MARCH 2026

CLOUD FOREST INSTITUTE

Forest Reciprocity Group

Pole Aggregation Depot

Incentivizing Healthy Land Stewardship

PO Box 73 Boonville CA 95415 | (707)380-5059 | www.forestreciprocity.org

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Executive Summary

Forest Reciprocity Group
Pole Aggregation Depot (FRG PAD)

Mission

To increase incentives for forest restoration through sustainable round timber production.

Vision

To model and build out a replicable round pole processing and marketing business.

The Product	We produce, market, and sell Round Timber (RT), ranging from utility and furniture sizes to interior finish quality, Structural Round Timber (SRT) for use in construction.
Our Team	Eric Lassotovitch, Anna Hope Farporte, Jenny Burnstad, Matilda Hernandez-Miyares, Bodhi Harnish, Chuck Payne, Govinda Dalton, and Brenda Quintero
The Overall Industry	While dimensional lumber dominates the building materials market, architects, designers, and builders are increasingly interested in more climate-friendly, fire resilient, and biophilic building materials.
The Challenges	The region currently lacks a source for graded Structural Round Timber (SRT), so in that way there is no competitor. In competing with dimensional lumber, SRT's higher price is justified by its superior strength, sustainability, durability, and aesthetic value.
The Financial Status	FRG PAD is seeking grants and investment to scale its operations. Financial resources will focus on developing and staffing an aggregation and processing facility.
Future Plans Aggregation & Primary Processing Site	In 2026, FRG PAD will utilize a temporary aggregation yard to begin initial production. In 2028 we will be operational at a permanent FRG PAD site either in Laytonville or South Leggett.
Other Future Plans Mobile Unit Development	In 2026-27 FRG is building our pilot Mobile Restoration, Harvesting and Processing Unit (Mobile Unit). We have purchased a pole peeler, and Forest Concept's landscape restoration tools. (see page 7)

Our Team

Eric Lassotovitch
FRG PAD Coordinator (Primary processing)

Eric, a licensed building contractor, brings over three decades of woodworking & ecological home building expertise.

Anna Hope Farporte
FRG Board President

A lifelong environmental activist. She currently works as director of an environmental department of a local Tribal government.

Jenny Burnstad
FRG Board Secretary

Jen has over 30 years experience in non-profit management and multi-fund accounting. Director of Cloud Forest Institute, the founding fiscal sponsor of FRG.

Matilda Hernandez-Miyares
FRG Board Treasurer

Matilda has been a FRG member since 2021, driven by her love of the forest and a desire to tend in community. She is the bookkeeper in training.

Bodhi Harnish
FRG Executive Director

Bodhi is exploring an interdisciplinary path in participatory design, natural building, and alternative energy systems.

Chuck Payne
Strategic Planning

A professional Geologist, Chuck brings his love of the earth and natural systems to ground FRGs efforts.

From left to right: Bodhi, Brenda, Chuck, Jenny, Govinda, Matilda, Eric, Anna Hope

Govinda Dalton
Mobile Unit Coordinator

Govinda has over 40 years of expertise in wood resource utilization, evolving from traditional tree services to pioneering fuel load reduction solutions and developing an award-winning proposal for a small diameter pole processing and distribution yard in 2007.

Brenda Quintero
Grant Writer

Brenda brings 25+ years of executive non-profit management and 15 years of Regenerative Land Management experience.

The Problems, Our Solutions

Managing fire risk requires building an economic framework where forest thinning generates value.

The Problem

Overcrowded, Fire Prone Forests

Due to past logging and fire suppression practices, northern Mendocino and southern Humboldt Counties are abundant with overcrowded forests that deplete water resources, stunt tree growth, and are prone to catastrophic wildfires.

High Cost of Forest Thinning

Forest thinning and maintenance has an expensive price tag, and grant funds are not long term solutions.

Lack of Round Timber Supply

The positive shift towards fire resistant, natural building in the North Coast is hampered by the lack of a regional source for Round Timber.

Policy Barriers

Many timber-lands in our region have excess material that needs removal but the costs of developing Timber Harvest Plans (THPs) exceed potential returns. This discourages landowners, additionally, California Forest Improvements Program (CFIP) regulations present a major barrier to Round Timber utilization.

The Solution

Forest Thinning

Ecologically sensitive forest thinning is proven to improve the health and fire resilience of our region's forests. Forest thinning needs to become a widespread practice across the region to achieve greater fire resilience in the face of megafires such as the August Complex of 2020.

Fund Thinning via Forest Byproducts

We will offset the cost of forest thinning through the aggregation, processing, and marketing of Round Timber from forest thinning projects.

