Tongass National Forest:

2021 Sawmill Capacity and Production Report

INTRODUCTION

Since 2000, the United States Forest Service (USFS), Alaska Region Office has conducted an annual key-informant survey of sawmills across the Tongass National Forest, spanning from Haines to Metlakatla. The purpose of the annual survey is to gather information regarding current sawmill operations including total estimated production capacity, actual production, wood supply source, forest products, market destinations, and general business expansion and retention challenges. The *Tongass National Forest: 2021 Sawmill Capacity and Production Report* summarizes key survey findings, provides a brief supplemental discussion, and presents a longitudinal perspective of sawmill performance during the past twenty-one years. Survey results are organized into seven sections:

- Longitudinal survey results
- Sawmill overview
- Capacity and production volume
- Wood supply source
- Primary product by species
- Production volume by product
- Young growth timber utilization
- Markets
- Preferred timber sale size and volume under contract
- Log exports

Sawmill key-informant survey results provide a framework for assessing sawmill performance over time, current business conditions and challenges, manufactured products and markets, and timber harvest from public and private lands, and regional trends in timber utilization.

This year, the sawmill survey pool was expanded for the first time since inception to include eight additional sawmill operations. This was done to improve representation of the region's small mills and gain a better perspective of the current industry, timber demand, and markets. In addition, the survey instrument was expanded with two new questions designed to provide key data needed to inform and support planning efforts on the Tongass National Forest. Last, a section about log exports from the Tongass National Forest has been added to expand the discussion around markets and demand for timber for local processing and for international and interstate shipments of roundwood logs harvested from the Tongass.

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METHODS

The 2021 sawmill survey, covering January to December 2021 production, was conducted from April to June 2022. Surveys were conducted via onsite interviews. Rather than utilize a random sampling method to collect input, the USFS Alaska Region conducts a key-informant survey of a subset of Southeast sawmills operating on a regular basis. To allow comparative longitudinal analysis, the survey instrument and population frame remained consistent from 2000 to 2019 and includes questions about capacity, equipment, jobs, sawmill activity, source of raw materials, products, and markets. (Table 1). The survey was not conducted for 2020 because of staffing changes, travel restrictions, and data collection challenges during the COVID-19 pandemic. Table 1 differs from past reports because it includes two new questions about young growth timber utilization and timber sale size preference added for 2021.

Table 1. Survey Instrument Summary

Business Profile	Sawmill Activity	Primary Products	Other
Business Name, Owner's Name, Location, Sawmill equipment description	Estimated processing capacity, Actual production, Percent overrun, Percent underrun	Primary products, Destination markets	Log source, Employment, Young growth utilization, Preferred timber sale size

POPULATION FRAME

The population frame is a subset Southeast Alaska mills established in 2000 using criteria that required: 1) regular, consistent operation and 2) medium to large size classification. Neither of these criteria was defined in tangible metrics. In 2000, there were 20 sawmills that evolved into 22 sawmills with the subdivision of one sawmill in 2007. To maintain longitudinal time series consistency and preserve comparative value, the annual sawmill survey has only included the original set of sawmills established in 2000. Over time, many of the remaining original subset of sawmills identified in 2000 have either closed or contracted to a point where they are not substantively larger than small mills that have never been included in the survey. Numerous small sawmills (0.25-1.0 MMBF annually) are also a component of the greater Southeast Alaska forest products industry, operating on a seasonal, part-time, or contingent basis across the region. These mills have never been surveyed and were excluded from the survey pool in past reports.

When the survey was initiated in 2000, 20 medium (1.0-5.0 MMBF annually)- to large-scale sawmills (> 5.0 MMBF annually) operated across the Tongass National Forest with the greatest concentration located in southern Southeast Alaska. Since 2000, more than half (59 percent) of these sawmills have closed and been uninstalled; no new sawmills of equal size classification have been established to date. Yet, the survey pool has never changed. No mills have ever been added and no mills have ever been removed even though several are operating at a fraction of their 2000 output. The most recent mill survey, conducted for 2019[1], found that of original pool of 22 sawmills, four were operating, five were idle, and thirteen had been uninstalled. Thus, the entire Southeast Alaska wood products industry was being represented by just four active mills. These were the Viking Lumber Company, Icy Straits Lumber and Milling Company, Western Gold Cedar Products, and Falls Creek Forest Products.

To improve representation, inclusiveness, and raise awareness of the needs and contributions of the small sawmill industry, eight small sawmills have been added to the survey pool for 2021 (Table 2). These mills are not new; they were selected from a larger population of all known mills using a combination of three criteria: a history of purchasing timber from the Tongass National Forest, a valid Alaska business license to manufacture wood products, and/or a recommendation from Tongass timber management staff. Expanding the survey pool will improve representation of the industry. Data collected across a wider geographic area will capture changes in the business landscape, product output, and local economic impacts such as employment in rural communities while adding to the time series data used to identify trends in production, raw material needs, and markets over time. Rather than a full census of all mills, the survey population frame listed in Table 2 represents a sample of the total number of mills installed in Southeast Alaska. In addition to the eight additional mills, Table 2 shows that during the 2021 cycle, Falls Creek Forest Products was sold and name changed to Peak Engineering, Thuja Plicata Lumber closed permanently, and Good Faith Lumber Company, which reverted to Thorne Bay Wood Products in 2017, remains idle, but was purchased in late summer with expectation to be operating in CY23.

