

Young Growth Wood Products for a Sustainable Southeast Alaskan Economy

*Results of a Prince of Wales Young Growth
Wood Product Hub Initial Feasibility Project*

PREPARED BY:



PREPARED FOR:



Spruce Root
COMMUNITY DEVELOPMENT

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Executive Summary

The opportunity exists to develop young growth wood product manufacturing on Prince of Wales Island (“POW”) to advance sustainable forest management that builds wealth in tribal and rural Southeast Alaska communities while meeting regional demand for wood products.

This report was produced by Geo Consulting under contract with Spruce Root. Research and analysis were completed by Geo Consulting between September and December 2022, including conversations, semi-structured interviews, and visits with interviewees in Craig, Klawock, Hydaburg, Goose Creek, Thorne Bay, Coffman Cove, Whale Pass, and multiple forest and river restoration sites. The 19 formal interviewees consulted for this report are comprised of individuals who were introduced, interested, and available either virtually or in person between mid-September and mid-November of 2022, and therefore represent an incomplete list and only a fraction of a representative sample of all parties with ties to forest stewardship and an interest in young growth wood product manufacturing in the region. A list of interviewee names, titles and affiliations is included in **Appendix A**. All quotations italicized in this report are attributed to interviews but maintained anonymous.

Interviewees expressed three overarching goals in common: **(1)** realize the opportunity of young growth supply to retain the value generated by timber resources within POW’s rural and tribal communities by **(2)** increasing processing capacity to produce young growth wood products for regional demand by **(3)** working together.

This report organizes interviewee input into a strategic **early-stage value chain development framework for action** which includes three components: **(1)** Adopt a WealthWorks value chain economic development approach to the young growth opportunity; **(2)** Invest in product development and assist entrepreneurs pursuing young growth wood products manufacturing on Prince of Wales to secure contracts and demand in regional markets; and **(3)** Incorporate support structures for working together, such as reflective conversations and other trust-building exercises, to strengthen the foundation for collaboration.

Early-Stage Value Chain Development

The young growth wood products market in Southeast Alaska is in an early stage of development. Market pathways are underdeveloped, and the forest products sector faces many hurdles to get new young growth products to market, including a need for consistent long-term supply of logs, workforce recruitment and career opportunities, retooling and retraining, customer education on the young growth product, overcoming regulatory and price hurdles to the dimensional lumber market, and suitable opportunities for collaboration.

This report organizes interviewee input into a strategic approach, illustrated in **Figure 1**, below, for the Young Growth Advisory Committee and interested partners to initiate support for young growth wood product entrepreneurs, manufacturing infrastructure upgrades, workforce training capacity, wood energy construction, technology and market research needs, and a long-term collaborative visioning process for a Prince of Wales Island wood product manufacturing hub. The majority of this report closely follows a “value chain” approach (color coded green) with two needs expressed by interviewees as key to value chain success—product development (orange) and collaboration (blue)—emphasized toward the end of the report.

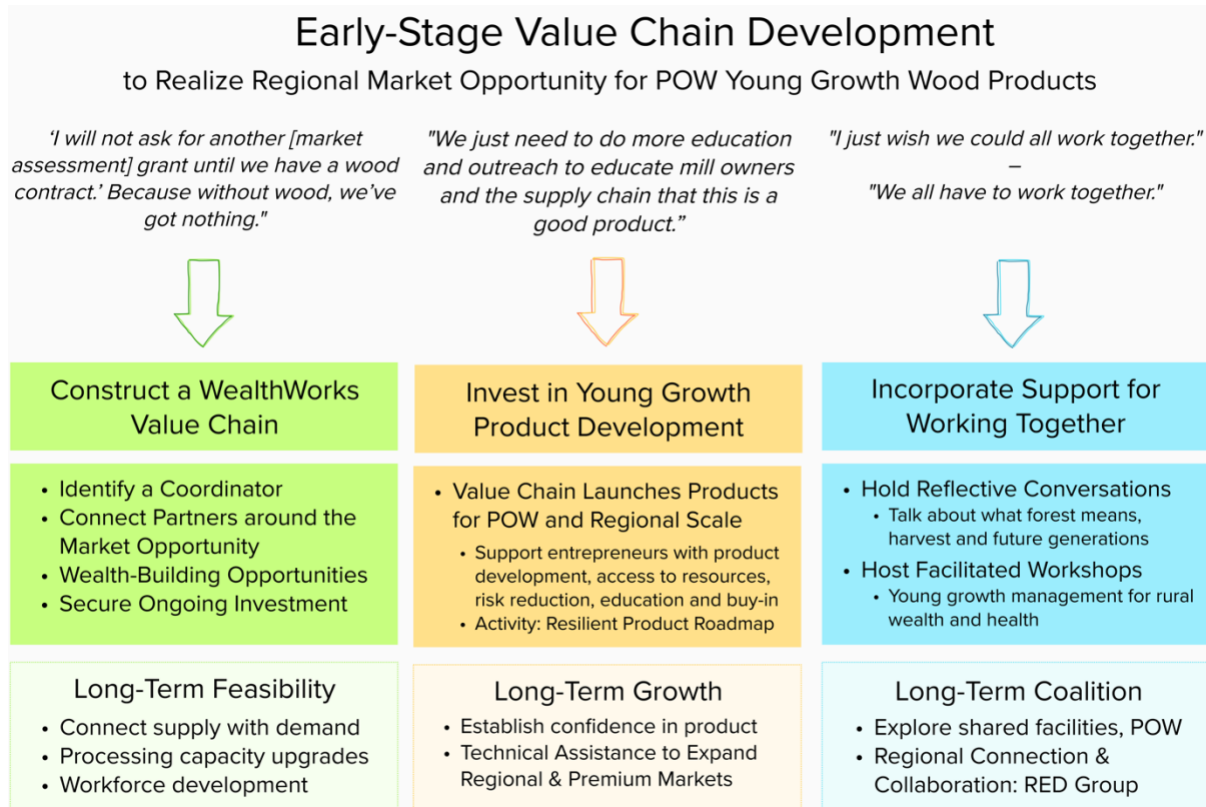


Figure 1. Early-Stage Value Chain Development for Prince of Wales Young Growth Wood Products

Construct a WealthWorks Value Chain

The WealthWorks value chain economic development approach, built by the Aspen Institute Community Strategies Group, offers a model for embracing the young growth timber supply opportunity to build wealth in POW’s rural and tribal communities—in the words of one interviewee, to “localize the industry.” The value chain approach is an example of asset-based community development. This report closely follows the outline of Modules 2-4 (available in the included Report References folder) to organize interviewee input on market opportunities, infrastructure and investment needs.

