
State			18,995	25,884	25,177	22,711	18,603	16,241	26,802	9,383	23,225	26,784	23,955
Total Public			291,389	378,300	434,236	488,466	493,310	350,668	429,136	338,674	305,525	249,784	147,455
Southeast		Year	1986	1987	1988	1989	1990	1991	1992	1993	1994	1995	1996
Federal	Forest Svc		271,579	339,200	407,062	392,344	473,000	325,464	392,348	317,452	275,800	221,100	120,200
	BLM												
	BIA		0	0	0	4	0	8	5	0	0	0	0
Total Federal			271,579	339,200	407,062	392,348	473,000	325,472	392,353	317,452	275,800	221,100	120,200
State			12,400	19,800	16,900	8,311	7,558	2,728	14,247	5,000	20,800	5,800	7,000
Total Public			283,979	359,000	423,962	400,658	480,558	328,200	406,600	322,452	296,600	226,900	127,200
Southcentral		Year	1986	1987	1988	1989	1990	1991	1992	1993	1994	1995	1996
Federal	Forest Svc		563	13,031	1,185	69,516	1,000	1,035	2,973	9,598	6,500	1,900	3,300
	BLM												
	BIA												
Total Federal			563	13,031	1,185	69,516	1,000	1,035	2,973	9,598	6,500	1,900	3,300
State			1,800	1,900	2,100	1,859	507	2,513	1,420	970	309	2,600	8,100
Total Public			2,363	14,931	3,285	71,375	1,507	3,548	4,393	10,568	6,809	4,500	11,400
Interior		Year	1986	1987	1988	1989	1990	1991	1992	1993	1994	1995	1996
Federal	Forest Svc		0	0	0	0	0	0	0	0	0	0	0
	BLM												
	BIA												
Total Federal													
State			4,795	4,184	6,177	12,541	10,565	11,000	11,135	4,435	5,958	18,384	8,855
Total Public			4,795	4,184	6,177	12,541	10,565	11,000	11,135	4,435	5,958	18,384	8,855

Sources: Federal Lands: Warren, "Production, Prices, Employment and Trade in Northwest Forest Industries, Fourth Quarter 1995". State Lands: Alaska Department of Natural Resources, Division of Forestry.

**Table A-2. Timber Harvest on Private Lands, 1986 - 1996**

Thousands of Board Feet

Year	1986	1987	1988	1989	1990	1991	1992	1993	1994	1995	1996
<b>Alaska Total</b>											
Alaska DNR /ISER 1995						666,000	1,014,900	847,700	602,900	607,159	
USFS	327,000	448,200	480,700	651,900	611,200	613,000	603,200	563,200	532,400	549,560	537,700
<b>Southeast</b>											
Alaska DNR /ISER 1995						440,300	545,600	318,700	336,700	386,059	
USFS	327,000	404,000	395,100	531,900	506,100	454,600	445,700	410,400	288,000	315,000	330,100
<b>Southcentral</b>											
Alaska DNR /ISER 1995						201,800	435,300	503,400	207,800	216,640	
USFS		44,200	85,600	120,000	105,100	134,500	123,500	127,200	186,000	230,100	207,600
<b>Interior</b>											
Alaska DNR /ISER 1995						23,900	34,000	25,600	58,400	4,460	
USFS											

Sources: "Alaska DNR" estimates from Alaska Department of Natural Resources, Division of Forestry. ISER estimate from ISER loggers survey, 1996. "USFS" estimates from Timber Supply and Demand 1994, ANILCA section 706(a) report to Congress, USDA Forest Service, Alaska Region. Report No. 15, January 1996