Table 2. Sawmill Population Frame, Calendar Years 2000 – 2021. Mill names in bold added to survey pool for 2021

Active (15)	Idle (1)	Uninstalled (14)
D & L Woodworks Icy Straits Lumber and Milling Company The Mill Peak Engineering (name changed from Falls Creek Forest Products in 2021) St. Nick Forest Products Viking Lumber Company Western Gold Cedar Products **Alaska Specialty Woods** **Fair and Square Lumber** **JK Forest Products** **K&D Lumber Company** **Kevin Merry** **Luther Coby** **Mike Allen Enterprises** **Tenakee Logging Company**	Thorne Bay Wood Products (formerly Good Faith Lumber)	Alaska Fibre Annette Island Sawmill Chilkoot Lumber Company Gateway Forest Products Ketchikan Renaissance Group Herring Bay Lumber Pacific Log and Lumber Metlakatla Forest Products Silver Bay Incorporated Kasaan Mountain Lumber and Log Thorne Bay Enterprises Porter Lumber Company Northern Star Cedar Thuja Plicata Lumber

[1] Survey not conducted for 2020 owing to staffing issues and challenges associated with the COVID-19 pandemic

LONGITUDINAL SURVEY RESULTS

To avoid disrupting the continuous time series of sawmill data collected since 2000, results have been separated with subtotals for the original survey pool and the added mills. Note that the results for 2021 in Table 3 include the addition of eight sawmills located throughout the region, as discussed above. For the purposes of this report, total installed capacity includes the wood processing capacity of fifteen active and one idle sawmill (N = 16). Capacity is estimated according to manufacturer specifications for the equipment installed in the mill observed during annual visits. Capacity is defined in forest sector operations literature as the net sawlog volume that could be utilized by the sawmill, as currently configured, during a standard 250-day per year, two shifts per day annual operating schedule – and not limited by the availability of workforce, raw materials, or market conditions. Table 3 shows that total installed capacity in surveyed mills in 2021 was 155,500 MBF. Actual sawmill production during 2021 was approximately 16,751 MBF, an increase of 1,541 MBF (10.1 percent) compared to 2019. Sawmill capacity remained significantly underutilized in 2021; regional capacity utilization rate, based on an installed capacity of 155,500 MBF, is 11 percent. Sawmill employment increased from 50 FTEs in 2019 to 80 FTEs in 2021, including owners, operators, and other employees. Of course, this is partly due to including eight sawmills to the mill survey, but Table 4 shows that the original survey pool had a total employment of 60 FTEs in 2021 an increase of 10 FTEs since 2019. The eight sawmills added in 2021 had 19.5 FTEs.

Table 3. Annual Sawmill Survey Results, Calendar Years 2000 – 2021 (Volume in MBF, Scribner Log Scale)

Year	Total Active Sawmills (#)	Installed Sawmill Capacity (MBF) [a]	Estimated Sawmill Production (MBF) [b]	Manufactured Product Volume not Included in Sawmill Production (MBF) [b,c]	Sawmill Capacity Utilization (%) [d]	Sawmill Employment (FTEs) [b]
2021	15	155,500	16,751	1,003	11	80
2019	4	135,400	15,210	500	11	50
2018	7	107,900	15,250	750	14	52
2017	8	113,650	15,544	550	14	51
2016	9	113,650	17,912	1,300	16	58
2015	9	113,650	18,540	145	16	51
2014	10	119,400	18,830	570	16	54
2013	10	120,400	17,593	920	15	60
2012	10	120,400	13,842	899	12	58
2011	10	160,000	11,546	1,295	7	56
2010	10	155,850	15,807	385	10	64
2009	11	249,350	13,422	1,250	5	58
2008	11	282,350	23,666	3,513	8	94
2007	14	292,350	31,717	4,015	11	158 [e]
2006	11	354,350	32,141	7,620	9	123
2005	12	359,850	34,695	0	10	136
2004	13	370,350	31,027	509	8	148
2003	13	369,850	32,005	763	9	155
2002	11	453,850	39,702	9,164	9	160

2000	19	501,850	87,117	46,079	17	321

[a] Estimated from inspection of equipment on site
[b] Estimated from mill operator response to survey question
[c] Manufactured products primarily include firewood and chips.
[d] Calculated value
[e] Included 35 positions reported at the reopened Ketchikan Renaissance Group veneer mill, which only operated for a few months.
Note: The annual sawmill capacity and production survey was not conducted during 2001 or 2020.