“I will not ask for another [market assessment] grant until we have a wood contract.’ Because without wood, we’ve got nothing.”

“We could have done a beautiful thing. But they didn’t want that because the money wasn’t going to the right guy.”

“Rural wealth creation is an approach to community and economic development that is demand-driven, focusing on market opportunities that capitalize on a community’s existing assets or underutilized resources. [The WealthWorks value chain approach] can complement or incorporate traditional economic development methods, but the goal...is not simply delivering a product to market. It is doing so in ways that help build wealth that sticks to the region. ...Wealth creation is intentionally inclusive, building lasting livelihoods for those who many not have been at the table before, and it supports local ownership and control of assets.”

– WealthWorks, wealthworks.org, Modules 3 & 4

Connect Partners Around the Market Opportunity

Market opportunities include a range of young growth manufacturing possibilities identified through the business and market interview process.

Value Chain Partners

Transactional Partners

“Transactional” partners include people, businesses, or organizations that play a direct role in sourcing, producing, distributing and consuming the product or service. In this case, the most important transactional partners are the small sawmills interested in manufacturing young growth wood products for regional demand, referred to in this report as “processors,” for short.

Interviews and site visits are at least three POW processors oriented toward young growth with a regional manufacturing focus.

1. **JK Forest Products**, owned by Jay and Josh Kohn, has a vision to expand processing capacity to produce finished young growth lumber products for the local and regional market.
2. **Fair and Square Lumber**, owned by Don Nicholson, has demonstrated young growth lumber in the POW market, and is a vocal advocate for Sitka spruce.
3. **Caleb Toman** looks to Fair and Square Lumber as an example for operations and scale. He recently acquired a D&L portable sawmill and intends to produce young growth lumber for the local construction market around Whale Pass, but has experienced challenges sourcing supply without the ability to cut green trees through micro sales.

Demand Partners

Three initial demand partners to engage in the young growth wood product opportunity are:

1. **Regional housing entities and programs**, including affordable housing initiatives, Housing Authorities, and Tribal Corporations.
2. **POW Vocational and Technical Education Center (POW VocTEC)** Executive Director, Charles Edwardson, is planning a Construction Academy that could serve as a demand partner to young growth processors. Purchasing the new dry, planed lumber product from processors (as opposed to producing it on-site) has the added benefit of creating proof of concept and trust in the industry product for POW customers, which builds the value chain.
3. **Early adopting customers in urban markets** of Juneau, Sitka, Petersburg and Ketchikan were identified as important hubs of demand for local and sustainable products.

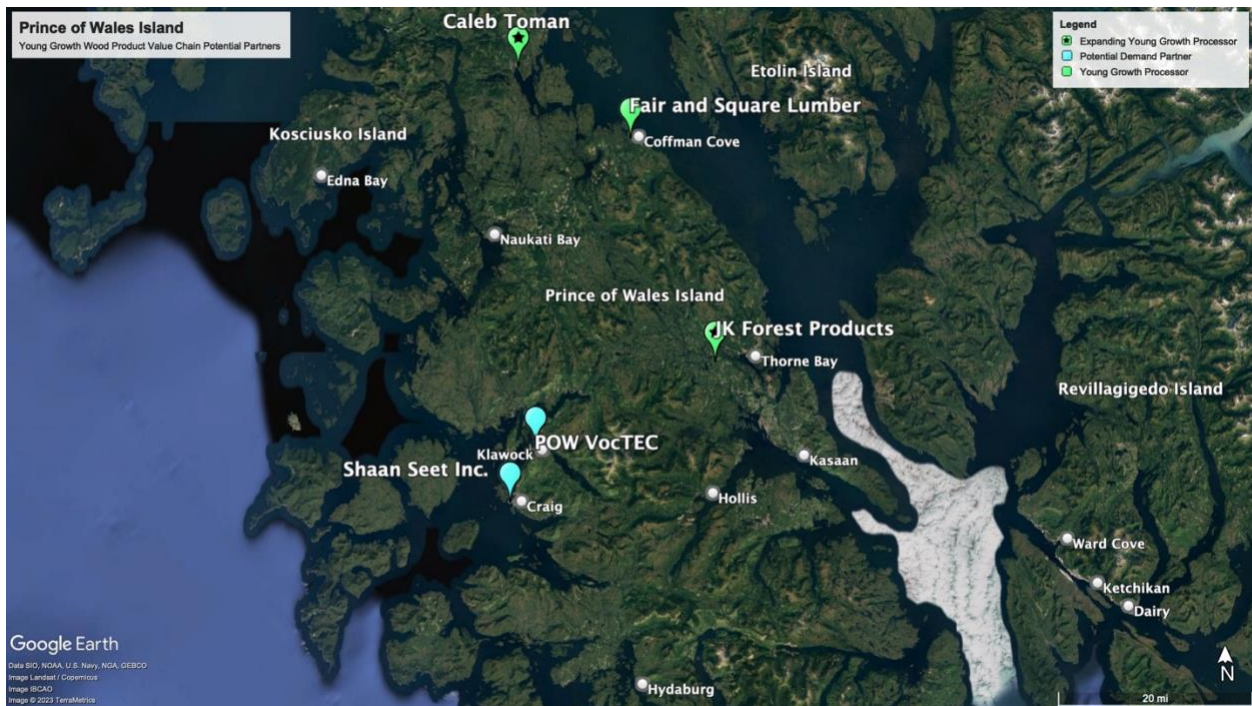


Figure 2. Map of Processor/Transactional Partners and Potential Demand Partners on Prince of Wales Island

Support Partners

The public sector, including cities, agency partners, landowners, and economic development organizations are crucial support partners for knowledge-sharing and resources regarding young growth quality and properties, developing and adopting new legislation or regulations, and providing business resources such as financing, technical assistance, product development, marketing, and contract negotiations. These support partners have an interest in economic development benefits of regional wood products manufacturing for rural and tribal communities.

Figure 3 shows a preliminary map of POW value chain partners, as identified by interviewees. It will be the job of the value chain coordinator to match potential support partners to the needs

and challenges expressed by young growth entrepreneurs (see the “Find and address wealth-building opportunities” section below) to succeed in generating buy-in from demand partners.