**Table A-3. Estimates of Total Alaska Timber Harvest, 1986 - 1996**

Thousands of Board Feet

	1986	1987	1988	1989	1990	1991	1992	1993	1994	1995	1996
<b>Total Alaska</b>											
Public	291,389	378,300	434,236	488,466	493,310	350,668	429,136	338,674	305,525	249,784	147,455
Private (Ak DNR)						666,000	1,014,900	847,700	602,900	607,159	-
Private (USFS)	327,000	448,200	480,700	651,900	611,200	613,000	603,200	563,200	532,400	549,560	537,700
Total (Ak DNR)						1,016,668	1,444,036	1,186,374	908,425	856,943	
Total (USFS)	618,389	826,500	914,936	1,140,366	1,104,510	987,568	1,066,336	927,474	896,325	803,804	685,155
<b>Southeast</b>											
Public		359,000	423,962	400,658	480,558	328,200	406,600	322,452	296,600	226,900	127,200
Private (Ak DNR)						440,300	545,600	318,700	336,700	386,059	
Private (USFS)		404,000	395,100	531,900	506,100	454,600	445,700	410,400	288,000	315,000	330,100
Total (Ak DNR)						768,500	952,200	641,152	633,300	612,959	
Total (USFS)		763,000	819,062	932,558	986,658	782,800	852,300	732,852	584,600	541,900	457,300
<b>Southcentral</b>											
Public		14,931	3,285	71,375	1,507	3,548	4,393	10,568	6,809	4,500	11,400
Private (Ak DNR/ISER)						201,800	435,300	503,400	207,800	216,640	
Private (USFS)		44,200	85,600	120,000	105,100	134,500	123,500	127,200	186,000	230,100	207,600
Total (Ak DNR/ISER)						205,348	439,693	513,968	214,609	221,140	
Total (USFS)		59,131	88,885	191,375	106,607	138,048	127,893	137,768	192,809	234,600	219,000
<b>Interior</b>											
Public						11,000	11,135	4,435	5,958	18,384	8,855
Private (Ak DNR)						23,900	34,000	25,600	58,400	4,460	-
Total (Ak DNR)						34,900	45,135	30,035	64,358	22,844	8,855

Source: Tables 1 and 2 above.

**Table A-4. Volume of Wood Exports by Destination, 1987 -1996**

Thousand Board Feet of logs and lumber; Short Tons of pulp and chips

<b>Total Exports from Alaska</b>		1987	1988	1989	1990	1991	1992	1993	1994	1995	1996
logs (MBF)	Hemlock	234,230	260,031	278,963	251,500	226,013	212,684	217,853	200,129	250,659	223,519
	Redcedar	36,027	58,312	74,065	62,609	55,312	47,444	60,542	39,563	40,685	22,632
	Spruce	164,387	175,901	251,118	213,334	218,580	225,266	228,789	240,323	228,615	257,254
	Other Softwoods	18,483	25,294	38,915	41,154	28,972	46,599	55,859	45,124	41,591	26,742
	Hardwoods	82	469	65	7	0	77	31	0	21	0
<b>Total Logs</b>		<b>453,209</b>	<b>520,007</b>	<b>643,126</b>	<b>568,604</b>	<b>528,877</b>	<b>532,077</b>	<b>563,074</b>	<b>525,139</b>	<b>561,571</b>	<b>530,147</b>
lumber/cants (MBF)	Hemlock	80,253	98,781	106,055	119,231	95,478	81,363	95,005	68,839	28,367	14,831
	Redcedar	10	113	2,532	5,002	3,069	575	59	0	1407	20
	Spruce	49,085	64,845	72,870	87,776	69,782	52,036	55,856	42,679	20,352	11,934
	Other Softwoods	3,796	3,714	2,303	1	1,979	2,582	94	318	253	69
<b>Total Lumber</b>		<b>133,144</b>	<b>167,453</b>	<b>183,760</b>	<b>212,010</b>	<b>170,308</b>	<b>136,556</b>	<b>151,894</b>	<b>111,836</b>	<b>50,379</b>	<b>26,854</b>
Dissolving Pulp (st)		279,800	306,000	302,700	318,500	293,400	307,200	214,500	178,100	139,500	124,500
Paper Pulp (st)		27	31	22	44	17	21	5.2	0	0	100
Chips (short tons)		252	11,505	85,866	28,283	101,397	15,509	56,289	73,503	146,277	199,862