Create Regional Round Timber Source

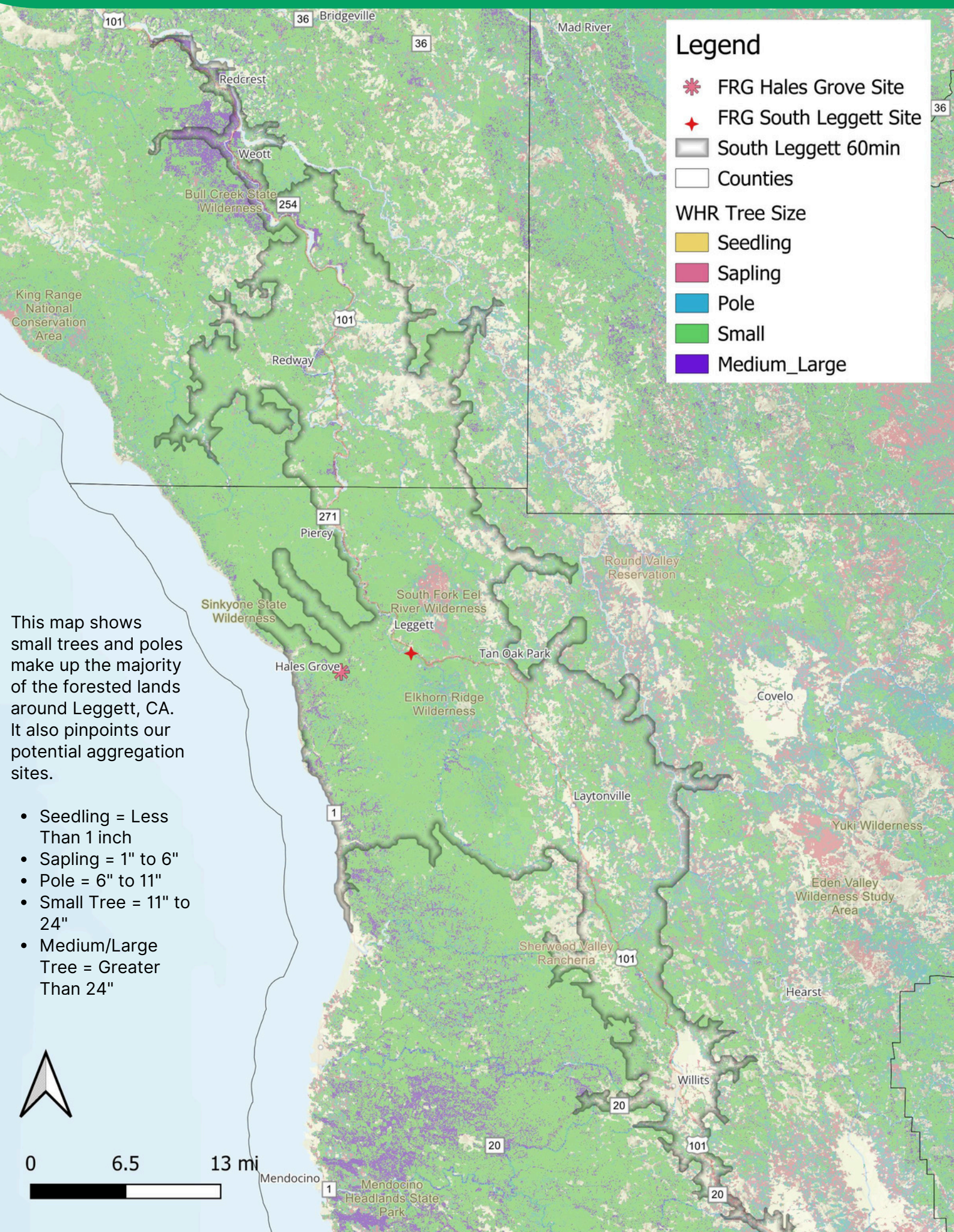
Regionally sourced Round Timber suits a variety of end uses.

Policy Reform

By conducting harvesting trials, we hope to gain clarity on important policies that the state has been reluctant to define. We will continue to advocate for forest friendly solutions to our housing crisis. By growing strong partnerships we can explore the potential of this material and eventually standardize its use in the building industry.

Building departments and insurance companies could incentivize and streamline fire resistant natural housing. For example pre-approved timber frame ADUs.

Regional Predominance of Small Diameter Trees



This map shows small trees and poles make up the majority of the forested lands around Leggett, CA. It also pinpoints our potential aggregation sites.

- Seedling = Less Than 1 inch
- Sapling = 1" to 6"
- Pole = 6" to 11"
- Small Tree = 11" to 24"
- Medium/Large Tree = Greater Than 24"

Doing Business as a Nonprofit

Our nonprofit business will provide a regional source for round timber products.

Promoting Rural Forest Health Economy

By making RT products, including SRT & ELWd, available to the public we will further our non-profit mission to educate and promote forest health and healthy housing.

We will pay our staff a living wage, incubate local round timber businesses, and support forest restoration projects.

Advantage of Nonprofit Structure

Our nonprofit business will prioritize forest and community health, building a circular, ecologically solvent, steady state economy. As business operations expand the FRG-PAD can grow into a subsidiary Sole Member LLC, which can also be a cooperative.

Our Products

We produce, market, and sell round timber, with a focus on Douglas fir. Our products range from utility and furniture sizes to interior finish quality Structural Round Timber for use in construction.

Structural Round Timber (SRT)

Interior finish quality, peeled, dried & graded (construction-ready).

Ideal for exposed structure framing.

Available in 6"-14" diameter

Available in 16' & 24' lengths and varying degrees of sweep (bend).

Utility Round Timber

Utility grade posts and tree stakes for erosion control and forest health projects. These are often used for Post Assisted Log Structures (PALS) and Beaver Dam Analogs (BDA).

