Timber harvest vs. log exports in Alaska: resolving the discrepancies

Jean M. Daniels, PhD
Pacific Northwest Research Station

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Outline

• How I got here today: the Tongass National Forest Plan amendment
• Alaska timber harvest data
• Log export statistics in Alaska
• Reported vs. scaled volume
• Conversion factors
• Policy implications
Secretary’s Memorandum 1044-99: Transition to young growth

“The objective of this Secretarial Memorandum is to ensure that USDA, the Chief of the Forest Service, the Alaska Region of the Forest Service, and the Tongass National Forest work together to catalyze a transition from a timber sale program based on old growth to one based on young growth.”
The Tongass Timber Reform Act
(TTRA, 1990)

• Mandates that the Secretary of Agriculture will “...seek to provide a supply of timber from the Tongass National Forest which (1) meets the annual market demand for timber from such forest and (2) meets the market demand for timber for each planning cycle.”

• “seek to meet market demand”
  – Requirement is unique to the Tongass
  – Long term timber demand estimates = best available science
  – PNW Research Station tradition
Taxpayers Left Out on a Limb

Timber sales from the Tongass National Forest are shunted public.

Big Thorne timber injunction denied

9th Circuit Court says timber sale will proceed - for now

Posted: April 16, 2016 - 9:25pm | Updated: April 17, 2015 - 12:03am

JUNEAU EMPIRE

The 9th Circuit Court of Appeals has denied an injunction requested by environmental groups, allowing the Big Thorne timber sale on Prince of Wales Island to move forward.

The Thursday announcement follows a March appeal by the Southeast Alaska Conservation Council to the 9th Circuit over the U.S. Forest Service's sale of 6,000 acres of old growth and 2,000 acres of new growth forestland to Viking Lumber, one of the last local lumber mills in the region. Plaintiffs asked for the sale to be halted while the appeal is considered. The injunction only applied to the old growth trees.

"We're disappointed in today's decision," SEACC Executive Director by email. "The Tongass is at a tipping point and we need to do everything in our power to preserve the last wild places.

MAJOR COURT RULING IN TONGASS FOREST CASE

Forest Service doubled market demand for timber

August 5, 2005

Juneau, AK — The Ninth Circuit Court of Appeals today ruled that the Forest Service must correct serious problems in the 1997 Tongass National Forest Land Management Plan. The challenge to the 1997 Forest Plan by conservation organizations centers on the impact of a Forest Service error that doubled its projections of market demand for Tongass timber. Market demand projections were used to determine the maximum logging level allowed in the 1997 Forest Plan. The overall effect of this error was to exaggerate Tongass logging levels, and put much more land in logging designations than the agency's own economists found was necessary to supply local mills.

"This is a victory for all Americans because it will give people a chance to see our biggest and most wild national forest in its natural state," said Earthjustice attorney Tom Waldo.
The plan: estimate timber demand using timber product output methodology

- Identify product markets
- Assemble historic product data
- Project product data and market share over planning cycle (2015 to 2030)
- Develop baseline model and 3 management scenarios
- Estimate volume of demand for products
- Estimate harvest equivalent to meet demand
  - Tongass National Forest
  - Native Corporation
  - State of Alaska
We went looking for data....
Alaska forest sector data

• Harvest data
  – TPO reports
    • Census of all wood using mills
    • Every 5 years
  – Production, Prices, Employment, and Trade in Northwest forest industries
    • Data provided by FS R10 regional economist

• Mill data
  – TPO reports
  – USFS annual survey of southeast Alaska sawmills since 2000
    • Same 20 mills-half have closed
    • No log exports
    • No residue estimates

• International trade data
  – FAOSTAT
  – USITC dataweb
Alaska timber harvest 1980-2011*

* Last year of complete data set

Source: Production, Prices, Employment, and Trade in Northwest Forest Industries
Source: Region 10 economist
Alaska timber harvest 1980-2011*

* Last year of complete data set
Source: Production, Prices, Employment, and Trade in Northwest Forest Industries
Source: Region 10 economist
Alaska’s Timber Harvest and Forest Products Industry, 2005

Jeff M. Hallbrook, Todd A. Morgan, Jason P. Brandt, Charles E. Keegan III, Thula Dillon, and Tara M. Barrett.

Alaska’s Timber Harvest and Forest Products Industry, 2011

### 2011 BBER Alaska mill census: harvest by owner

<table>
<thead>
<tr>
<th>Ownership class</th>
<th>Sawlogs</th>
<th>House logs</th>
<th>Fuelwood</th>
<th>Other</th>
<th>Total</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Thousand board feet, Scribner</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Private—including Native corporations</td>
<td>126,076</td>
<td>191</td>
<td>1,423</td>
<td>300</td>
<td>127,990</td>
</tr>
<tr>
<td>National forest</td>
<td>28,381</td>
<td>73</td>
<td>143</td>
<td>91</td>
<td>28,688</td>
</tr>
<tr>
<td>State and other public</td>
<td>14,856</td>
<td>1,046</td>
<td>2,689</td>
<td>-</td>
<td>18,590</td>
</tr>
<tr>
<td>All owners</td>
<td>169,313</td>
<td>1,309</td>
<td>4,255</td>
<td>391</td>
<td>175,267</td>
</tr>
</tbody>
</table>