<b>To Japan</b>		1987	1988	1989	1990	1991	1992	1993	1994	1995	1996
logs (MBF)	Hemlock	142,786	137,983	201,145	171,198	137,515	116,016	119,343	116,970	116,903	129,788
	Redcedar	11,677	18,871	21,396	28,479	19,836	21,936	25,690	23,994	18,880	13,042
	Spruce	130,116	142,422	228,074	199,692	182,066	174,459	189,109	213,207	189,840	218,545
	Other Softwoods	16,621	22,379	38,573	39,922	25,570	41,987	45,092	41,652	31,305	21,681
	Hardwoods	29	31	65	7	0	0	31	0	0	0
<b>Total Logs</b>		<b>301,229</b>	<b>321,686</b>	<b>489,253</b>	<b>439,298</b>	<b>364,987</b>	<b>354,398</b>	<b>379,265</b>	<b>395,823</b>	<b>356,928</b>	<b>383,056</b>
lumber /cants (MBF)	Hemlock	79,318	96,686	106,055	114,227	90,749	78,222	92,075	66,958	28,019	14,761
	Redcedar	0	113	2,532	1,140	2,863	575	0	0	1,407	20
	Spruce	47,919	61,404	71,854	85,322	66,072	46,372	50,915	39,952	19,672	11,934
	Other Softwoods	3,441	1,601	2,215	0	1,965	2,373	567	257	253	69
<b>Total Lumber</b>		<b>130,678</b>	<b>159,804</b>	<b>182,656</b>	<b>200,689</b>	<b>161,649</b>	<b>127,540</b>	<b>143,557</b>	<b>107,166</b>	<b>49,351</b>	<b>26,784</b>
Dissolving Pulp (st)		105	120	111	93	100	91	96	25	28	28
Paper Pulp (st)		9	16	10	19	8	11	5	0	0	0

<b>To Other Countries</b>		1987	1988	1989	1990	1991	1992	1993	1994	1995	1996
logs (MBF)	Hemlock	91,444	122,048	77,818	80,302	88,498	96,668	98,510	83,159	133,756	93,731
	Redcedar	24,350	39,441	52,669	34,130	35,476	25,508	34,852	15,569	21,805	9,590
	Spruce	34,271	33,479	23,044	13,642	36,514	50,807	39,680	27,116	38,775	38,709
	Other Softwoods	1,862	2,915	342	1,232	3,402	4,612	10,767	3,472	10,286	5,061
	Hardwoods	53	438	0	0	0	77	0	0	21	0
<b>Total Logs</b>		<b>151,980</b>	<b>198,321</b>	<b>153,873</b>	<b>129,306</b>	<b>163,890</b>	<b>177,679</b>	<b>183,809</b>	<b>129,316</b>	<b>204,643</b>	<b>147,091</b>
lumber/cants (MBF)	Hemlock	935	2,095	0	5,004	4,729	3,141	2,930	1,881	348	70
	Redcedar	10	0	0	3,862	206	0	59	0	0	0
	Spruce	1,166	3,441	1,016	2,454	3,710	5,664	4,941	2,727	680	0
	Other Softwoods	355	2,113	88	1	14	209	-473	61	0	0
<b>Total Lumber</b>		<b>2,466</b>	<b>7,649</b>	<b>1,104</b>	<b>11,321</b>	<b>8,659</b>	<b>9,016</b>	<b>8,337</b>	<b>4,670</b>	<b>1,028</b>	<b>70</b>
Dissolving Pulp (st)		279,695	305,880	302,589	318,408	293,300	307,109	214,404	178,075	139,472	124,472
Paper Pulp (st)		18	15	12	25	9	11	0	0	0	100

Source: Warren, Debra D. Production, Prices, Employment and Trade in Northwest Forest Industries. First Quarter 1991 through Fourth Quarter 1993. Portland, Ore: US Department of Agriculture, USFS, Pacific Northwest Research Station.