SAWMILL OVERVIEW

Table 4 shows sawmill locations and lists installed equipment, operation status, and employment for each mill. Past reports have included the equipment in uninstalled mills, but since very little, if any, uninstalled equipment has ever been reinstalled elsewhere, we have discontinued the practice. See the 2019 report for that information.

Table 4. 2021 Active and Idle Sawmills (N = 16)

Sawmill	Community	Description	Current Status	Sawmill FTEs
Original survey pool				
D & L Woodworks	Hoonah	Portable circle sawmill	Active	.5
Icy Straits Lumber and Milling Company	Hoonah	Mighty Mite sawmill, horizontal band resaw, log debarker and merchandiser (not installed), dry kiln, planer, moulder	Active	8
The Mill	Petersburg	Two portable circle sawmills	Active	.5
Peak Engineering (formerly Falls Creek Forest Products)	Petersburg	Portable circle sawmill, trim saw, log and lumber decks	Active	3
St. Nick Forest Products (formerly W.R. Jones and Son Lumber Company)	Craig	Portable circle sawmill	Active	.5
Viking Lumber Company	Klawock	Conventional carriage, band saw headrig, linebar and gang resaws, edgers, trim saw, log debarker and merchandiser, end-dogging circle saw scragg. Added chipping head slabber to large mill in 2018.	Active	45
Western Gold Cedar Products (part of Northern Star Cedar breakup)	Thorne Bay	Shake and shingle mill, Meadows carriage mill, chain-fed scragg added in 2018	Active	3
Thorne Bay Wood Products (formerly Good Faith Lumber Company)	Thorne Bay	Portable circle sawmill, trim saw, log and lumber decks, dry kiln, planer, moulder	Idle	0
Mills added in CY 2021				
Alaska Specialty Woods	Craig	3 Mighty Mite bandsaws, 2 head horizontal resaw, 2 planers	Active	4
Fair and Square Lumber	Coffman Cove	Portable circle sawmill	Active	2
JK Forest Products	Thorne Bay	Bandsaw, resaw	Active	2
K&D Lumber Company	Thorne Bay	Sawmill: auto log deck/turner, resaw; Shake and shingle mill	Active	5
Kevin Merry	Kake	Lucas circle mobile sawmill	Active	.5
Luther Coby	Kake	Mighty Mite circle sawmill	Active	1
Mike Allen Enterprises	Wrangell	Mighty Mite circle sawmill	Active	3
Tenakee Logging Company	Tenakee Springs	Woodmizer portable band saw, Mobile dimension circle saw, Woodmaster planer shaper (electric)	Active	2

CAPACITY AND PRODUCTION VOLUME BY MILL

Table 5 shows that the largest sawmill, in terms of both capacity, production, and employment, is again the Viking Lumber Company. Capacity in the 14 other active mills combined (63,000 MBF) equals about 68 percent of the Viking mill (92,500), which contains 60 percent of total production capacity in the region.

From the original sawmills still in operation, five reported increased production, one sawmill reported decreased production, and one indicated production from 2019 to 2021 remained the same. That finding may be misleading, because three of the five reporting increased production were idle in 2019. Capacity and production in the newly added mills were 11 and 7 percent of the regional total, respectively. Most operators reported that 2021 had been a difficult year, owing to timber availability and supply chain issues, lingering impacts from the COVID-19 pandemic, transportation costs, difficulty finding reliable workers, and steep learning curves associated with operation of new equipment. Several mills had installed new equipment that was not operating in 2021 but will be captured in the survey conducted next year.

Table 5. 2019 Estimated Sawmill Capacity and Actual Production (Includes 15 Active and 1 Idle Sawmills, N = 16)

Sawmill Name	Estimated Sawmill Capacity (Scribner Log Scale, MBF) [a]	Actual Sawmill Production (Scribner Log Scale, MBF) [b]	Sawmill Capacity Utilization (%)
Original survey pool			
D & L Woodworks	1,000	1.8	0.18
Icy Straits Lumber and Milling Company	10,000	450	4.50
The Mill	2,500	5	0.20
Peak Engineering (formerly Falls Creek)	3,000	30	1.00
St. Nick Forest Products (formerly W.R. Jones and Son Lumber Company)	1,000	60	0.60
Viking Lumber Company	92,500	14,400	15.57
Western Gold Cedar Products	21,500	500	2.33
Thorne Bay Wood Products	6,250	Idle	--
Subtotal	**137,750**	**15,447**	**11.7**
Mills added in CY 2021			
Alaska Specialty Woods	2,500	30	1.20
Fair and Square Lumber	1,000	130	13.00
JK Forest Products	1,000	130	13.00
K&D Lumber Company	2,500	600	24.00
Kevin Merry	1,500	10	0.67
Luther Coby	2,500	9	0.36
Mike Allen Enterprises	5,000	350	7.00
Tenakee Logging Company	1,750	45	2.57
Subtotal	**17,750**	**1,304**	**7.3**
Total	**155,500**	**16,751**	**11%**

