



USDA Forest Service
Pacific Northwest
Research Station

Log export statistics in Alaska: the conversion factor problem

Jean M. Daniels, PhD

Pacific Northwest Research Station

2016 Western Forest Economists meeting

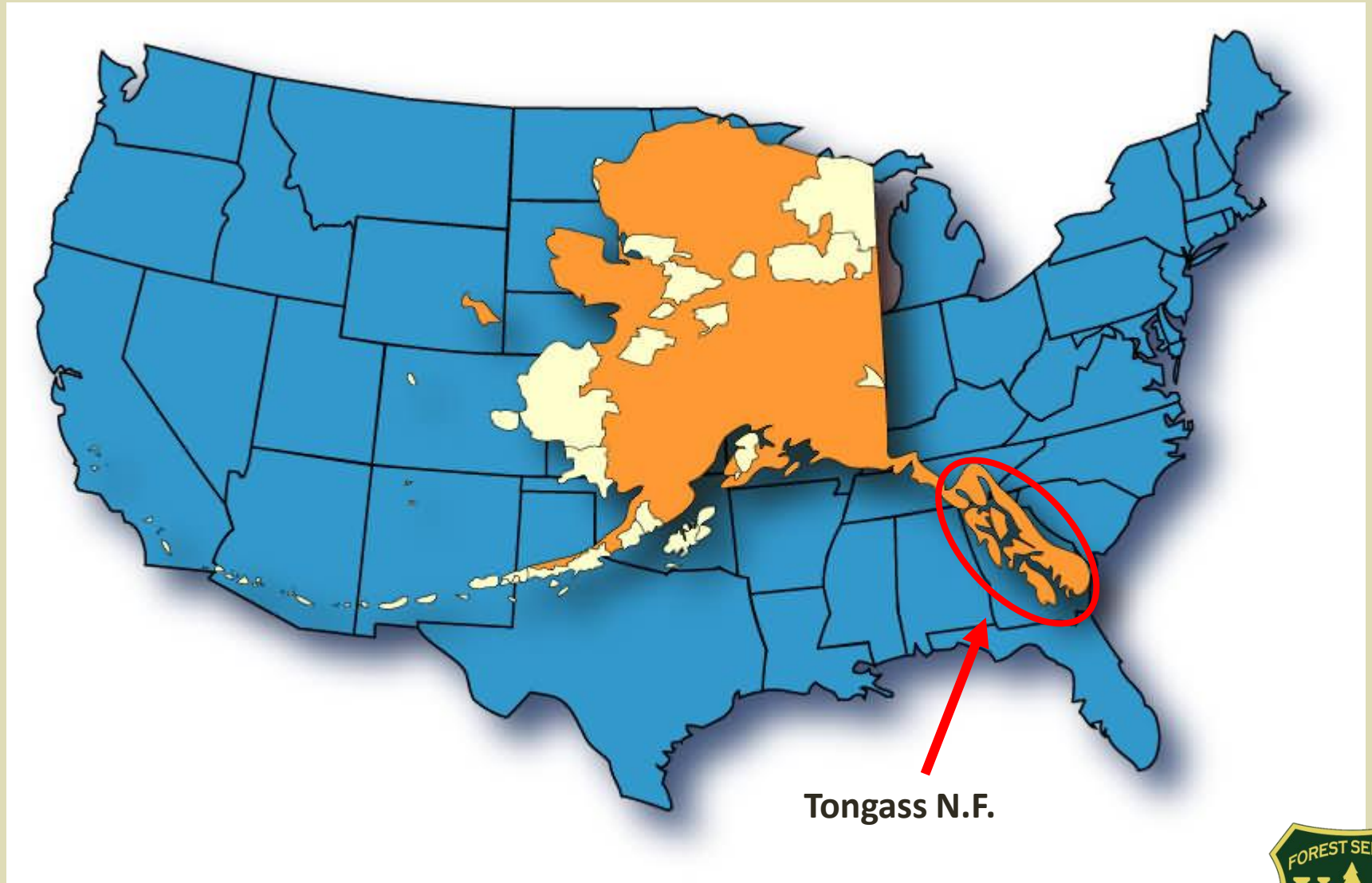
May 4, 2016

Outline

- The Tongass National Forest Plan amendment
- Alaska timber harvest data
- Log export statistics in Alaska
- Reported vs. scaled volume
- Conversion factors
- Conclusions