**Table A-5. Average Value of Wood Exports by Destination, 1987 - 1996**

Dollars per MBF for logs and lumber; Dollars per short ton for pulp and chips

Average Value, All Alaska Exports		1987	1988	1989	1990	1991	1992	1993	1994	1995	1996
logs	Hemlock	\$371.37	\$411.46	\$431.46	\$457.05	\$421.14	\$464.73	\$643.41	\$579.34	\$539.02	\$537.02
	Redcedar	\$375.44	\$443.01	\$404.27	\$439.35	\$397.51	\$517.51	\$687.89	\$647.25	\$652.43	\$678.28
	Spruce	\$587.59	\$641.21	\$620.86	\$781.02	\$717.43	\$726.64	\$937.01	\$811.57	\$779.98	\$817.34
	Other Softwoods	\$905.95	\$784.10	\$590.76	\$673.66	\$708.38	\$924.12	\$1,036.40	\$1,131.32	\$1,211.13	\$1,070.38
	Hardwoods	\$552.67	\$543.71	\$261.54	\$1,285.71	\$0.00	\$2,662.34	\$485.36		\$1,040.61	-
	Average, all Logs	\$471.95	\$510.96	\$511.90	\$592.32	\$555.08	\$617.60	\$806.47	\$739.01	\$695.12	\$705.98
lumber /cants	Hemlock	\$241.19	\$296.81	\$333.46	\$364.44	\$364.64	\$393.55	\$454.08	\$468.11	\$608.59	\$557.28
	Redcedar	\$300.00	\$300.89	\$209.72	\$211.72	\$369.83	\$396.52	\$355.93		\$817.34	\$688.30
	Spruce	\$374.07	\$456.24	\$456.91	\$453.14	\$480.80	\$629.62	\$589.18	\$713.84	\$1,010.91	\$914.09
	Other Softwoods	\$309.01	\$329.29	\$280.63	\$0.00	\$363.32	\$280.40	\$505.13	\$254.72	\$221.34	\$204.08
	Average, All Lumber	\$292.11	\$359.27	\$380.04	\$397.56	\$412.31	\$481.40	\$507.35	\$561.28	\$775.01	\$715.05
Dissolving Pulp	\$469.22	\$605.36	\$732.16	\$624.88	\$557.12	\$539.74	\$528.08	\$560.60	\$878.25	\$658.99	
Paper Pulp	\$461.69	\$516.46	\$631.30	\$458.11	\$410.41	\$422.99	\$390.08			\$545.45	
Chips	\$45.52	\$48.67	\$42.16	\$75.38	\$78.01	\$21.73	\$110.13	\$108.43	\$137.38	\$83.79	

Average Value, Exports to Japan		1987	1988	1989	1990	1991	1992	1993	1994	1995	1996
logs	Hemlock	\$491.34	\$563.71	\$478.00	\$481.74	\$489.62	\$559.74	\$735.02	\$641.77	\$633.41	\$562.49
	Redcedar	\$390.68	\$435.59	\$465.88	\$440.68	\$447.87	\$537.52	\$664.34	\$658.75	\$679.45	\$668.13
	Spruce	\$678.69	\$718.39	\$637.74	\$782.91	\$750.06	\$750.71	\$980.78	\$826.66	\$815.27	\$851.47
	Other Softwoods	\$974.44	\$846.25	\$586.11	\$668.33	\$702.06	\$942.41	\$1,136.89	\$1,155.88	\$1,209.47	\$1,281.24
	Hardwoods	\$716.69	\$903.23	\$261.54	\$1,265.71			\$485.36			
	Average, All Logs	\$595.04	\$644.36	\$560.43	\$632.95	\$632.15	\$697.71	\$900.53	\$797.86	\$798.61	\$771.64
lumber /cants	Hemlock	\$240.94	\$296.44	\$333.46	\$369.54	\$370.90	\$397.54	\$458.94	\$473.34	\$607.44	\$558.77
	Redcedar		\$300.89	\$209.72	\$384.21	\$384.91	\$396.52			\$817.34	\$688.30
	Spruce	\$369.14	\$443.62	\$453.20	\$442.51	\$480.02	\$564.05	\$558.36	\$669.60	\$989.27	\$914.09
	Other Softwoods	\$302.24	\$313.55	\$279.91	\$0.00	\$362.34	\$287.22	\$587.30	\$190.66	\$221.34	\$204.08
	Average, All Lumber	\$289.57	\$353.17	\$378.20	\$400.65	\$415.65	\$456.05	\$494.00	\$545.84	\$763.63	\$716.24
Dissolving Pulp	\$480.87	\$590.48	\$741.49	\$671.57	\$614.33	\$589.78	\$578.17	\$557.17	\$718.39	\$711.24	
Paper Pulp	468	462	666	491	460	445	390				