[a] Estimated Sawmill Capacity: An estimate of sawmill processing from installed equipment based on the amount of net sawlog volume (Scribner log scale) that could be utilized by the sawmill, as currently configured, during an industry standard 250-day per year, two shifts per day, annual operating schedule, and not limited by availability of workforce, raw materials, or market. Estimated from equipment installed in the mills.
[b] Actual Sawmill Production: Net sawlog volume (Scribner log scale) used during the year to manufacture sawn products. Estimated from response to survey question
Note: Sawmill size class is based on annual production. Small = .25-1.0 MMBF Medium = 1.0-5.0 MMBF & Large= >5.00 MMBF. Source Information: Kilborn, Kenneth A. 2002. Lumber recovery studies of Alaska sawmills, 1997 to 1999. Gen. Tech . Rep. PNW -GTR -544. Portland , OR: U.S. Department of Agriculture, Forest Service, Pacific Northwest Research Station. 15 p.

WOOD SUPPLY SOURCE

Table 6a and 6b show the source of wood received by Southeast Alaska sawmills in 2021. By far, the majority wood originated from lands managed by the State of Alaska (69 percent), followed by the Tongass National Forest (25 percent). A modest amount of material was sourced from Native lands and a few small mills reported private timber sources, mostly from right-of-way and private lot clearing for development and logging their own property to keep mills operating.

Table 6a. 2021 processed log sources, volume included in actual sawmill production (Scribner Log Scale, MBF, N = 15)

Sawmill	National Forest	Other Federal	State of Alaska	Private Native	Private Other	Import	Total
Original survey pool							
D & L Woodworks	0	0	0	0	2	0	2
Icy Straits Lumber and Milling Company	428	0	0	23	0	0	450
The Mill	5	0	0	0	0	0	5
Peak Engineering (formerly Falls Creek)	30	0	0	0	0	0	30
St. Nick Forest Products (formerly W.R. Jones and Son Lumber Company)	30	0	0	0	30	0	60
Viking Lumber Company	2,160	0	11,520	720	0	0	14,400
Western Gold Cedar Products	500	0	0	0	0	0	500
Subtotal	**3,153**	**0**	**11,520**	**743**	**32**	**0**	**15,447**
Mills added in CY 2021							
Alaska Specialty Woods	30	0	0	0	0	0	30
Fair and Square Lumber	0	0	26	0	104	0	130
JK Forest Products	39	0	78	0	13	0	130
K&D Lumber Company	600	0	0	0	0	0	600
Kevin Merry	9	0	0	1	0	0	10
Luther Coby	9	0	0	0	0	0	9
Mike Allen Enterprises	350	0	0	0	0	0	350
Tenakee Logging Company	45	0	0	0	0	0	45
Subtotal	**1,082**	**0**	**104**	**1**	**117**	**0**	**1,304**
Total	4,235	0	11,624	744	149	0	16,751
Percent	**25.3**	**0**	**69.4**	**4.4**	**0.9**	**0**	**100**

Table 6b. 2021 Processed log sources, volume not included[a] in actual sawmill production (Scribner Log Scale, MBF)

Sawmill	National Forest	Other Federal	State of Alaska	Private Native	Private Other	Import	Total
Total	261	0	425	0	317	0	1,003
Percent	26	0	42.4	0	31.6	0	100

[a] Primary manufactured products NOT included in actual sawmill production consists of all non-sawn products (e.g., chips, firewood, poles, house logs) that are manufactured independently of normal sawmill operations – products from logs that do not go through the sawmill. Non-sawn products that result from processing sawmill residues and byproducts are not included in this category.

PRODUCTION VOLUME BY SPECIES

Table 7a and 7b show the species of wood processed in Southeast Alaska sawmills in 2021. Western hemlock dominated the CY 2021 product market representing 45 percent of total production year. Second, Western redcedar products represent 38 percent of the total product volume followed by Sitka spruce at 15 percent and Alaska yellow cedar at 1.3 percent. The "Other" category contains information about niche production, primarily shingles, shakes, and music wood. Western Gold Cedar Products reported zero shingle production, 12 MBF of K&D Lumber production was shingles, and all of Alaska Specialty Woods production (30 MBF) was music wood. Most of the volume not included in actual sawmill production (Table 7b) consisted of firewood. The original set of mills predominantly processed western hemlock (48 percent), while the added mills produced mostly western redcedar (70 percent).