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<tbody>
<tr>
<td></td>
<td>Percentage of harvest</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Private—including Native corporations</td>
<td>74.5</td>
<td>14.6</td>
<td>33.4</td>
<td>76.7</td>
<td>73.0</td>
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<tr>
<td>National forest</td>
<td>16.8</td>
<td>5.5</td>
<td>3.4</td>
<td>23.3</td>
<td>16.4</td>
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<tr>
<td>State and other public</td>
<td>8.8</td>
<td>79.9</td>
<td>63.2</td>
<td>-</td>
<td>10.6</td>
</tr>
<tr>
<td>All owners</td>
<td>96.6</td>
<td>0.8</td>
<td>2.4</td>
<td>0.2</td>
<td>100</td>
</tr>
</tbody>
</table>
Use of Alaska’s 2011 timber harvest 30,612 MCF

Harvest

Industry

Shrinkage and Residues

Products

Other 1,631 MCF
House logs/log homes 259 MCF
Fuelwood 1,631 MCF
Log exports 26,299 MCF
Sawmills 2,995 MCF

Log exports 27,015 MCF
Sawmills 1,191 MCF

Shrinkage and residues

Other 103 MCF
House logs 155 MCF
Fuelwood 1,631 MCF

Thousand cubic feet (MCF) excludes bark.

Other manufacturers include manufacturers of log furniture, tonewood, novelty items, and cedar products.
- 88% of Alaska harvest was exported as roundwood
- USITC dataweb
- On-line searchable database for trade statistics
- 10 digit HTS for softwood log exports
- Anchorage Customs District
We found data discrepancies after converting to MBF

<table>
<thead>
<tr>
<th>Year</th>
<th>AK log exports, USITC MBF</th>
<th>Alaska harvest, PPET MBF</th>
</tr>
</thead>
<tbody>
<tr>
<td>2002</td>
<td>286,976</td>
<td>276,132</td>
</tr>
<tr>
<td>2003</td>
<td>305,588</td>
<td>235,797</td>
</tr>
<tr>
<td>2004</td>
<td>169,872</td>
<td>197,892</td>
</tr>
<tr>
<td>2005</td>
<td>216,021</td>
<td>255,869</td>
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<td>117,910</td>
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<td>133,206</td>
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<td>206,197</td>
<td>150,044</td>
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<tr>
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Log export volume > Harvest volume?
We found data discrepancies after converting to MBF.

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Log exports vs. harvest?

Inconceivable!
Four possible sources of error

- Lag between harvest and export
- Re-bucking at the sort yard
- Reporting shenanigans
- Conversion factors
Cruised data vs. scaled data

• How accurate are harvest estimates?
  – State: timber cruising methods known
  – USFS: timber cruising methods known
  – Private/Native: we don’t know; they aren’t telling

• Pacific Rim Log Scaling Bureau
  – 90% of Alaska harvest is scaled
  – 100% of Alaska export logs are scaled
  – 85-90% of Alaska harvest is exported
### Alaska 2011 log exports: scaled data vs. USITC data

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<thead>
<tr>
<th></th>
<th>Thousand board feet</th>
<th>Percent of scaled harvest</th>
</tr>
</thead>
<tbody>
<tr>
<td>Total scaled timber harvest</td>
<td>192,937</td>
<td>100</td>
</tr>
<tr>
<td>Scaled timber harvest received by AK mills</td>
<td>12,136</td>
<td>6</td>
</tr>
<tr>
<td>Scaled timber available for export</td>
<td>180,801</td>
<td>94</td>
</tr>
<tr>
<td>USITC log export volume</td>
<td>279,428</td>
<td>145</td>
</tr>
<tr>
<td>Scaled log export volume</td>
<td>180,801</td>
<td>94</td>
</tr>
<tr>
<td>Difference</td>
<td>98,627</td>
<td></td>
</tr>
</tbody>
</table>

- USITC data in reported in cubic meters, converted to MBF using 4.53
- Scaled data in reported in MBF
It’s the conversion factor

<table>
<thead>
<tr>
<th>Volume (MBF Scribner)</th>
<th>Conversion Factor (M³ per MBF)</th>
<th>USITC log export volume (M³)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Scaled export log volume reported in MBF</td>
<td>180,801</td>
<td>7.00 (calculated)</td>
</tr>
<tr>
<td>USITC export log volume converted to MBF</td>
<td>279,428</td>
<td>4.53 (published)</td>
</tr>
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<td>Reported 2011 AK harvest</td>
<td>175,267</td>
<td></td>
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</tbody>
</table>

Reconciling scaled data with trade data resulted in a conversion factor of 7 m³/mbf

Exporters choose their conversion factor
Lost In Translation

Consequences of mistaken timber volume unit conversions & how to minimize them
Misleading conversions in gov’t publications

Conversion Factors Used in This Report

- For logs: 4.53 cubic meters equals 1 thousand board feet
- For lumber: 2.36 cubic meters equals 1 thousand board feet
- For veneer: 92.9 square meters equals 1 thousand square feet
- For plywood: .865 cubic meters equals 1 thousand
- For chips, paper, and pulpwood: .907 metric tons equals 1 short ton

We are not talking about this
Conclusions

• Alaska forest industry data are problematic
• Log exports >85% of harvest
• Conversion factors closer to 7 are appropriate
• 4.53 is a significant source of error
• Exporters choose their conversion factor

Implications
  – Uncertainty in harvest volume has implications for timber policy and economic development
  – Effects of manipulating conversion factors are unknown
  – Effects on bid prices for Federal timber are unknown
Acknowledgements:
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USFS Alaska Region BBER
Tongass National Forest PNW FIA

jdaniels@fs.fed.us