Average Value, Exports to Other Countries		1987	1988	1989	1990	1991	1992	1993	1994	1995	1996
logs (MBF)	Hemlock	\$184.04	\$239.33	\$311.16	\$404.41	\$314.73	\$350.70	\$532.43	\$491.53	\$456.52	\$501.75
	Redcedar	\$368.13	\$446.56	\$379.24	\$438.24	\$369.35	\$500.30	\$705.25	\$629.53	\$629.03	\$692.08
	Spruce	\$241.71	\$312.88	\$453.79	\$753.35	\$554.73	\$643.99	\$728.41	\$692.92	\$607.20	\$624.65
	Other Softwoods	\$294.58	\$306.96	#####	\$846.37	\$755.88	\$757.61	\$615.55	\$836.68	\$1,216.18	\$167.08
	Hardwoods	\$462.92	\$518.26				\$2,662.34				
	Total Logs	\$227.98	\$294.57	\$357.59	\$454.28	\$383.44	\$457.81	\$612.37	\$558.88	\$514.62	\$534.99
lumber/cant (MBF)	Hemlock	\$262.40	\$313.89		\$248.02	\$244.51	\$294.18	\$301.35	\$281.94	\$701.18	\$243.08
	Redcedar	\$300.00			\$160.80	\$160.25		\$355.93	#DIV/0!		
	Spruce	\$576.68	\$681.44	\$719.29	\$822.73	\$494.69	\$1,166.45	\$906.77	\$1,361.98	\$1,636.94	
	Other Softwoods	\$374.63	\$341.22	\$298.75	\$0.00	\$500.87	\$202.97	\$603.63	\$524.61		
	Total Lumber	\$426.71	\$486.71	\$684.47	\$342.78	\$349.96	\$840.00	\$737.23	\$915.59	\$1,321.33	\$259.72
Dissolving Pulp (st)	\$469.22	\$605.37	\$732.16	\$624.87	\$557.10	\$539.73	\$528.06	\$560.60	\$878.28	\$658.98	
Paper Pulp (st)	\$458.82	\$571.22	\$604.65	\$434.16	\$363.33	\$401.38					

Source: Warren, Debra D. Production, Prices, Employment and Trade in Northwest Forest Industries. First Quarter 1991 through Fourth Quarter 1995. Portland, Ore: US Department of Agriculture, USFS, Pacific Northwest Research Station.

## Table A-6. Employment in Timber Harvesting and Wood Products Industries, 1959 - 1996

(Average Annual Employment)

Year	Logging	Lumber	Pulp & Paper	Total
1959	427	364		
1960	619	386		
1961	379	283		
1962	448	288		
1963	580	277		
1964	646	300	1,179	2,125
1965	762	318	1,230	2,310
1966	900	365	1,060	2,325
1967	1,229	387	958	2,573
1968	1,117	454	965	2,536
1969	990	593	965	2,548
1970	1,055	688	1,015	2,757
1971	1,095	659	1,010	2,764
1972	1,175	625	1,015	2,814
1973	1,444	733	1,072	3,249
1974	1,555	840	1,243	3,638
1975	1,397	779	1,203	3,378
1976	1,246	804	1,200	3,250
1977	1,382	845	1,250	3,477
1978	1,053	789	1,156	2,998
1979	1,221	917	1,096	3,234
1980	1,354	1,116	1,043	3,512
1981	1,129	1,051	985	3,164
1982	1,176	886	818	2,880
1983	1,099	743	755	2,597
1984	983	718	600	2,301
1985	1,186	506	628	2,319
1986	1,528	306	828	2,662
1987	1,571	599	885	3,055
1988	1,975	695	947	3,617
1989	2,301	593	978	3,872
1990	2,345	715	907	3,966
1991	1,789	817	910	3,515
1992	1,725	615	908	3,248
1993	1,702	645	859	3,206
1994	1,560	689	533	2,782
1995	1,809	416	519	2,744
1996	1,513	366	524	2,403