Table 7a. 2021 volume included in actual sawmill production by species (Scribner Log Scale, MBF, N = 15)

Sawmill	Sitka Spruce	Western Hemlock	Western Redcedar	Alaska Yellow Cedar	Other	Total
Original survey pool						
D & L Woodworks	1.8	0.02	0	0	0	1.8
Icy Straits Lumber and Milling Company	213.75	213.75	0	22.5	0	450
The Mill	0.5	0.5	0	4	0	5
Peak Engineering	25.5	3	0	1.5	0	30
St. Nick Forest Products (formerly W.R. Jones and Son Lumber Company)	0	48	12	0	0	60
Viking Lumber Company	2,160	7,200	5,040	0	0	14,400
Western Gold Cedar Products	0	15	450	35	0	500
Subtotal	**2,402**	**7,480**	**5,502**	**63**	**0**	**15,447**
Mills added in CY 2021						
Alaska Specialty Woods	27	0	2.1	0.9	0	30
Fair and Square Lumber	32.5	32.5	65	0	0	130
JK Forest Products	13	13	104	0	0	130
K&D Lumber Company	0	60	450	90	0	600
Kevin Merry	0.5	0.5	0	9	0	10
Luther Coby	7.2	0.9	0	0.9	0	9
Mike Allen Enterprises	7.5	7.5	300	35	0	350
Tenakee Logging Company	22.5	0	0	22.5	0	45
Subtotal	**110**	**114**	**921**	**158**	**0**	**1,304**
Total	2,512	7,595	6,423	221	0	16,751
Percent	15.0	45.3	38.3	1.3	0	100

Table 7b. 2021 Primary product by species, volume not included[a] in actual sawmill production (Scribner Log Scale, MBF)

Sawmill	Sitka Spruce	Western Hemlock	Western Redcedar	Alaska Yellow Cedar	Other	Total
Total	342.2	632	25	3.8	0	1,003
Percent	34.1	63	2.5	0.4	0	100

[a] Primary manufactured products NOT included in actual sawmill production consists of all non-sawn products (e.g., chips, firewood, poles, house logs) that are manufactured independently of normal sawmill operations – products from logs that do not go through the sawmill. Non-sawn products that result from processing sawmill residues and byproducts are not included in this category.

PRODUCTION VOLUME BY PRODUCT

Table 8 shows that 39 percent of the wood received by Southeast Alaska sawmills in 2021 was processed into shop lumber, followed by cants and timbers and dimension lumber. Higher grade products like shop lumber, cants and timbers, and niche products generally command a price premium. Conversely, dimension lumber is a commodity product for structural use that is highly price competitive. Southeast Alaska sawmills compete with both domestic and international suppliers to make inroads in these markets. The Viking Lumber Company's production focused mainly on shop lumber, which is a shift from the 2019 survey where they produced more dimension lumber.

Table 8. 2021 Actual sawmill production volume by product, CY2021 (Scribner Log Scale, MBF, N = 15)

Sawmill	Dimension Lumber	Shop Lumber	Cants Timbers	Other	Total
Original survey pool					
D & L Woodworks	2	0	0	0	2
Icy Straits Lumber and Milling Company	68	180	203	0	450
The Mill	5	0	0	0	5
Peak Engineering	30	0	0	0	30
St. Nick Forest Products (formerly W.R. Jones and Son Lumber Company)	42	0	18	0	60
Viking Lumber Company	3,276	6,300	4,824	0	14,400
Western Gold Cedar Products	500	0	0	0	500
Subtotal	**3,923**	**6,480**	**5,045**	**0**	**15,447**
Mills added in CY 2021					
Alaska Specialty Woods	0	0	0	30	30
Fair and Square Lumber	130	0	0	0	130
JK Forest Products	26	104	0	0	130
K&D Lumber Company	588	0	0	12	600
Kevin Merry	10	0	0	0	10
Luther Coby	9	0	0	0	9
Mike Allen Enterprises	350	0	0	0	350
Tenakee Logging Company	20	9	16	0	45
Subtotal	**1,133**	**113**	**16**	**42**	**1,304**
Total	**5,056**	**6,593**	**5,060**	**42**	**16,751**
Percent	**30.2**	**39.4**	**30.2**	**0.3**	**100**

YOUNG GROWTH TIMBER UTILIZATION

This year, mill operators were asked for the first time to estimate how much young growth timber they milled as a percent of total production. This question was added to the survey instrument to collect more data relevant to forest planning efforts on the Tongass. These efforts are guided by the 2016 Tongass Forest Plan goal to transition away from old growth to young growth timber harvest. There is considerable interest in quantifying the extent that young growth timber is being used by sawmills in the region. Survey data collected over time will help gauge industry demand for young growth timber. Table 9 shows that of actual sawmill production in 2021, young growth utilization in the added mills was 8 percent of their total production compared to the original sawmills where young growth utilization was 1 percent of total production. Discussions with operators about young growth timber revealed that several had no desire to ever purchase young growth, but several others would purchase more if it was offered, primarily because logs were more uniform in size, had less defect than old growth, and met customer needs for rough cut dimension lumber.