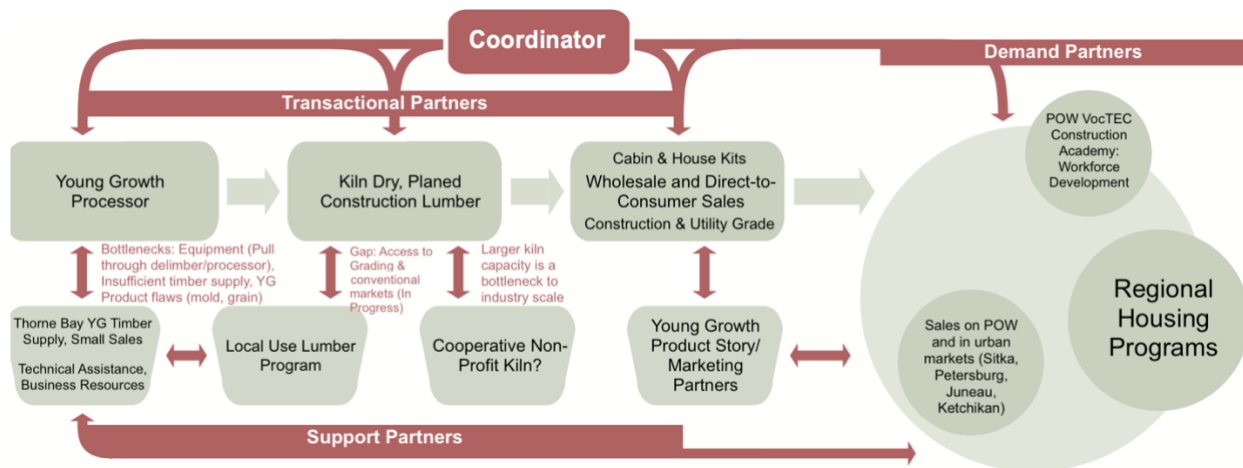


Figure 3. Value chain of partners in POW young growth market opportunity, adapted WealthWorks diagram Module 3 (page 9)

Market Opportunities

Rather than assume the current business-as-usual market as the only option, the value chain approach catalyzes regional partners to capitalize on a market opportunity that builds rural wealth and strengthens regional self-sufficiency for transactional partners, meets the needs of demand partners, and accomplishes goals of support partners. Market opportunities expressed by interviewees include lumber to meet island-wide and regional housing demand, whole log utilization, cabins, log homes, and early adoption urban customers.

Lumber for Housing

“We don’t have processing plants; we can’t compete with Weyerhaeuser and Sierra Pacific [in the stud market].”

“If construction rates continue at their current pace, construction will not keep up with the projected population demand in the region; This will exacerbate existing overcrowding and affordability issues unless the rate of new residential building construction increases.” – Prince of Wales-Hyder Census Area Housing Assessment 2017, page 4

The most widely reported young growth wood product of interest among interviewees is lumber for adequate and quality affordable housing on Prince of Wales and in Southeast Alaska. In particular, timber supply-side interviewees had an interest in understanding the annual market

demand for young growth lumber wood products as a reference point to understand long-term planning needs for sustained yield.

Of 1,269 occupied housing units on Prince of Wales, 7%—roughly 89 homes in 2017—are overcrowded (Prince of Wales-Hyder Census Area Housing Assessment 2017, page 4). A preliminary regional wood product housing volume study, **Figure 4**, works backwards from an estimate of urgent demand for housing on POW (assuming overcrowding, alone) to timber supply to illustrate the gap/opportunity for processing capacity. Lumber yield calculations are explained in the following section: many of these numbers are best estimates rather than real data, so value chain partners can follow this approach and modify numbers to assist value chain coordination.

In the value chain, POW wood products will compete with prices set by larger sellers in the stud market, but will also yield benefits valued by partners that are not met by the competition, including retaining dollars in the local economy, year-round job creation, quality of product, proximity and connection to the source, and low cost of shipping.