Source: Alaska Department of Labor, Research and Analysis Division

## **APPENDIX B. LOGGERS SURVEY**

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Survey Instrument

Summary of Responses

Weighting Procedures

1996 ALASKA TIMBER HARVEST AND WOOD PRODUCTS SURVEY

Part A. Logging

Introduction:

Hello, this is \_\_\_\_\_ with the University of Alaska Anchorage. We are conducting a short survey asking about timber harvests and primary wood processing in Alaska. This is part of work we are doing to provide regular and timely information about the timber and wood products industries in Alaska for the Anchorage Forestry Sciences Laboratory. This survey takes 5 to 20 minutes. Your answers will not be published individually, but rather will be used in combination with other firms to estimate state and regional totals. (We are not asking about prices or costs or any items involving dollar amounts.)

I would like to know how much timber you harvested by species, in what region of the state you did the harvesting, who owns the lands harvested, and how many people you employ in your operation.

I would like this data for calendar year 1995.

Company Name \_\_\_\_\_

Address \_\_\_\_\_

Contact Person \_\_\_\_\_

Phone \_\_\_\_\_ Fax \_\_\_\_\_

Call Record:	
Date	Action
1. _____	_____
2. _____	_____
3. _____	_____
4. _____	_____
5. _____	_____

Before we begin, I would like to know what log rule you will be using when you give me these quantities. (16 or 32 foot logs. And most will use Scribner scale.)

Region: \_\_\_\_\_

Owner	MMBF	Species	Disposition
1. _____	1. _____	1. _____	1. _____
2. _____	2. _____	2. _____	2. _____
3. _____	3. _____	3. _____	3. _____
4. _____	4. _____	4. _____	4. _____



Region: \_\_\_\_\_

Owner	MMBF	Species	Disposition
1. _____	1. _____	1. _____	1. _____
2. _____	2. _____	2. _____	2. _____
3. _____	3. _____	3. _____	3. _____
4. _____	4. _____	4. _____	4. _____

Now I would like to ask you a few questions about employment.

1. Number of full-time, year-round employees: 1. \_\_\_\_\_
2. Number of full-time, seasonal employees: 2. \_\_\_\_\_ Months worked \_\_\_\_\_
3. Number of part-time, year-round employees: 3. \_\_\_\_\_ Hours/week \_\_\_\_\_
4. Number of part-time, seasonal employees: 4. \_\_\_\_\_ Months worked \_\_\_\_\_

Thank you for giving us this information. Would you like a copy of the completed report?      Yes      No

(If yes): To whom should we send a copy of the final report:

\_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_

Below are the results of the telephone survey ISER conducted of loggers in the state of Alaska in May and June of 1996. These data are not weighted. We developed a list of 26 firms; 6 are out of business; 6 we could not contact; 4 declined the survey and we have 10 completed surveys. Our survey respondents harvested 627 MMBF of wood, broken down by species and region as follows:

<b>Reported Harvest by Species and Region (MBF)</b>			
Species	Total Harvest Reported	Southeast	Remainder Alaska
Spruce	204,432	118,817	85,615
Hemlock	371,860	360,460	11,400
Cedar	64,193	64,193	0
Other Softwoods	150	150	0
Hardwoods	145	0	145
TOTAL	640,780	543,620	97,160

This harvest may also be broken down by timber ownership:

<b>Reported Harvest by Timber Ownership and Region (MBF)</b>			
Ownership	Total Harvest Reported	Southeast	Remainder Alaska
Federal	362,480	362,480	0
State & Local	2,965	1,500	1,465
Native	270,544	178,044	92,500
Other Private	4,815	1,620	3,195
TOTAL	640,804	543,644	97,160