Table 9. 2021 Sawmill young growth timber utilization (Scribner Log Scale, MBF, N = 15

Sawmill	Actual Sawmill Production (Scribner Log Scale, MBF) [b]	Young growth volume (MBF)	Young growth percent of total sawmill production (%)
Original survey pool			
D & L Woodworks	1.8	0.1	5
Icy Straits Lumber and Milling Company	450	0.0	0
The Mill	5	0.0	0
Peak Engineering	30	24.0	80
St. Nick Forest Products (formerly W.R. Jones and Son Lumber Company)	60	30.0	50
Viking Lumber Company	14,400	144.0	1
Western Gold Cedar Products	500	0.0	0
Subtotal	**15,447**	**198.1**	**1.28**
Mills added in CY 2021			
Alaska Specialty Woods	30	0.0	0
Fair and Square Lumber	130	39.0	30
JK Forest Products	130	46.8	36
K&D Lumber Company	600	0.0	0
Kevin Merry	10	1.0	10
Luther Coby	9	0.0	0
Mike Allen Enterprises	350	0.0	0
Tenakee Logging Company	45	18.0	40
Subtotal	**1,304**	**105**	**8.04**
Total	**16,751**	**303**	
Average		**20.2**	**1.8**
Minimum		**0**	**0**
Maximum		**144**	**80**

MARKETS

Tables 10a and 10b contain information about markets served by Southeast Alaska sawmills. Market categories in the survey instrument were revised in 2021. Two categories were changed: 1) the Continental U.S. destination category was divided into U.S. Pacific Northwest and U.S. Other and 2) the Other category was changed to International Other. The vast majority (80 percent) of processed material was sent to destinations in the Continental United States, primarily the Pacific Northwest. Markets in the Pacific Rim nations and within Alaska both received about 8 percent of total sawmill production. Production from the original survey pool primarily went to the Lower 48, including Viking which had the most diversified set of markets. Most production from mills added in 2021 remained within Alaska, except music wood from Alaska Specialty Woods. All volume not included in actual production was utilized within Alaska.

Table 10a. 2021 Product destination, volume included in actual sawmill production (Scribner Log Scale, MBF, N = 15)

Sawmill	Alaska	U.S. Pacific Northwest[a]	U.S. Other	Canada	International Pacific Rim	International Other	Total
Original survey pool							
D & L Woodworks	1.8	0	0	0	0	0	1.8
Icy Straits Lumber and Milling Company	445.5	4.5	0	0	0	0	450
The Mill	5	0	0	0	0	0	5
Peak Engineering	30	0	0	0	0	0	30
St. Nick Forest Products (formerly W.R. Jones and Son Lumber Company)	60	0	0	0	0	0	60
Viking Lumber Company	144	7,200	5,040	0	1,440	576	14,400
Western Gold Cedar Products	0	500	0	0	0	0	500
Subtotal	**686**	**7,705**	**5,040**	**0**	**1,440**	**576**	**15,447**
Mills added in CY 2021							
Alaska Specialty Woods	0.3	1.5	22.5	1.5	1.5	2.7	30
Fair and Square Lumber	130	0	0	0	0	0	130
JK Forest Products	130	0	0	0	0	0	130
K&D Lumber Company	180	420	0	0	0	0	600
Kevin Merry	10	0	0	0	0	0	10
Luther Coby	9	0	0	0	0	0	9
Mike Allen Enterprises	115.5	234.5	0	0	0	0	350
Tenakee Logging Company	45	0	0	0	0	0	45
Subtotal	**620**	**656**	**23**	**2**	**2**	**3**	**1,304**
Total	**1,246**	**8,361**	**5,063**	**2**	**1,442**	**579**	**16,691**
Percent	**7.5**	**50.1**	**30.3**	**0.01**	**8.6**	**3.5**	**100**

[a] Pacific Northwest is defined as the states of Oregon and Washington.

Table 10b. 2021 Product destination, volume not included [a] in actual sawmill production (Scribner Log Scale, MBF) [a]

Sawmill	Alaska	U.S. Pacific Northwest	U.S. Other	Canada	International Pacific Rim	International Other	Total
Total	953	50	0	0	0	0	1,003
Percent	95	5	0	0	0	0	100

[a] Primary manufactured products NOT included in actual sawmill production consists of all non-sawn products (e.g., chips, firewood, po0les, house logs) that are manufactured independently of normal sawmill operations – products from logs that do not go through the sawmill. Non-sawn products, including chips and firewood, that result from processing sawmill residues and byproducts are not included in this category.