Mechanically turned round timber, available in 2.7”-5" diameter.

Small Structural Round Timber

Dried & Graded

Available in 4”-6” diameter, ideal for railing posts or small structure framing.

Knee Brace Material used for 45 degree post and beams bracing, 3 ½”-4 ½” diameter.

Available in 12' & 16' lengths.

Artisan Round Timber

Our 1"-6" diameter hand peeled tight grained round wood is ideal for furniture craftsmen and designers.

Air-dried or kiln dried for minimal checking.

ELWd Products

ELWd, or Engineered Large Woody Debris is a set of all-wood tools for landscape restoration projects. Allowing land tenders to mimic the effects of Large Woody Debris with the use of Round Timbers joined together. Components are light enough to be installed without heavy machinery.

1.

2.

3.

1.

Engineered Log Jams

Designed to quickly create deeper pools, stimulate debris jam formation and create habitat

Comes in 5', 8', 12' & 16' wide lateral jams

2.

FlowCheck™

Log Erosion Barriers, manufactured all-wood alternative to contour-felled logs, straw bales and straw wattles.

Provides a “soft-scaping” alternative to concrete retaining walls when combined with tree planting

Comes in 30", 60" & 90" lengths

3.

Hollow Round Logs

Creates the effect of Large Woody Debris while utilizing small diameter trees, making installation possible without heavy equipment.

Comes in 12', 16', 20' & 24' Lengths

Our Services

We provide a variety of wood product services.

SRT Services:

- We track and grade stamp* Structural Round Timber (SRT) as an onsite service.
- We market SRT to architects and designers.

We Offer:

- We help landowners reduce forest overburden and navigate the regulatory guidelines of fuel reduction projects.
- Customized orders.
- Wood recovery trainings, integrating harvesting & processing into forest health work.
- Promote Round Timber utilization through education and support for local craftsmen, builders and interested community.

*A **grade stamp** is a mark on lumber that indicates the wood's structural strength. Grade stamps are required by architects and building codes.

This POSCH Schälprofi pointing and debarking machine is an example of the type of equipment that will be used with the Mobile Unit. Photo courtesy of posch.com.

Market Analysis

For the time being no comparable source exists in our region. Market acceptance of Round Timber represents both a challenge and an opportunity in the construction industry.

A Promising Future for Forest Health Economy
Round timber can revolutionize both forest restoration and construction. Trees evolved naturally as efficient load-bearing structures, making their round form ideal for building. SRT is considered to be heavy timber (a type of mass timber).

The Challenge Now
The challenge now is coordinating supply with demand.
We need to efficiently create enough peeled poles to support both experimentation and early adopters, so this fantastic natural building material can gain traction.

Target Markets

- Architects, Landscaper Designers
- Natural/Green builders
- Natural Building Material Suppliers (wholesale & retail)
- Institutions (State/National parks, Eco-resorts, Universities)
- Furniture makers and craftspeople
- Watershed restoration projects

Market Potential

- The North American mass timber market is currently $1 Billion per year and growing quickly, estimated to grow to $10 Billion in 2030, and $78 Billion by 2035*
- SRT is less energy-intensive to produce than many forms of mass timber, and when sourced from forest health projects is a truely ecological choice.
- Our region has high potential to lead in this market due to our abundance of supressed growth small diameter trees.

Photo courtesy of ClearShotCreations

Planning for the Future

To accelerate market adoption, several key initiatives are necessary:

- Updates to building codes and grading standards to explicitly address SRT construction
- Education and training programs for construction professionals
- Creation of simplified design tools and guidelines for architects and engineers