Some logs are exported directly; some stay in Alaska or the Lower 48 for at least minimal processing:

<b>Disposition of Harvest by Owner</b>			
Owner	% processed in Alaska	% shipped to Lower 48	% exported
All Owners	56%	5%	39%
Federal Government	93%	3%	4%
State & Local Gov't	52%	24%	24%
Alaska Native	6%	7%	87%
Other Private Owners	48%	47%	5%

Reported Employment:

<b>Reported Jobs: 1995 Logging Activities</b>			
	Statewide	Southeast	Remainder Alaska
Total Reported Jobs	1311	1201	110
Full Time Year Round	437	379	58
Full Time Seasonal	626	577	49
Average Duration of Seasonal Work	9.4 months	9.7 months	4.7 months
Part Time Seasonal	248	245	3
Average Duration		9.4 months	NA

## Weighting

There was no stratification in the selection of logging firms – we tried to contact everyone we could identify. However, we believe that we got better response rates from firms cutting on public land, since they report those logging activities as public information anyway. So, for harvests on public lands, we constructed a weight based on the total federal lands harvest reported by the USFS divided by our survey total of harvest from federal lands.

$$199,726 / 166,676 = 1.20$$

For private harvests, our survey may shed light on how much timber is sent to the lower 48 states or kept in Alaska; we don't want to use current assumptions about those proportions in developing the weight. So, we construct this weight using information about log exports. We divide USDoC export data by our survey reports of exported logs.

$$561,500 / 242,326 = 2.317$$

This approach assumes that the percentage exported was NOT correlated with response rate.

## **APPENDIX C. WOOD PRODUCT MANUFACTURERS' SURVEY**

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Survey Instrument

Summary of Responses

1996 ALASKA TIMBER HARVEST AND WOOD PRODUCTS SURVEY

Part B. Primary Wood Processing

Introduction:

Hello, this is \_\_\_\_\_ with the University of Alaska Anchorage. We are conducting a short survey asking about timber harvests and primary wood processing in Alaska. This is part of work we are doing to provide regular and timely information about the timber and wood products industries in Alaska for the Anchorage Forestry Sciences Laboratory. This survey takes 5 to 20 minutes. Your answers will not be published individually, but rather will be used in combination with other firms to estimate state and regional totals. (We are not asking about prices or costs or any items involving dollar amounts.)

I would like to know what wood products you make. how much timber and what species you use, where the the timber was harvested, and who the landowner is. Also I would like to know how many people you employed in your operation.

I would like this data for calendar year 1995.

Company Name \_\_\_\_\_

Address \_\_\_\_\_

Contact Person \_\_\_\_\_

Phone \_\_\_\_\_ Fax \_\_\_\_\_

Call Record:	
Date	Action
1.	_____
2.	_____
3.	_____
4.	_____
5.	_____

Before we begin, I would like to know

(a) if you buy logs or lumber for your operation. (If lumber proceed with questions except exclude where logs come from, ownership, quantity).

(b) what log rule you will be using when you give me these quantities. (16 or 32 foot logs. And most will use Scribner scale.)

What products do you make? (How are the logs processed?) (List details on next page.)

Product	Quantity	How Processed	Percent Sold:		
			Alaska	U.S.	Exported
1. _____	1. _____	1. _____	1. _____	1. _____	1. _____
2. _____	2. _____	2. _____	2. _____	2. _____	2. _____
3. _____	3. _____	3. _____	3. _____	3. _____	3. _____

What is the source of your wood?

Region	Owner	Species	Quantity
1. _____	1. _____	1. _____	1. _____
2. _____	2. _____	2. _____	2. _____
3. _____	3. _____	3. _____	3. _____
4. _____	4. _____	4. _____	4. _____

Now I would like to ask you a few questions about employment.