TIMBER SALE SIZE AND FOREST SERVICE VOLUME UNDER CONTRACT

In another new survey question, respondents were asked what size of timber sale, in terms of volume, would be ideal to meet the raw material needs of their mill. This information is compared against the Tongass timber sale information for each sawmill, publicly available from the Forest Management Reports and Accomplishments website hosted by the Alaska Region (https://www.fs.usda.gov/detail/r10/landmanagement/resourcemanagement/?cid=fsbdev2_038785). Table 12 shows the preferred timber sale size, number of existing sales, and Tongass timber volume under contract in 2021. The average number of Forest Service sales under contract is two per purchaser. Although the average volume per sale currently under contract (3,248 MBF) is 1.6 times the average preferred timber sale size (2,015 MBF), this may be skewed because the Viking Lumber Company was awarded 97,717 MBF under the Big Thorne Stewardship Contract in 2014, the largest Tongass timber sale contract awarded over the past several decades, with 3,235 MBF remaining under contract at end of 2021. A more useful measure is remaining volume under contract compared to preferred timber sale size. After removing Big Thorne contract volume from the sample, the average volume per FS sale under contract is 70 percent (1,415 MBF) of the average preferred timber sale size. For all mills surveyed, the average Forest Service volume remaining under contract at end of 2021 is 44 percent (879 MBF) of average preferred timber sale size (2,015 MBF). We recognize this new question needs refinement to include a contract time length, but include results here to begin discussions around this topic.

Table 12. 2021 Preferred timber sale size and Tongass timber volume under contract (Scribner Log Scale, MBF, N = 15)

Sawmill	Preferred timber sale size (MBF) [a]	Tongass volume under contract, end of CY 2021 [b]			
		Number of FS sales under contract	Average volume per FS sale under contract (MBF)	Total contract volume awarded (MBF)	Total remaining volume under contract (MBF)
Original survey pool					
D & L Woodworks	225	1	161.22	161.22	161.22
Icy Straits Lumber and Milling Company	175	4	169.18	676.72	502.54
The Mill	10,000	1	10.23	10.23	10.23
Peak Engineering	1,000	1	19.38	19.38	19.38
St. Nick Forest Products (formerly W.R. Jones and Son Lumber Company)	150	0	0	0	0
Viking Lumber Company [c]	10,000	3	42,723.59	128,170.76	3,753.19
Western Gold Cedar Products	1,000	3	1,501	4,503	4,011.42
Subtotal	**22,550**	**13**	**44,585**	**133,541**	**8,458**
Mills added in CY 2021					
Alaska Specialty Woods	50	0	0	0	0
Fair and Square Lumber	250	1	158.29	158.29	158.29
JK Forest Products	225	2	266.73	533.46	528
K & D Lumber Company	1,000	2	350.11	700.22	181.82
Kevin Merry	10	1	6.6	6.6	6.6
Luther Coby	45	3	33.51	100.53	100.53
Mike Allen Enterprises	6,000	3	3,285.21	9,855.63	3,676.99
Tenakee Logging Company	100	4	41.43	165.72	77.91

Subtotal	**7,680**	**16**	**4,142**	**11,520**	**4,730**
Total		**29**		**145,062**	**13,188**
Average	**2,015**	**2**	**3,248**	**9,671**	**879**
All other Tongass sale purchasers [d]		16	4,023	64,369	18,677

[a] Respondents answers to survey question: "what is your preferred timber sale size in MBF?"
[b] Total volume of contract when awarded is the volume initially awarded following sale bidding process.
[c] In 2014 Viking Lumber Company was awarded 97,717 MBF under the Big Thorne Stewardship Contract
[d] Predominantly Good Neighbor Authority sales administered by the State of Alaska

LOG EXPORTS

This year, information on log exports from the Tongass National Forest has been added to the report. The Tongass National Forest is unique because it is the only national forest authorized to export unprocessed timber harvested from federal lands west of the 100th meridian of the United States not declared surplus by the Secretary of Agriculture through its Limited Export Policy. Although log exports are not a sawn product and thus are not part of the mill survey per se, log exports represent another market available to purchasers of timber throughout the region. Exports of logs originating from the Tongass represent a subset of all log exports; as logs harvested from state, Native, and other private lands are also exported. The discussion here is limited to log export and harvest volume from federal lands managed by the Tongass National Forest because the intent of this report is to inform planning efforts on the Tongass.

Calendar year Tongass log exports and interstate shipments are posted annually on the publicly available Alaska Region Forest Management Reports and Accomplishments website (https://www.fs.usda.gov/detail/r10/landmanagement/resourcemanagement/?cid=fsbdev2_038785). Harvest data were downloaded from the Timber Information Manager and organized into calendar years. The proportion of total Tongass harvest volume exported as logs to international and Lower 48 destinations by calendar year is shown in Figure 1. Harvest rose and fell significantly between 2013 and 2016 to stabilize around 15 MMBF per year by 2021. Overall, about half of timber harvested on the Tongass is exported in log form. Recent trends show an uptick in log exports relative to total harvest, largely owing to ongoing harvest of a 31,392 MBF young growth timber sale awarded in 2017 and approved for 100 percent export. By simply looking at the graph, one could infer that half of the Tongass harvest is unavailable to local sawmills and thus not supporting forest products industry jobs and labor income in the region. However, Tongass timber purchasers can choose to process timber into forest products, buy and sell logs among each other, or divert wood into log export markets to respond to economic conditions and fluctuating product prices. This additional flexibility does not necessarily have a negative impact on jobs or labor income, as the logging industry is not impacted, and industries associated with transportation of exports see more activity. The Tongass Limited Export Policy is contentious and the intent here is only to point out that there are advantages to purchasers that arise from the variety of markets available to them.