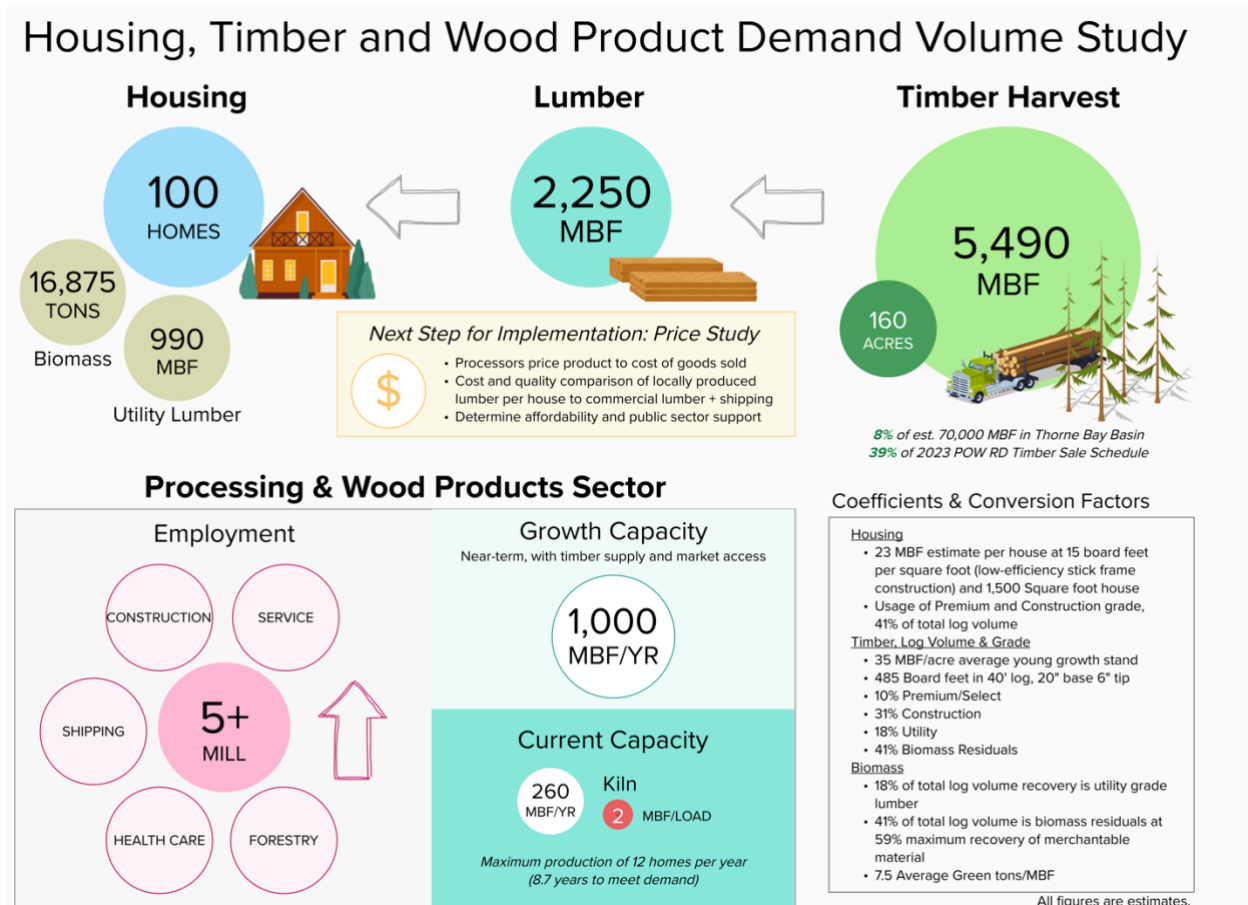


Figure 4. Lumber for housing market opportunity preliminary volume study

Next steps for this market opportunity include coordinating with processors to secure infrastructure (such as harvesting equipment), generate buy-in from demand partners, and engage support partners where needed.

Whole Log Utilization

"It's not just housing material, it's fence posts, decking, posts and poles."

Sawmill processors emphasized the need to plan for whole log utilization—meaning, finding markets for as much of the log as possible—in order to make the financials pencil out to substitute out production of high-price old growth cedar for young growth spruce products.

Standard dimensions of a 40-foot-long young growth Sitka spruce log fit currently sawn by young growth entrepreneurs are 18–24-inches at the base and 4–8-inches at the tip. Processors reported a learning curve to accommodate knots in the young growth timber, dealing with both dead branches at the base in the butt log and living branches toward the top of the tree.

In a sawmill study completed for this project (see excerpt in **Figure 5** and full version in **Appendix B**), the modeled total volume of a 20-inch base x 6-inch tip taper log is 485 board feet with an estimated 288 board foot (59%) maximum yield, assuming an optimal sawing pattern and slab recovery station

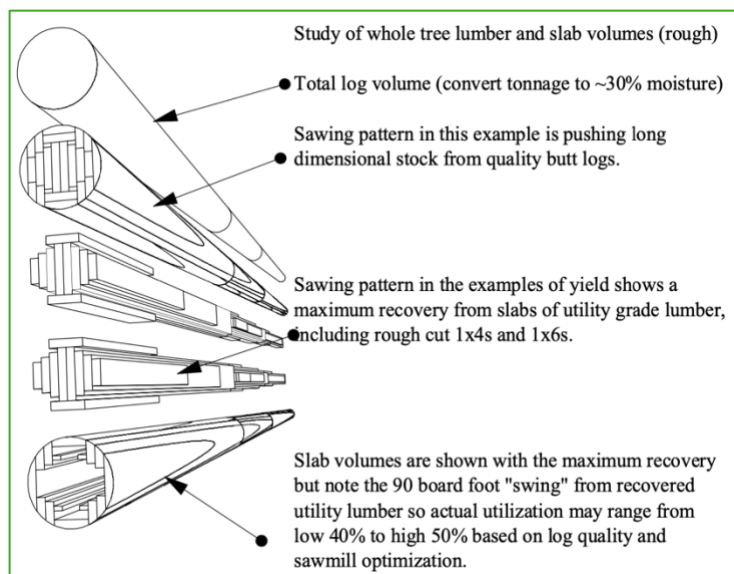


Figure 5. Excerpt of Prince of Wales Sawmill Study

for utility grade lumber at 18% of total log volume. Without slab recovery and utility grade products, lumber yield could drop to a low of 41%.

This estimate is in line with a second growth yield Forest Service study at the turn of the century which tested volume young growth Sitka spruce at the Ketchikan Pulp Company Sawmill facility. The report states that yields were 47% (where thinned vs. unthinned stands had “no effect on volume recovery for Sitka spruce”) when “full-sawn with no wane to maximize volume of the highest grade export lumber rather than to maximize overall volume yield.” It continues, “Had the mill sawn the logs for domestic-grade lumber and to maximize lumber yield, the mean cubic-foot recovery would have been about 15 to 20 percent higher” (Christensen et al. 2002, page 84)—for a maximum yield of 62-67%. These modeled maximum yields are higher, but understandably so,

as the mill equipment utilized included a debarker, an end-dogging, quad-band headrig, cant resaw, and board edgers (page 83).

Given current equipment and preliminary volume estimates for lumber, additional product markets to plan for are:

1. **Utility grade (18%)** lumber for sheds, shelters for air-drying firewood and lumber, firewood boxes, fencing, poles and posts, pallets, and more.
2. **Biomass residuals (41%)** are of strong interest as feedstock for manufactured pellets or bio-bricks.

Cabins & Log Homes

The Kuskokwim Corporation and TKC Fish Wheel affordable housing project in the Alaska Interior, as well as the Yukon Log Home Project which created a HUD-approved modular cabin kit for locally manufactured affordable housing, were of strong interest to interviewees. Goose Creek small mills have expressed an interest in producing Forest Service cabins, and would need a cut sheet (design and list of materials).

Early Adoption Urban Markets & Wholesale to Retailers

POW lumber can be retailed at the local hardware store or shipped by the pallet to Ketchikan and other markets in Southeast. Demand partners in Ketchikan, Sitka, Petersburg and Juneau may be the most successful entry markets for stocking retail lumber.

Phase 2 Market Opportunities: Premium Engineered Wood Products for Regional Use and Export

Once the value chain has been established, industry experts may be engaged to support processors in pursuing engineered wood products such as trusses and lamstock. These products would require higher efficiency equipment to process small diameter logs, following the example of Kalesnikoff Lumber Co. Ltd. in British Columbia, which put in a press to produce lamstock early on in the mass timber industry, or Vaagen Brothers Lumber/Vaagen Timbers in Washington and Freres Lumber Co., Inc./Freres Engineered Wood in Oregon.

