Aligning Forest Restoration Needs with Forest Infrastructure Capacities

By Lloyd McGee
The Nature Conservancy
Pacific NW Collaboratives Workshop
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12.4 million ac.
73% departed

Eastern Washington
2.4 million acres

US Forest Service 47%

Tribal 14%

Private 30%

WA DFW 1%

WA DNR 7%
Three Questions

• How do we increase pace and scale to restore these landscapes in the next 20 years?
• How will we pay for all of the various types of restoration needed in all of these landscapes?
• Can Forest Products Revenue from Stewardship Contracting play a key role in funding restoration?
Colville National Forest Model

• Colville NF has a fully integrated Forest Products Infrastructure

• All types of mills trade logs with each other getting the right log to the right mill to maximize production efficiency based on species and size classes of logs

• Colville National Forest benefits by receiving as much as $4 million/yr. in revenue to reinvest into further restoration projects
The Central WA Forest Owners’ Dilemma

- Forest revenues are non-existent on the Okanogan-Wenatchee National Forest because of the following:

  - Only one local saw mill exists: Yakama Forest Products (Tribal) in South Central WA
  - Most of the Wood Supply for the tribal mill comes from tribal land
  - Haul Distances on the average are at least 200 miles one way to other purchasing facilities
  - Non-local mills lack supply but unless projects are made to be economically favorable, no bids are submitted
Solution 1 – New Infrastructure

Reintroduce new infrastructure to the region through a novel financing structure and different supply contracts.
Four Steps Are Needed to Create Infrastructure Investment Confidence

1. **Supply Assessment**: Determine the inventory and available supply
2. **Supply Agreement**: Landowners agree to provide the assessed supply over defined period
3. **Long Term Contracting Mechanism**: A 10 year Supply Agreement or Stewardship Contract is provided or purchased by the investor
4. **Financial Ability**: Capital Lenders are provided proof of reliable supply and profitability to make the capital loan
There are few local markets for wood in Central Washington.

Each bar represents a mill. The left side indicates its GPS coordinates and the color codes represent the products it produces.
The Forest Requires Disturbance Based Restoration

**DISTURBANCE RESTORATION NEED**

<table>
<thead>
<tr>
<th>Level of Analysis</th>
<th>Acres</th>
</tr>
</thead>
<tbody>
<tr>
<td>Total Forest Area (Acres)</td>
<td>5,054,224</td>
</tr>
<tr>
<td>Restoration Need</td>
<td>1,666,403</td>
</tr>
<tr>
<td>Disturbance Based Restoration Need</td>
<td>1,286,160</td>
</tr>
<tr>
<td>Mechanically Operable Disturbance Based Restoration Need</td>
<td>622,845</td>
</tr>
</tbody>
</table>
What is restoration inventory?

Characteristics of restoration inventory

1. Must be “unreserved”
2. Must be accessible by existing roads
3. Most not fall within the fire footprint of the past 10 years
4. Stand must be overstocked
5. Age <90 years on USFS land
6. All ages state, private ownership
7. Count only trees ≤ 20” diameter

This is the total volume that we estimate could be responsibly removed as part of necessary restoration harvests
Supply Study Results

- Total Forested Area: 5.4 million acres
- Restoration Area: 600,000 acres
- Total standing inventory: 64 billion board feet
- Annual Forest Growth: 1 billion board feet per year.
- Restoration inventory: 5.5 billion board feet
  - USFS: 3.3 billion board feet
  - State: 800 million board feet
  - Private (includes tribal): 1.3 billion board feet
- Harvest levels over the past ten years: Range from 44 mmbf to 107 million board feet.
- Where do the logs go: 38 million board feet processed intrastate?
- Five Major buyers: Yakima Forest Products, Willis Enterprises, Vaagen brothers, Boise Cascade, and Hampton Lumber.

- We doubt that small private timberland will provide any meaningful supply contribution to a mill.

*Restoration harvest in the eastern Cascades.*
Challenge 2: There is significant fire risk in the landscape.

Washington State lost over 1.0 million acres to catastrophic wildfire in 2015 alone.

Areas burned 2012-2016
Challenge 3: Pricing for logs and finished products are highly volatile

- When log supply is low and unpredictable, demand exceeds supply and log prices go up.
- When log prices exceed finished product prices for prolonged periods, saw mills are in trouble.
Challenge 4: This is a low margin business

These low margins make it difficult to cope with volatility.

Comparisons?

<table>
<thead>
<tr>
<th></th>
<th>Microsoft</th>
<th>Starbucks</th>
<th>Alaska Airlines</th>
<th>Weyerhaeuser</th>
</tr>
</thead>
<tbody>
<tr>
<td>Cost of Revenue</td>
<td>39%</td>
<td>40%</td>
<td>34%</td>
<td>81%</td>
</tr>
<tr>
<td>Overhead</td>
<td>36%</td>
<td>42%</td>
<td>41%</td>
<td>6%</td>
</tr>
<tr>
<td>Debt Service</td>
<td>1%</td>
<td>1%</td>
<td>4%</td>
<td>6%</td>
</tr>
<tr>
<td>Other Expenses</td>
<td>5%</td>
<td>1%</td>
<td>6%</td>
<td>0%</td>
</tr>
<tr>
<td>Profit</td>
<td>19%</td>
<td>14%</td>
<td>15%</td>
<td>7%</td>
</tr>
</tbody>
</table>
Challenge 5: Saw mills cannot get the supply contracts they want.

Key components of a contract
1) Fixed amount of wood.
2) Long term, aligned with financing. If the mill has a ten year loan, they need a ten year contract.
3) Log prices aligned with prices for finished products.
4) Surety from the land owner. If they don't provide wood, the saw mill is compensated.
We need reliable supply from restoration projects.

Can we use new tools in this landscape to achieve this?
Sample Strategies and Tactics for Economically Sustainable Restoration

**Strategies**
- Promote New Biomass Infrastructure Opportunities
- Use contractors and consultants to design additional Projects
- Include Industry partners in project planning and layout
- Create 10 year stewardship contracts for sustainable supply

**Tactics**
- Use Definition by Prescription and less tree marking
- Use weight-scale and sample scaling (1 in 5 sampling)
- Create larger and more concentrated project units
- Mechanically treat more acres in planning units
- Design projects with a diversity of products
“If you build it, they will come.”
And this will come along also.

Slash bundling

Pressed bricks and pellets
If you build it, this all will come.
Questions?