Ranking Markets for Timberland Investment: Focusing on the PNW

Brooks Mendell
bmendell@forisk.com
770.725.8447
Forisk helps the forest industry make better decisions.

• Analysis and forecasts.
  – *Forisk Research Quarterly*
• Price and industry data.
  – *Forisk Wood Fiber Review*
  – North American Mill Database
  – Timberland Owner Database
• Multi-client studies.
  – Timber market rankings
  – Silviculture benchmarking
• Resource studies and consulting.
• Educational workshops.

**Upcoming Events**

“Applied Forest Finance”
March 19th, 2020 in Atlanta

“Timber Market Analysis”
June 24th, 2020 in Atlanta
"What does a normal timberland deal flow look like in the U.S.?

Forisk estimates an “investable universe” for U.S. timberland of 85-90 million acres.

Areas with Diverse Mills: 87.2 million
Owners with >1,000 Acres: 143.2 million
Private Timberland: 360.2 million
U.S. Timberland: 521.2 million
U.S. Forestland: 766.2 million acres
Total U.S. Land Area: 2,261.0 million acres

Notes: For the top of the pyramid, Forisk screened out 75% of the private timberlands in the Intermountain and Pacific Southwest Regions, and 50% in the North Central Region due to low mill densities. The “Investable Universe Turnover” uses all Closed Transactions.

<table>
<thead>
<tr>
<th>Year</th>
<th>Closed Transactions acres, millions</th>
<th>Large Deals (&gt;20,000) acres, millions</th>
<th>% of closed</th>
</tr>
</thead>
<tbody>
<tr>
<td>2015</td>
<td>2.5</td>
<td>2.1</td>
<td>84.0%</td>
</tr>
<tr>
<td>2016</td>
<td>9.3</td>
<td>9.2</td>
<td>98.9%</td>
</tr>
<tr>
<td>2017</td>
<td>1.8</td>
<td>1.4</td>
<td>77.8%</td>
</tr>
<tr>
<td>2018</td>
<td>2.5</td>
<td>2.1</td>
<td>84.0%</td>
</tr>
</tbody>
</table>

Sources: Forisk; USFS 2012; Butler (USFS) 2008
Forisk silviculture surveys confirm commitment to active forest management.

**Western Silviculture Expenditure by Treatment**
- East region has lower cost with higher site preparation.
- West invests more in planting and mid-rotation treatments.

9 million acres in the West; nearly 24 million in the South.
What do we want from market rankings?

• Answer the question “Where should you invest?”
  – Account for how markets could look in the future, given what we see today.
• Assign numeric scores based on clearly defined measures;
• Keep scoring simple and as easy to understand as possible;
• Incorporate separate measures for each type of investment decision:
  – Timberland
  – Sawtimber-using mills
  – Pulpwood-using mills
• Account for both current and future conditions.
Market in the Study: Example Rankings
# Market Scoring Criteria: Timberland

## Scoring Components and Criteria for Pacific Northwest Timberland Investor Markets

<table>
<thead>
<tr>
<th>Measure</th>
<th>Score</th>
<th>Worst</th>
<th>0</th>
<th>1</th>
<th>Best</th>
<th>2</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Supply 40%</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Ratio Removals-to-Demand (Private and Public)(^1)</td>
<td>Score</td>
<td>&gt; 100% private Only</td>
<td>&gt; 100% private + public</td>
<td>&lt; 100% private + public</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Proportion of Harvest from Public Lands(^2)</td>
<td></td>
<td>&gt; 25% high public supply</td>
<td>&lt; 25% low public supply</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Softwood Sawtimber Inventory (10-Yr CAGR)</td>
<td></td>
<td>&gt; 1% growing</td>
<td>&lt; 1% stable/declining</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>Demand 40%</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Current Sawtimber Demand (MBF/Sq. Mi.)</td>
<td>Score</td>
<td>&lt; 75 low demand</td>
<td>&gt; 75 high demand</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Softwood Sawtimber Demand (5-Yr CAGR)</td>
<td></td>
<td>&lt; 0% declining</td>
<td>0% - 2% moderate growth</td>
<td>&gt; 2% strong growth</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Softwood Log Exports (% Sawtimber Demand)</td>
<td></td>
<td>&lt; 10% low exports</td>
<td>&gt; 10% high exports</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>Risk 20%</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
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</tr>
<tr>
<td>Firm Market Concentration (Pct. Sawtimber Demand)</td>
<td>Score</td>
<td>&gt; 50% 2 firms low competition</td>
<td>40% - 50% 2 firms moderate competition</td>
<td>&lt; 40% 2 firms strong competition</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

\(^1\)Removals to demand ratios that exceed 100% indicate that the market is well-supplied with wood and that the market is “exporting” harvest volume to mills outside of the market. In contrast, removals to demand ratios that fall below 100% indicate that mills have to go outside the market to source wood. This is favorable to timberland owners.

\(^2\)The regional average proportion of harvest from public lands is 21%; markets that have lower ratios source more volume from private lands.
Pacific Northwest

Excerpt of Data Used for Scoring Western Timberland Markets

<table>
<thead>
<tr>
<th>Market</th>
<th>Removals-to-Demand</th>
<th>Public Harvest</th>
<th>Export Demand</th>
<th>Market Conc.</th>
</tr>
</thead>
<tbody>
<tr>
<td>3</td>
<td>96%</td>
<td>19%</td>
<td>17%</td>
<td>34%</td>
</tr>
<tr>
<td>6</td>
<td>103%</td>
<td>14%</td>
<td>3%</td>
<td>36%</td>
</tr>
</tbody>
</table>
Market Scoring Results: Timberland