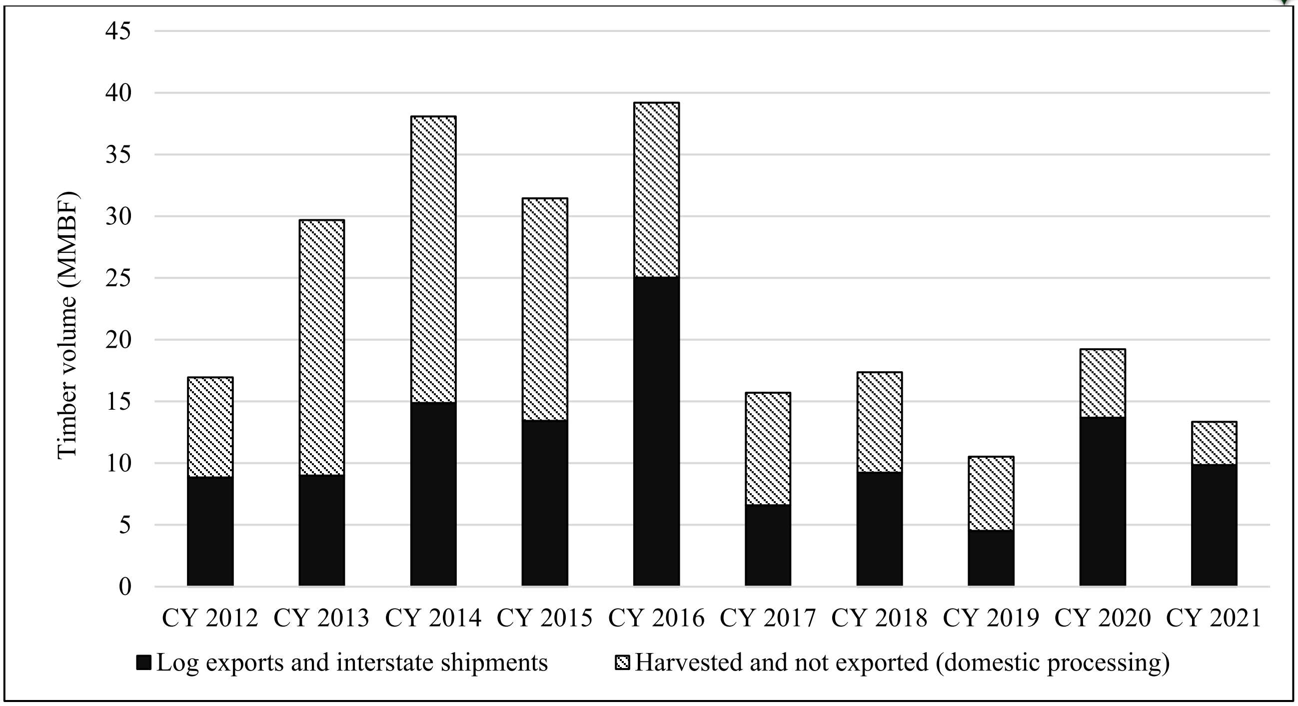

Figure 1. Tongass log exports and timber harvest volume by calendar year

CONCLUSION

For many years, the Southeast Alaska annual sawmill survey has relied on a shrinking pool of respondents to represent the region's timber industry. This year, we expanded the sawmill survey pool to include eight additional mills to capture the contributions of the region's small mills. We also added two new questions to the survey instrument, rearranged categories for final products destinations, and added new sections on Tongass log exports and volume under contract. Typical of every year, Tongass sawmills remain significantly underutilized and results are strongly skewed by the Viking Lumber Company as the largest operator in the region. Sawmill FTEs for the original survey pool increased from 50 in 2019 to 60 in 2021, with a total of 80 FTE's including the eight new mills added in 2021. Most of the log volume received and processed by surveyed mills in 2021 originated from lands managed by the State (56 percent), followed by the Tongass. Utilization of young growth logs varied widely among surveyed mills, ranging from 0 to 80 percent but overall making up less than 2 percent of total production. The preferred timber sale size according to surveyed mills ranged from 10 MBF to 10,000 MBF with an average of 2,015 MBF, however the average volume remaining per Forest Service contract is 22 percent of preferred timber sale size, indicating a gap for Forest Service volume under contract in the region's sawmills. About half of the Tongass harvest was exported in log form owing to the Tongass Limited Export Policy, which helps operators remain profitable because they can respond to market changes and spread their business risk while also meeting customer needs. We observed many mills investing in equipment upgrades and look forward to revisiting to evaluate the impact on regional production and job creation in our Southeast Alaska communities next year.

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