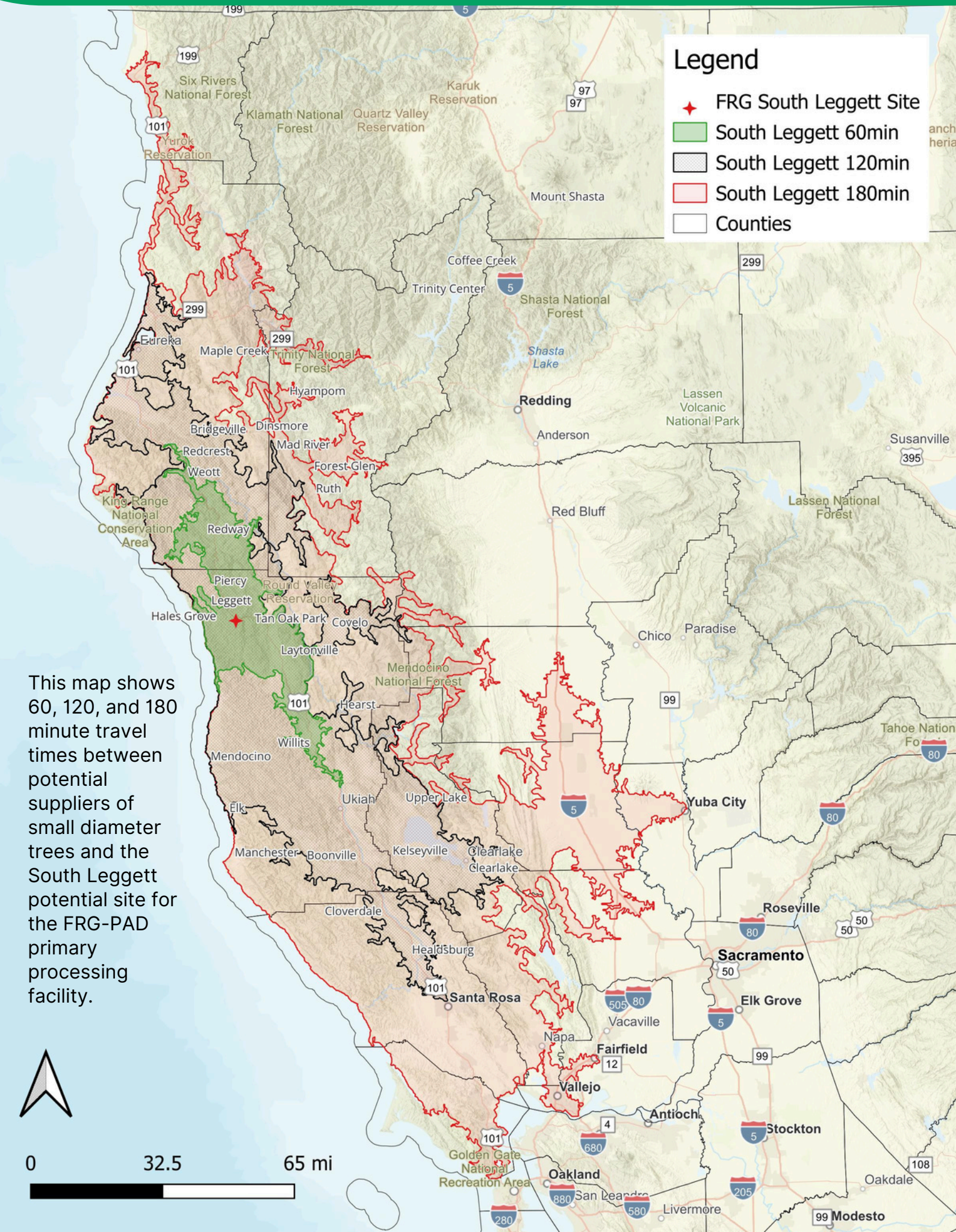
*2025 PNW Regional Mass Timber Market Study

How We Process Round Timber

Sorting, peeling, curing and grading Round Timber for minimal checking

Selection at Harvest Site	Intake & Peeling	Grading & Sealing	Sorting & Drying	Inventory & Sales
• We will be working with foresters, to integrate RT selection into timber harvest plans. • We will train forest health crews to selectively harvest RT from legal sources • Once prepped, harvested logs are carefully loaded and transported to our processing facility	In the **Sorting Barn** Raw logs are: • Sawn to the collar at all branch stubs • Scanned for metal • Chopped to remove metal • Sorted for size category • 6"-14" diameter are pressure-washer peeled for SRT production • 3"-6" are turned to standardized diameters or hand peeled • 1"-6", non-structural logs are hand peeled, and made available for furniture and other non-structural uses.	SRT logs are then: • Scanned by an ultrasonic grading machine for internal rot and strength • Visually graded (some logs sorted out to be chipped) • Stamped with QR origin & lot code and grade stamp • Sealed with end sealer on ends and knots.	SRT logs are then: • Sorted by diameter, grade & sweep • Racked on pallets • Loaded into a **climate-control barn** or directly into **dry kilns.** • Each pallet has a QR tag to track its drying schedule • As inventory needs to be replenished logs are dried in the dry kilns	• Cured SRT logs are inventoried and stored in a moisture-controlled **product barn** until sold. • RT logs are sold & transported to retail stores & manufacturers