The truss industry is based on MSR-rated lumber, which would require MSR testing (see Underutilized Resources: POW VocTEC section). In lieu of metal plated trusses, there is potential to follow in the steps of open-source public truss designs historically

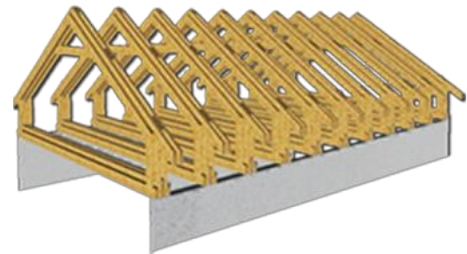


Figure 6. Attic truss from larger diameter framing lumber with reinforcing gussets at the corners (which would use products from the butt log) sitting on a load bearing wall. Image credit to CBS-Lifteam (cbs-cbt.com), a timber engineering and construction group from Switzerland and France that has pioneered the optimized use of lumber around the world.

commissioned by the U.S. Forest Service using native lumber and plywood gussets, or screw and plywood designs from engineers like CBS-Lifteam.

A high percentage of Alaska hemlock qualifies for lamstock grades, though the cost of producing glulam beams in Alaska appears to be relatively high and feasibility would depend on market prices (Roos et al. 2009).

Find and Address Wealth-Building Opportunities

Infrastructure enhancement needs in the POW wood products value chain are the gaps and barriers in equipment, knowledge, workforce and regulatory capacity that present leverage points for orienting the young growth market opportunity toward long-term, wealth-building benefit for the Prince of Wales community and the region. These can be addressed by value chain partners, included in the Southeast Alaska CEDS, and supported with future resources.

A *gap* is a missing process or function that is essential to produce the goods or services at the core of your value chain. A *bottleneck* is something that prevents or restricts the value chain from operating smoothly or achieving scale, such as regulatory problems, missing skills, or inadequate financing. *Underutilized resources* are resources currently available in the region that, for one reason or another, are not yet mobilized to full benefit within the value chain. Look for *leverage points*—gaps, bottlenecks or underutilized resources that, if addressed, are the “difference that will make the most difference” to increase the scale of wealth-building impact in your region.

– WealthWorks Module 3, pages 12-14

Gaps

Harvesting Equipment

“The key is to clean up the logs. We have to cut them all of manually with a chainsaw now. If we don’t do it ourselves, we pay \$60-70 bucks an hour. Plus, you get more logs to a truck. You have to save [efficiency] on the front-end [when not getting as much money for the final product].”

The branches on young growth spruce are causing issues with efficient operation—they could fit significantly more logs to a truck without branches—and product quality from knots and mold. A pull through delimeter, cheaper than a \$300,000 used processor, or stroke delimeter is needed for viable value-add manufacturing by small mills.

Kiln Upgrades & Long-term Capacity

“It took 2 kiln loads to get 4,000 feet of wood.”

“It seems to me we can come up with the money to put the kiln, the planer, in Thorne Bay, do it right...engineered properly [long enough] and not built to fail. Sizing, we’d have to sit down, see how much volume, how much are we going

to cut, how much are we going to sell. It takes about 3 weeks to kiln a load of product. We need a business plan. The bigger the kiln, the cheaper it's going to be to kiln. But I'm not going to sit down and talk to anyone unless they have money, because it won't go anywhere. Even if you loan us the money on the consent you'll make sure to provide us the timber until the loans are paid off."

The small kiln at the former Good Faith Lumber site, now owned by JK Forest Products, is expected to support proof of concept, though it's in need of minor repairs. Other Goose Creek mill owners have an interest in setting up a separate nonprofit cooperative entity to own and operate a kiln sited in Thorne Bay (see Underutilized Resources section for more information).

Workforce: Interest, Retention, Training & Career Opportunities

"All the economic development that we're talking about requires one thing: construction workers, truck drivers, electricians, plumbers. Economic development won't happen without workforce development."

While timber supply, equipment, and financially risky and low-return operations are the primary challenges faced by the small mills, workforce is cited as a pressing issue to address in advance of growth in the sector. Strategies to address this challenge include investing in and closely partnering with POW VocTEC (elaborated below) and including the timber sector in inclusive strategy alongside other larger sectors prioritizing workforce development—in line with CEDS 2025 Timber Objective #4: Community-Based Timber Workforce Development.

Bottlenecks

Timber Supply

"The Tongass is just starting to reevaluate how they determine whether or not this material is ready because the way they measure, look at trees in the stand for harvesting, may not be suitable for the industry."

"There's enough timber, there should be half a dozen to a dozen young growth sales put up per year for these small mills that would be anywhere from a few hundred thousand board feet to a million board feet, so they have some variety of scale and size of the sales...and some division of who they're available to."

"You don't need a large diameter product, but you do need a sustainable supply. Nobody wants to invest in a risky business and risk comes along with supply—whether it's sustainable supply and it can be relied upon for decades, not years, decades, otherwise there's no interest in investment."

“To plan long-term, [the small mills] need to know there’s going to be raw product—at least a five-year vision of what’s available in order to finance and plan.”

“I just want a fair playing field.”

In line with CEDS 2025 Timber Objectives #1 and #5, interviewees reiterated the need to make a more than sufficient volume of small timber sales available to allow small mills to begin to scale their young growth operations to meet the needs of demand partners. Whereas 200 MBF were previously budgeted in the 2023 POW RD Timber Sale Schedule, small mills are voicing demand over 250 MBF for one mill, alone, and the desire to grow to over 1,000 MBF processing capacity in the near-term.

Multiple interviewees suggested providing guidance/defining the structure of timber sales in NEPA documents to restrict export of young growth, a policy strategy to disincentivize timber export that extracts wealth from rural and tribal communities. Interviewees also described how NEPA challenges to micro-sales have hindered the ability to process and supply wood products to meet local housing needs.

Goose Creek area processors expressed dissatisfaction with potential sales that incorporate tower logging and corridor thinning, as they are cost- and time-prohibitive to small mills.

Local Use Lumber Program

Processors are enthusiastic about a local use lumber grading stamp that would expand the market opportunity to the conventional housing market. The next steps are to write the grading standard handbook and teach visual grading. POW VocTEC is a priority location for hosting the trainings in Southeast Alaska. One interviewee voiced a concern that if the local use stamp is passed as a regulation, that can be harder to change than a piece of legislation is to pass.

Connectivity

AP&T submitted \$25 million in additional grant requests to build fiber internet to Whale Pass, Thorne Bay, and Hydaburg to bring communities on the island up to a similar standard of high-speed service.

Goose Creek mills that installed Starlink reported good internet service which eases operations.