- 1. Number of full-time, year-round employees: 1. \_\_\_\_\_
- 2. Number of full-time, seasonal employees: 2. \_\_\_\_\_ Months worked \_\_\_\_\_
- 3. Number of part-time, year-round employees: 3. \_\_\_\_\_ Hours/week \_\_\_\_\_
- 4. Number of part-time, seasonal employees: 4. \_\_\_\_\_ Months worked \_\_\_\_\_

Thank you for giving us this information. Would you like a copy of the completed report?      Yes      No

(If yes): To whom should we send a copy of the final report:

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We would like to make our list of wood processors as complete as possible. Do you know of other wood processors in your area we should call?

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Thank you.

Below are the results of the telephone survey ISER conducted of primary wood processors in the state of Alaska in May and June of 1996. These data are not weighted. We developed a list of 37 firms; 3 were out of business; we couldn't contact 4, and we have 34 completed surveys. Most firms made more than one product, so the count below of how many firms make each product totals more than 34. Southeast Alaska has fewer, larger firms than the rest of the state; most do minimal processing such as cants and flitches, or produce lumber. For the rest of Alaska, lumber and house logs are the most common product. "Other" wood products reported included siding, paneling, flooring, cabinet stock, cabinets, pole furniture, and cedar shingles.

<b>Number of Firms That Report Producing Each Product</b>			
PRODUCT	Southeast	Remainder Alaska	Total
raw logs	1	2	3
cants, flitches	6		6
rough lumber	7	12	19
pulp	1	2	3
chips	2	2	4
other	1	4	5
house logs		13	13
firewood		2	2

<b>Quantity Produced, by Product and Region</b>			
PRODUCT	Southeast	Remainder Alaska	Total
cants, flitches (MBF)	74,425	0	74,425
lumber (MBF)	24,653	2,491	27,144
pulp (ST)	156,000	60,000	216,000
chips (ST)	58,090	157,160	215,250
other	1,000	40,068	41,068
house logs	0	11,167	11,167
firewood	0	1,250	1,250



The table below shows the disposition of wood products made in Alaska. As we expected, the forest products industry in southeast Alaska is dominated by exports; in the remainder of the state, a much higher percentage of production is for local use. This is partly true because southeast makes more export-specific products (such as cants), and the rest of the state produces more locally used products (such as firewood). But even for products such as lumber, southeast mills produce for export, and mills elsewhere in the state for local use. Chips are an exception. Although chips in southeast are ultimately destined for export, they are first processed into pulp. Because southcentral has no major pulp mills, and because there's been strong worldwide demand for chips in recent years, the majority of chips produced in southcentral are exported.

<b>Disposition of Wood Products Manufactured in Alaska</b>									
	<b>Southeast</b>			<b>Remainder Alaska</b>			<b>Total Alaska</b>		
<b>PRODUCT</b>	<b>Sold in Alaska</b>	<b>Sold to Lower 48</b>	<b>Exported</b>	<b>Sold in Alaska</b>	<b>Sold to Lower 48</b>	<b>Exported</b>	<b>Sold in Alaska</b>	<b>Sold to Lower 48</b>	<b>Exported</b>
cants, flitches	0%	27%	73%				0%	27%	73%
rough lumber	5%	68%	26%	100%	0%	0%	17%	60%	23%
pulp	0%	9%	91%	0%	0%	100%	0%	7%	94%
chips	100%	0%	0%	1%	0%	99%	28%	0%	72%
other	0%	100%	0%	100%	0%	0%	98%	2%	0%
house logs				100%	0%	0%	100%	0%	0%
firewood				100%	0%	0%	100%	0%	0%

Our respondents reported using a little over 300 MMBF of wood to manufacture their products.

<b>Sources of Wood Processed by Alaska Manufacturers (MBF)</b>				
<b>Owner</b>	<b>Southeast Alaska</b>	<b>Remainder Alaska</b>	<b>Total Alaska</b>	<b>Canada</b>
Federal Gov't	177,511	89	177,600	
State Gov't		9,792	9,792	
Native	2,508	23,400	25,908	
Other Private	50	17,351	17,401	
Local Gov't		40,315	40,315	
<b>Total</b>	<b>180,069</b>	<b>90,927</b>	<b>270,996</b>	<b>40,000</b>