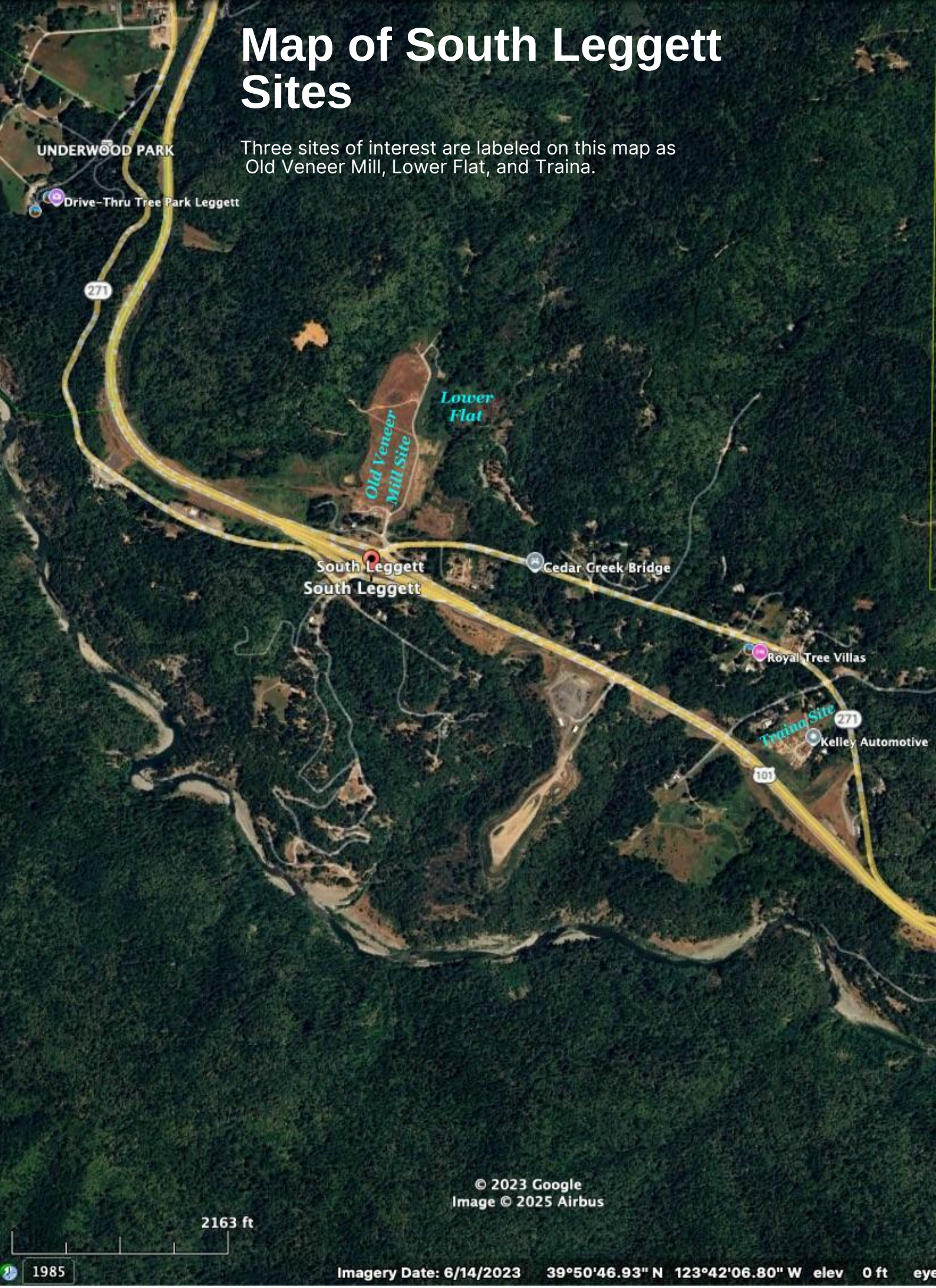
Woodbasket Analysis - of Potential South Leggett Sites



This map shows 60, 120, and 180 minute travel times between potential suppliers of small diameter trees and the South Leggett potential site for the FRG-PAD primary processing facility.