Figure 7. Starlink internet connection at a Prince of Wales sawmill

Underutilized Resources

City of Thorne Bay Sortyard and Goose Creek Subdivision Solid Waste Transfer Facility

There are multiple viable near-term and one long-term site for industrial use for added processing or manufacturing infrastructure capacity in the Thorne Bay area. The Mayor of the City of Thorne Bay expressed interest in supporting efforts.

1. **Solid Waste Landfill site in Goose Creek Subdivision** – Visible in the top left corner of **Figure 8**

in blue line shading, this developed industrial site is 20 acres of which roughly 4 are currently in use. Plans are underway (pending only DOC comments, as of December 2022) to excavate 10 total acres of the site for expanded capacity for the next 50 years. The City Administrator plans to also pursue funding to expand recycling services. This site could be explored as an option with

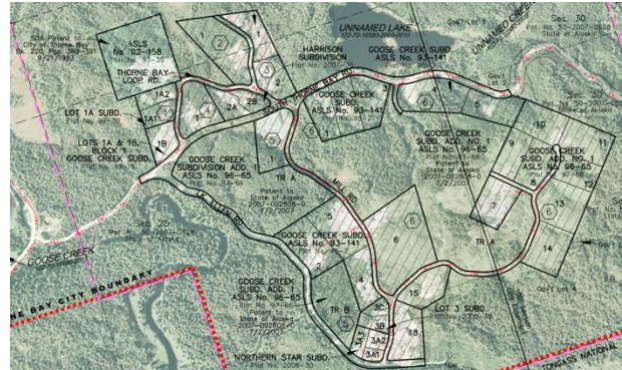


Figure 8. Goose Creek Subdivision, City of Thorne Bay

the Goose Creek mills as a location to install biomass utilization capacity, as pellet or bio-brick manufacturing, given its close proximity to all Goose Creek mills (smallest possible haul distance). This effort could possibly be pursued as a public benefit consolidated wood waste recovery program alongside the city's expansion of recycling services, if zoning allows; however, this may not fit with sawmill interests to monetize biomass recovery.

2. **Subdivision Units 12 and 13** – These units have reportedly been repossessed by the State of Alaska and are expected to be put back on the market for sale in the near term.

3. **Former sort yard** – 5.5 road miles from the juncture of S Thorne Bay Rd and Salt Chuck

Mine Rd in the Goose Creek subdivision is the former sort yard. Tract A, the southern side, is a 4.19-acre parcel owned by the U.S. Forest Service. It has a boat dock. Tract B is 8.86 acres of City property, which has a barge landing. The city has short-term (1-2 year) leases for roughly 3 acres that it does not expect to impede potential development. This site does not have water or sewer service, which may cost roughly half a million dollars to install. The adjacent area is Tongass National Forest land.

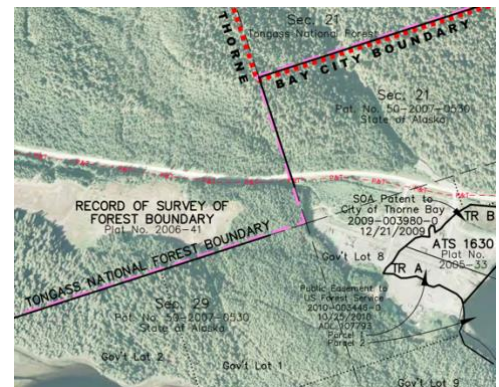


Figure 9. Former sort yard, City of Thorne Bay

4. **Kasaan Road and Tolstoi Bay future deep water port** – The Kasaan Road is under development for major improvements, opening up the opportunity for a future deep-water port at Tolstoi Bay.

Prince of Wales Vocational and Technical Education Center

POW VocTEC is undergoing change as a new team of staff joined in late 2022 to rebuild programming for the facility. The facility has classrooms, a wet laboratory, wood shop, build space, a concrete pad and level gravel yard. The Executive Director is prioritizing certifications from the Alaska Vocational Technical Center (AVTEC), the Eligible Training Provider List (ETPL), the State of Alaska’s Department of Labor and Workforce Development and Alaska Job Center Network to legitimize trainings. They are networking and recruiting skilled local instructors for a variety of trainings, including heavy equipment operation and first responder. The Executive Director has a background as a general contractor, is becoming certified as an instructor to teach a Construction Academy, and is pursuing funding for a small mill. VocTEC is an ideal location to site machine Stress Rating (MSR) equipment for testing alongside visual grading.

This facility offers an opportunity as a transactional/demand partner in the value chain to be allocated funding to purchase dimension lumber from POW young growth processors—such as air-dry lumber from Fair and Square Lumber or kiln-dry, planed lumber from JK Forest Products—to assist them in proving the market opportunity (to enable additional timber supply and infrastructure investments) while meeting priorities for housing manufacturing and workforce development.

Residual Biomass Utilization

“The pellet plant that Karen’s got now could set down in this town and it would be a really good starting point.”

“The [Gravina Island] pellet mill is a demonstration project. There is a predetermined site with power, and a secure source of feedstock. The plan is to get as many eyes on this project as possible and if it is successful implement similar projects in places like Prince of Wales.”

There is no existing productive outlet for biomass residuals at the Goose Creek Subdivision, where there is a high concentration of processing capacity on the island. One mill is enthusiastic about the potential for a pellet plant to use sawdust from Goose Creek mills. One other did not comment and expressed interest in installing their own capacity to make products from waste wood.

The City of Craig is replacing their biomass boiler on an earlier than expected timeline and indicated their interest in sourcing equipment that could accept both pellets and dried chips.

Híilangaay Hydro Loan: De-Risking a Distressed Utility-Scale Project

Híilangaay Hydro was identified as a priority risk mitigation area for lowering electricity costs on Prince of Wales Island for future industry before a sudden interest rate increase is planned to take effect in 2026. Concepts to address this issue include grant or appropriation to repay (or defease) some or all of the debt, or refinancing the debt with new terms. More details are available in the included “Híilangaay Debt Repayment Concept” note in the included Report Resources.

Invest in Young Growth Product Development

Value chain partners can focus on clearing the barriers for young growth entrepreneurs who are poised to expand processing capacity and develop young growth products by providing the technical support to test and launch a quality young growth product to an initial set of demand partners. Investing in product development could mean organizing open knowledge sharing sessions from entities like the U.S. Forest Service who have conducted research and testing on young growth species or conversations and collaborative marketing sessions to build consensus around the forest management goals and story behind the product. Ultimately, it means putting support structures in the service of entrepreneurs to help them overcome the barriers that they cannot manage alone in redefining an industry, product, and market.