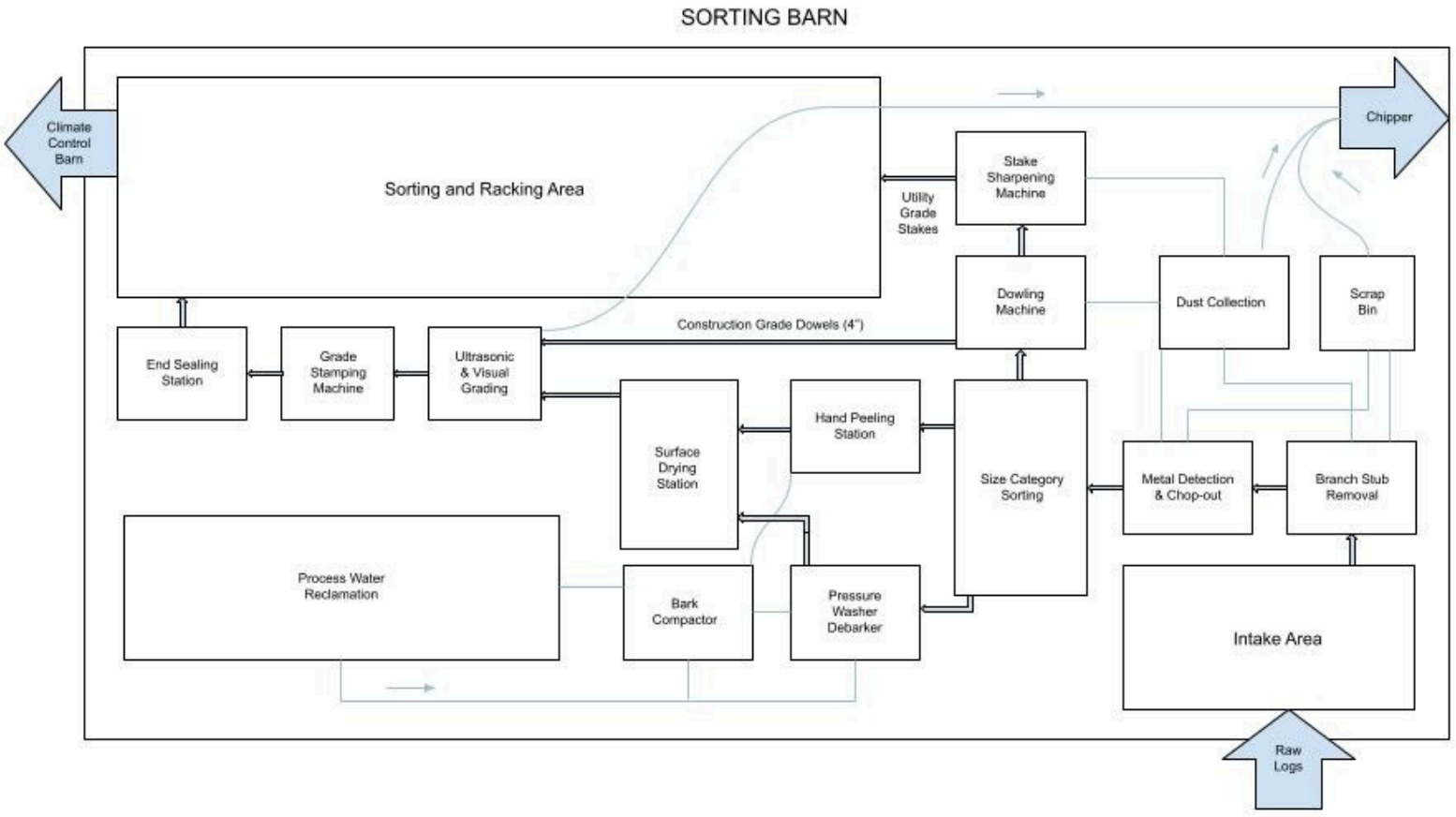
Map of South Leggett Sites

Three sites of interest are labeled on this map as Old Veneer Mill, Lower Flat, and Traina.



Plant Design
Primary Processing & Aggregation Site

A Post & Pole Equipment manufacturer is helping finalize our plant design and budget. The preliminary design is shown here.



Jobs at Primary FRG-PAD Processing Site

At start-up the primary processing facility will support a number of seasonal and year-round jobs.

Part time, Year Round Jobs

- **Project Director**, 20 hrs/week
- **Sales and Marketing Manager**, 20 hrs/wk
- **Admin Assistant/Tracking System**, 20 hrs/wk
- **Bookkeeper**, 5 hrs/week

Full time, Seasonal Processing Jobs
May 1 - Sept. 1

- **Operations Manager/Maintenance Technician**
- **Debarking & Curing Technician**
- **2 Sorting/Grading/Forklift Operators**
- **Log Trucker/Handler**

Estimated Total Annual Labor Cost: $263,100

Technical Development

Developing appropriate technology to support Round Timber utilization

FRG is researching and developing technical innovations to improve the economic feasibility of pole utilization including:

Mobile Wood Curing Unit

This concept includes an efficient design for a sturdy, lightweight, 16' x 26' insulated panel building that can break down and move with ease. We are working with Environmental Engineering students at Cal Poly Humboldt for their capstone project.

See Appendix for a preliminary equipment list for the mobile unit.

Ultrasonic internal decay scanner

Healthy wood transmits sound waves faster than decayed wood. We have developed an early schematic design for a scanner specific to our needs.

Engineered Building Elements

Building design is simpler with pre-calculated building elements such as roof trusses and standardized bracing details

Pressure Washer Debarker

Hand peeling logs is labor intensive and cost prohibitive for the primary aggregation and processing yard. Blade debarkers currently on the market create checks in the logs that degrade their quality. Whitchurch Engineering has created a proof of concept proposal for a custom pressure washer debarking, which will peel and wash logs in one step.

Pressure Washer Debarker Concept Drawing from Whitchurch Engineering

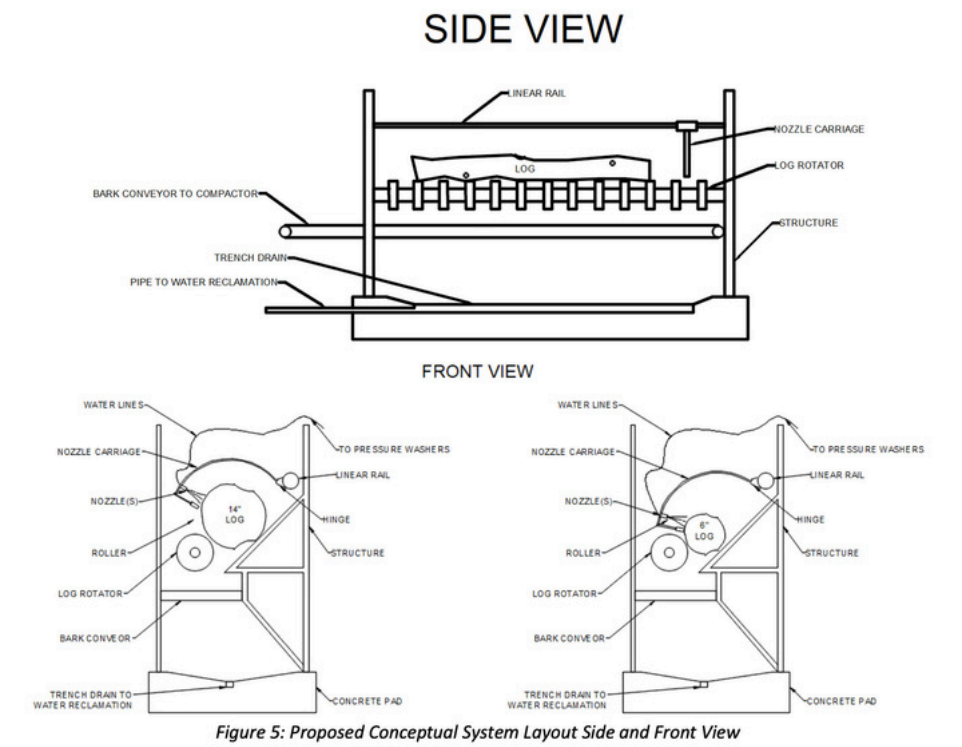


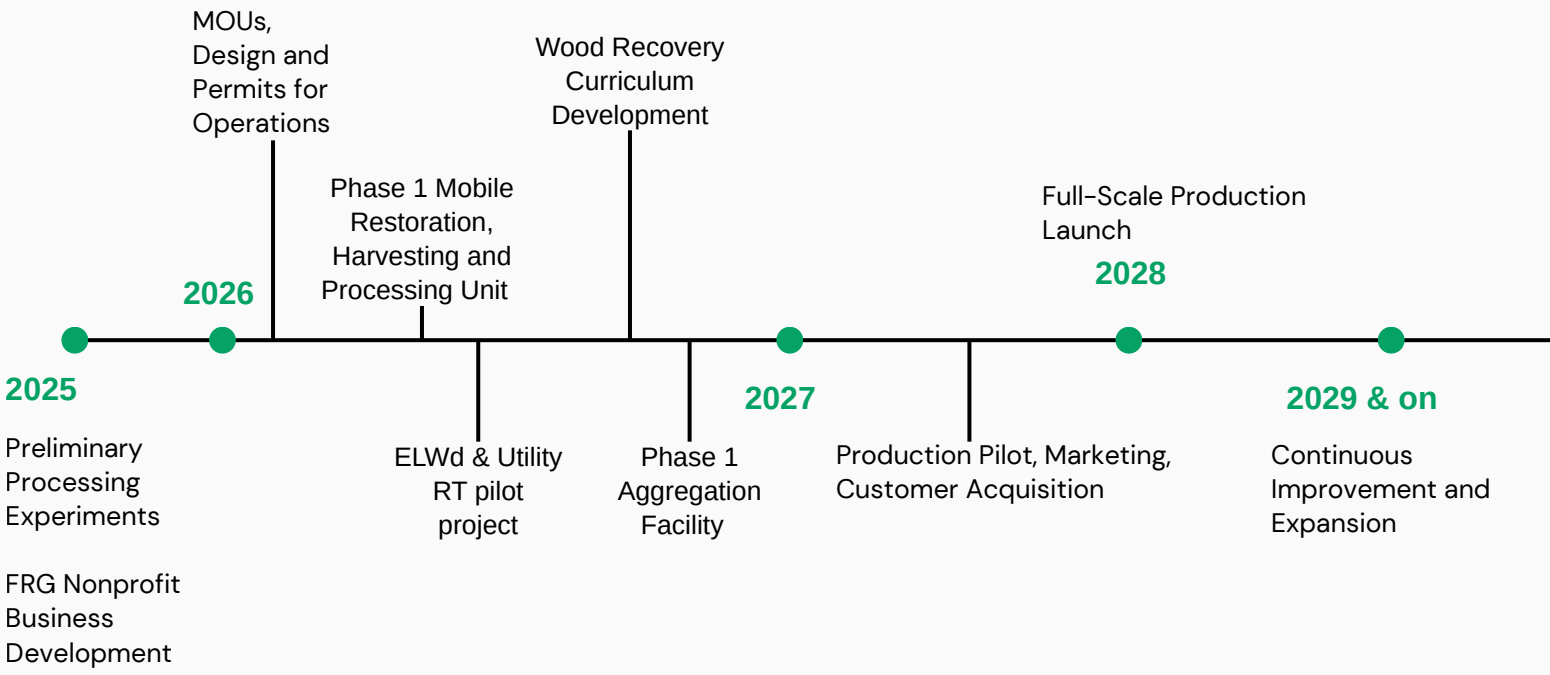
Figure 5: Proposed Conceptual System Layout Side and Front View

Our Strategy & Milestones

Strategy: Keep it simple, with a forest-first ethos

Throughout 2025 and 2026 we will focus on securing funding and permits, and building long-term partnerships with suppliers and distributors.

2026 and 2027 will also see hiring and training core staff and developing standard operating procedures and safety protocols.



Summary and Recommendations

While round timber aggregation shows promising potential for our region, we continue to evaluate economic feasibility and cost structures to ensure long-term sustainability.

We are seeking public investment and support in the following:

Research & Development

- Develop efficient processing methods & equipment:
  - pressure washer debarking
  - ultrasonic decay detection
- Optimize production costs through improved drying processes, including kiln drying
- Design curriculum for Wood Recovery Crew that integrates Round Timber harvesting with forest health projects
- Engineer cost-effective manufacturing tools and plant design

Regulatory & Operational Improvements

- Layout clear legal pathways for sourcing wood from restoration projects
- Build organizational capacity through strategic hiring:
  - Sales and marketing
  - Operations tracking
  - Mobile processing
  - Project management

Market Development

- Define grading pathways for building code integration that reflect SRTs superior strength, including Machine Stress Rating
- Construct demonstration manufacturing facilities
- Establish product feasibility and cost benchmarks
- Expand pre-engineered design elements and building plans
- Engineer designs for Worker Housing constructed with SRT