In this early stage, partners wish to work together to build confidence and buy-in in the market that helps them demonstrate readiness and define parameters for long-term supply. Above all, processors ask that the focus be on creating real contract opportunities with demand partners.

Young Growth Properties and Product Quality Knowledge-Sharing and Education

“...the actual wood quality of that second growth, we've just recently found that it's a great wood product. It can be utilized in many of the same ways that old growth has been utilized, we just need to do more education and outreach to educate mill owners and the supply chain that this is a good product.”

POW sawmills processing young growth Sitka spruce reported difficulties with mold and branches affecting logs and lumber quality and customer satisfaction. They are unsure whether the mold will come out in the planar.

Processors have difficulty selling spruce products to customers as they are less interested in the wood. Knowledge sharing and education may be beneficial for processors, as technical support for product quality, and regional customers to become comfortable with the new wood products.

Activity: Resilient Product Roadmap

One possible exercise for value chain partners to go through to center product development would be an adapted version of the Resilient Product Roadmap developed by Mural, designed to “help

product leaders plan and rally their organizations around more collaborative and strategic product planning.” A preliminary draft has been started ([here](#)) from a template (available [here](#)) and instructions ([here](#)).

Incorporate Support for Working Together

“I just wish we could all seem to work together. ...nothing ever gets done. We have meetings and meetings and meetings and meetings.”

Interviewees expressed the difficult history and lived experience of the changing timber industry in Southeast Alaska over recent decades. Many described experiencing distrust of other stakeholders or groups, while simultaneously expressing that the only way forward for the industry to survive a transition to the young growth opportunity would be through working together.

Behind words of discontent from small processors is the desire to have jobs that matter, that go appreciated. Some feel subject to hypocrisy—either around the actual vs. stated availability of timber for small sales, or around the clash between valuing sustainability (which they feel they are part of, as mills operating with small harvest volumes relative to the greater timber industry) and shutting down or lamenting any timber sale. They all expressed a desire for job opportunities that would last into future generations, to support their families and kids.

Reflective Conversations

One possible approach to building trust and strengthening relationships is a reflective conversation model which creates a space for participants to listen to and forge new connections with one another. The reflective conversation model uses open-ended conversations to create opportunities to deepen understanding, rapport, and relationships, which can be held in more general community settings, among specific groups, or as an opening to a facilitated outcome-driven workshop.

“Reflective conversations are opportunities for focused yet open-ended dialogue about ideas; instead of aiming for consensus, finding solutions, or debating an argument, the goals are exploration and listening to others. Reflecting on ideas in the company of others through conversation is one important way—among many—for people to think about their beliefs and the relationship between what they think and how they act in the world. It’s also a way to build community, gain understanding of a variety of perspectives, and strengthen how we work and live together.”

– Oregon Humanities, Talking about Divides: A Toolkit, page 3

Storytelling POW Young Growth Wood Products

“Factual errors and misguided information regarding both industry and the Tongass continue to be promulgated on the regional, state, and national levels. Change the perception of industry through a focused public relations effort led

by industry and supported by regional partners. Tell the story of the Southeast Alaska timber industry as it exists today. Describe timber's associated secondary and tertiary industries that benefit directly from timber harvest and associated projects, contracts, and personnel.” – CEDS 2025 Objective #6: Timber Communication and Advocacy, page 32

In line with CEDS Objective 6, building a regional coalition of value chain relationships may support the secondary need for an authentic communications strategy to build public confidence in forest management and the timber sector in the region.

Conclusion

There is strong alignment among interviewees in interest to develop young growth wood products manufacturing on Prince of Wales Island. Key leverage points and priority next steps, detailed in the accompanying Proposed Meeting Agendas and Next steps document, are:

Construct a WealthWorks Value Chain

1. *Build a Prince of Wales Value Chain Coalition* to ensure and oversee that the value chain will be built by and benefit all parties in tribal and rural communities. Connect timber supply, demand, processors, and workforce development infrastructure toward launching an initial young growth wood product value chain in the near-term.
2. *Build workforce development capacity* and a long-term vision for timber sector careers through the Prince of Wales Vocational and Technical Education Center and support partners.

Invest in Young Growth Product Development

3. *Support entrepreneurial small mills* on Prince of Wales who are actively working with what they have to process young growth for wood products with implementing the vision to scale to regional demand. Convene a Small Mills Group and connect them with support partner resources such as advocacy and planning for improved timber sale availability, acquiring and financing new harvesting and processing equipment, product quality, kiln infrastructure planning and financing, and technical assistance for a detailed market assessment of total annual regional consumption of lumber, housing, and engineered wood product market assessments.

Incorporate Support for Working Together

4. *Host conversations, meetings, and convene workshops* to build collaborative capacity.
5. *Bring community members together to envision, tell, and share the story* of the emerging forest stewardship and wood products sector on Prince of Wales and in Southeast Alaska.

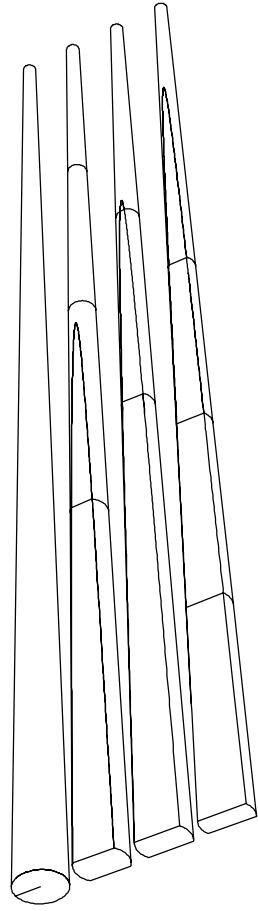
Appendix A: Interview Record

Appendix A. Interview Record

This document is a record of semi-structured interviews, consultations, and site visits conducted between September and December 2022 for the Prince of Wales Young Growth Wood Product Hub Initial Feasibility Project.