Photo courtesy of ClearShotCreations

SWOT Analysis

Strengths:

1. Innovative semi-kiln drying process producing minimally checked poles
2. Strong focus on sustainability and local forest health
3. Ability to utilize small-diameter trees from forest thinning operations
4. Diverse team with expertise in construction, forestry, and sustainable practices
5. Local sourcing reduces transportation costs and carbon footprint
6. Our product used in braced timber frames surrounded by natural plastered walls brings superior seismic and fire resistance compared to typical shear wall construction
7. Alignment with growing demand for sustainable building materials
8. Potential for custom sizing and specifications

Weaknesses:

1. Limited personnel resources and organizational capacity in startup phase
2. Products need to become more established in the marketplace
3. Seasonal nature of production (May to September) may lead to cash flow challenges
4. Limited initial production capacity (until FRG PAD is built)
5. Production costs will involve specialized processes and are still to be determined
6. Reliance on specific tree species (mostly Douglas fir and some Redwood)
7. Initial R&D capital needed for specialized equipment (e.g., ultrasonic internal decay scanner, debarking systems)

Opportunities:

1. Growing market and need for sustainable and fire-resistant earth plastered timber frames
2. Increasing focus on seismic and fire safety in construction
3. Potential partnerships with eco-conscious architects and builders
4. Expansion into new product lines (e.g., furniture & specialized construction elements such as trusses)
5. Obtaining L.E.E.D. green building certifications, and integration into the Universal Building Code (UBC)
6. Educating consumers and construction professionals about the benefits of structural round timber
7. Potential for government contracts and subsidies that support sustainable forestry practices
8. Replication into broader geographical markets beyond Northern California
9. Establish robust feedback and adaptation mechanisms to adjust for any unintended consequences

Threats:

1. Push back from current building industry establishment
2. Economic downturns affecting construction industry
3. Building codes changes could impact product use (although positive changes are more likely)
4. Climate change affecting local forest health and available raw materials
5. Potential supply chain disruptions
6. Fluctuations in timber prices affecting profitability

Acknowledgements

Forest Reciprocity Group would like to express our gratitude to our Working Group members and collaborators whose advice and support has been, and continues to be, vitally important to the realization of this business plan.

Thank you!

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Damien Roomets & Directors,Trees Foundation
River Lassotovitch, Project Planning
Emily Hobelman, Emily Hobelman Consultating
Paul Bozzo, Small Business Development Center
Kathy Moxon, Redwood Forest Foundation RFF
Karen Youngblood, Usal Redwood Forest and RFF
Linwood Gill, now retired from Usal Redwood Forest and RFF
Steve Severi, Usal Redwood Forest and RFF
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Jim Bowers, Hales Grove
Whitethorn Hardwoods
Tad Cleave, Timber Products Inspection
Paul Laudenschager, Alpine Engineering
John Cunnan, Wildwood Crafts
Emily Tecchio, Mendocino County Fire Safe Council
Peter Roediger, Biochar Coalition
Terri McCartney, Pinoleville Pomo Nation Environmental Protection Dept.
John Haschak, Mendocino County Supervisor
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Pedro Maturana, California Center for Cooperative Development
Clifford Paulin, Attorney at Law
Elliot Kuskulis, Tukman Geospatial
Michael Furniss, Sacred Groves
Eric Almquist, Almquist Lumber
Robert Gernert, Economic Development & Finance Corp. EDFC
Perry Lincoln, Native Health in Native Hands
Forest Concepts, LLC: Jim Dooley, Perri Downey, David Lanning, Jason Perry

Appendix

List of supporting documentation, which can also be found in this pubic shared folder.

For more information or to report broken hyperlinks, please email matilda@forestreciprocity.org

Financials	This is the work completed to date on the financials for the FRG-PAD primary processing site. https://docs.google.com/spreadsheets/d/1IcMPIE_U08PEsYcnsD1M7or7gEyGGQhh5CpZ0Bbir4g/edit?usp=sharing
Preliminary List of Equipment for Mobile Unit	Equipment List with Pictures: https://drive.google.com/file/d/1_jQZY-NrTka3gkfZaBSbC8J55crrjgA_/view?usp=sharing
SRT Harvest Trial 2025	Report by Eric Lassotovitch: https://drive.google.com/file/d/1UB2G2SFIQOPmlNE0SYN1sR8a2J-DW0Ts/view?usp=drive_link
Pressure Washer Debarker Engineering Specs	Proof of Concept: https://drive.google.com/file/d/1L5s7jtrYW8KXr9GKHAb_kH0FYwO77P3J/view?usp=sharing Calculations: https://drive.google.com/file/d/1H-Y2aCcvjiQaL3ujrtucsciKsFbT34hB/view?usp=sharing
Letter of Support from Redwood Forest Foundation, Inc	https://drive.google.com/file/d/1MuDoDv5KPEHjb1fdqdfcucqJ1gGtYI1E/view?usp=sharing
2025 PNW Regional Mass Timber Market Analysis	Produced by the Pacific Northwest Mass Timber Tech Hub. See page 86 for Future Mass Timber Project Demand. https://drive.google.com/file/d/18TfAdFVTdnfs5oqeeGaKnTtIglPIQlQ1/view?usp=sharing