	Interviewee Name	Title/Organization	Location	Date
1	John Huestis	City Administrator, Thorne Bay	Ketchikan, Thorne Bay and Goose Creek, In Person	9/13/22, 11/17/22
2	Priscilla Morris	Wood Utilization & Forest Stewardship Coordinator, U.S. Forest Service	Ketchikan, In Person (SE Conference)	9/14/22
3	Mike Sheets	Tongass Young Growth Coordinator, U.S. Forest Service	Phone Call	9/15/22
4	Michael Kampnich	The Nature Conservancy	Craig and Goose Creek, In Person	9/15/22, 9/17/22, 11/14/22
5	Andrew Thoms	Executive Director, Sitka Conservation Society	Ketchikan, In Person (SE Conference)	9/15/22
6	Jon Bolling	Community member, VocTEC Board Member	Ferry, In Person Ketchikan>Hollis	9/16/22
7	Jason Custer	Vice President, Business Development, AP&T	Phone Call	10/17/22
8	Karen Petersen	Biomass Coordinator, Southeast Conference	Thorne Bay, In Person	11/8/22
9	Brian Templin	City Administrator, Craig	Craig, In Person	11/9/22
10	Ann Williams	Dispatch, Alaska Marine Lines	Craig, In Person	11/9/22
11	Charles "Chas" Edwardson	Director, POW VocTEC Center	Klawock, In Person	11/9/22, 11/10/22
12	Quinn Aboudara	Natural Resource Coordinator, Shaan Seet Incorporated	Craig, In Person	11/11/22
13	Jay & Josh Kohn	Owners, JK Forest Products	Goose Creek, In Person	11/14/22, 11/17/22
14	Keith Landers	Owner, K&D Lumber Company	Goose Creek, In Person	11/14/22
15	Nicholas Reynolds	Timber Management Assistant, U.S. Forest Service	Thorne Bay, In Person	11/15/22
16	Caleb Toman	New mill owner	Whale Pass, In Person	11/16/22
17	Don Nicholson	Owner, Fair and Square Lumber	Coffman Cove, In Person	11/16/22
18	Patricia Natkong	President, Hydaburg Cooperative Association	Phone Call	11/18/22
19	Don Nickerson	Mayor of Klawock	Klawock, In Person	11/18/22

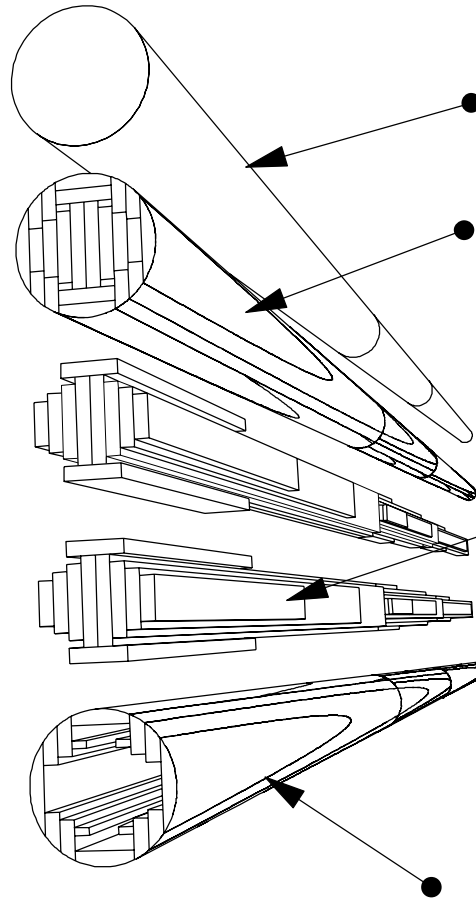
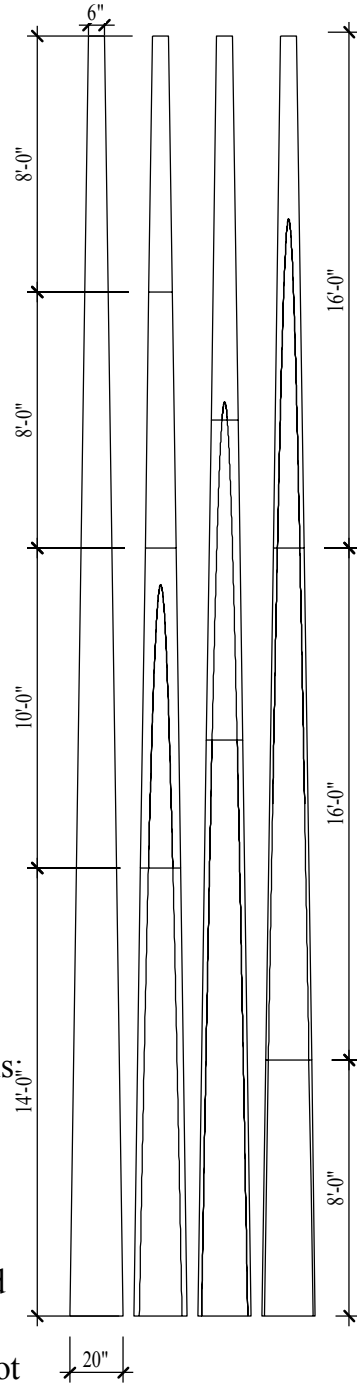
Appendix B: Prince of Wales Island Sawmill Study



Study of log bucking and primary breakdown options:

12x, 10x, and 8x opening face for resaw (above)

Log bucking options based on local sidehill timber conditions and butt log knot integrity.



Study of whole tree lumber and slab volumes (rough)

● Total log volume (convert tonnage to ~30% moisture)

Sawing pattern in this example is pushing long dimensional stock from quality butt logs.

Sawing pattern in the examples of yield shows a maximum recovery from slabs of utility grade lumber, including rough cut 1x4s and 1x6s.

Slab volumes are shown with the maximum recovery but note the 90 board foot "swing" from recovered utility lumber so actual utilization may range from low 40% to high 50% based on log quality and sawmill optimization.

Total board feet per log: 485
 Modeled sawing pattern merchantable yield: 288
 Biomass residuals per log at maximum yield: 197 MBF, 1.5 tons
 Minimum yield without 90 board foot slab recovery: 198
 Biomass residuals depending on range of yield: (tons): 1.5-2
 Biomass conversion factor: 7.5 tons per MBF

FOR:		REVISIONS	
REVIEW/EST.	DATE: 1/07/23	DATE	BY
SHEET:	SCALE: 3/16"=1"		
1	DSN TEAM: ELI/GEORGIA		
	DRAWING TITLE: LOG DIMENSIONS		
	Sustainable Timber Investment eXchange (STIX, L3C), A Vermont Limited Low Profit, est. 2007 with a timber utilization mission. Eli Gould, Founder & sole member/manager. All rights reserved. Phone: 802-258-0800 ironwoodbrand@gmail.com		
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PRINCE OF WALES ISLAND SAWMILL STUDY