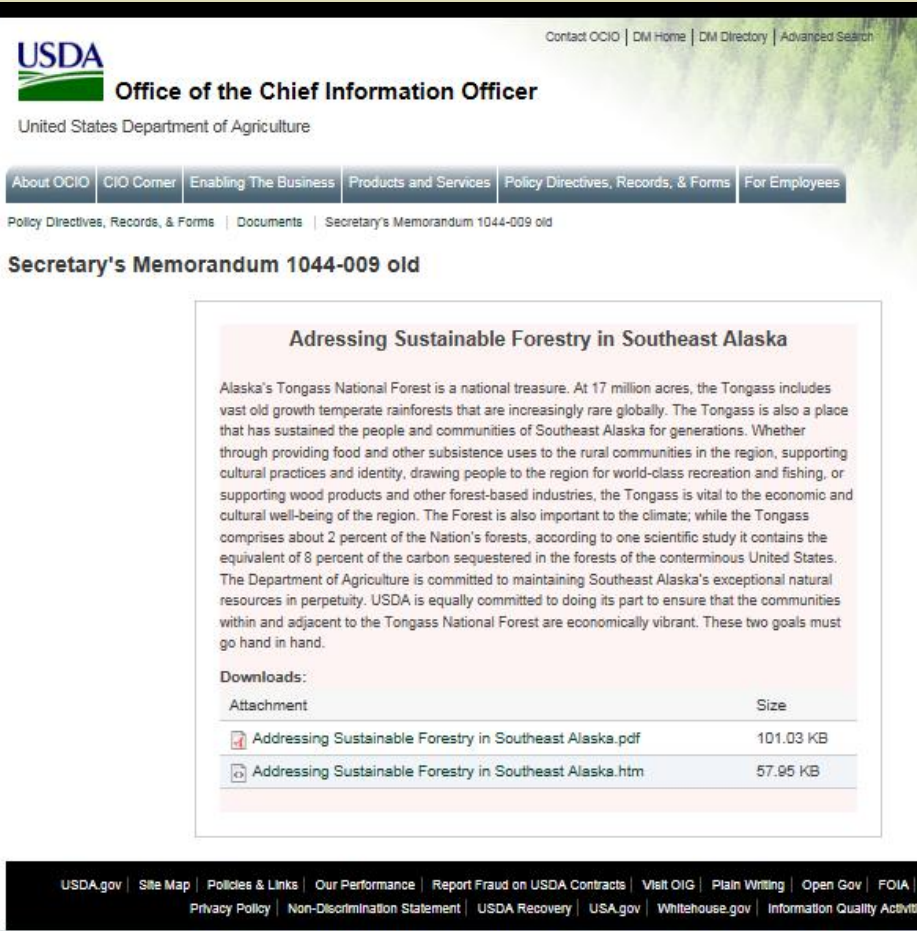
The Tongass National Forest



Tongass N.F.

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 screenshot shows the USDA Office of the Chief Information Officer website. At the top, there is a navigation bar with links for 'Contact OCIO', 'DM Home', 'DM Directory', and 'Advanced Search'. Below this is the USDA logo and the text 'Office of the Chief Information Officer' and 'United States Department of Agriculture'. A secondary navigation bar includes links for 'About OCIO', 'CIO Corner', 'Enabling The Business', 'Products and Services', 'Policy Directives, Records, & Forms', and 'For Employees'. Below this is a breadcrumb trail: 'Policy Directives, Records, & Forms | Documents | Secretary's Memorandum 1044-009 old'. The main content area features a heading 'Secretary's Memorandum 1044-009 old' and a document preview for 'Addressing Sustainable Forestry in Southeast Alaska'. The preview includes a paragraph of text and a table of downloads.

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Policy Directives, Records, & Forms | Documents | Secretary's Memorandum 1044-009 old

Secretary's Memorandum 1044-009 old

Addressing Sustainable Forestry in Southeast Alaska

Alaska's Tongass National Forest is a national treasure. At 17 million acres, the Tongass includes vast old growth temperate rainforests that are increasingly rare globally. The Tongass is also a place that has sustained the people and communities of Southeast Alaska for generations. Whether through providing food and other subsistence uses to the rural communities in the region, supporting cultural practices and identity, drawing people to the region for world-class recreation and fishing, or supporting wood products and other forest-based industries, the Tongass is vital to the economic and cultural well-being of the region. The Forest is also important to the climate; while the Tongass comprises about 2 percent of the Nation's forests, according to one scientific study it contains the equivalent of 8 percent of the carbon sequestered in the forests of the conterminous United States. The Department of Agriculture is committed to maintaining Southeast Alaska's exceptional natural resources in perpetuity. USDA is equally committed to doing its part to ensure that the communities within and adjacent to the Tongass National Forest are economically vibrant. These two goals must go hand in hand.

Downloads:

Attachment	Size
 Addressing Sustainable Forestry in Southeast Alaska.pdf	101.03 KB
 Addressing Sustainable Forestry in Southeast Alaska.htm	57.95 KB

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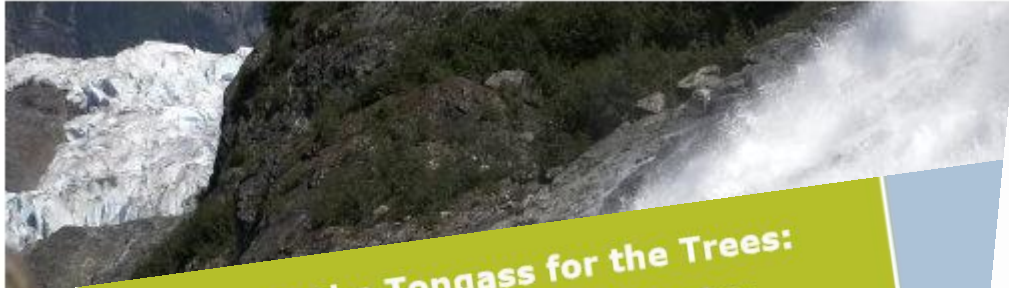
The Tongass Timber Reform Act (TTRA, 1990)

- 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 shown public.



Big Thorne timber injunction denied

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

Posted: April 16, 2015 - 9:26pm | Updated: April 17, 2015 - 12:03am

By CHARLES L. WESTMORELAND

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 Saturday.

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 said by email. "The Tongass is a treasure."

Seeing the Tongass for the Trees:
The Economics of Transitioning
to Sustainable Forest Management



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.



ECONOMIC ANALYSIS

Evan Hjerpe, Ph.D.

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....

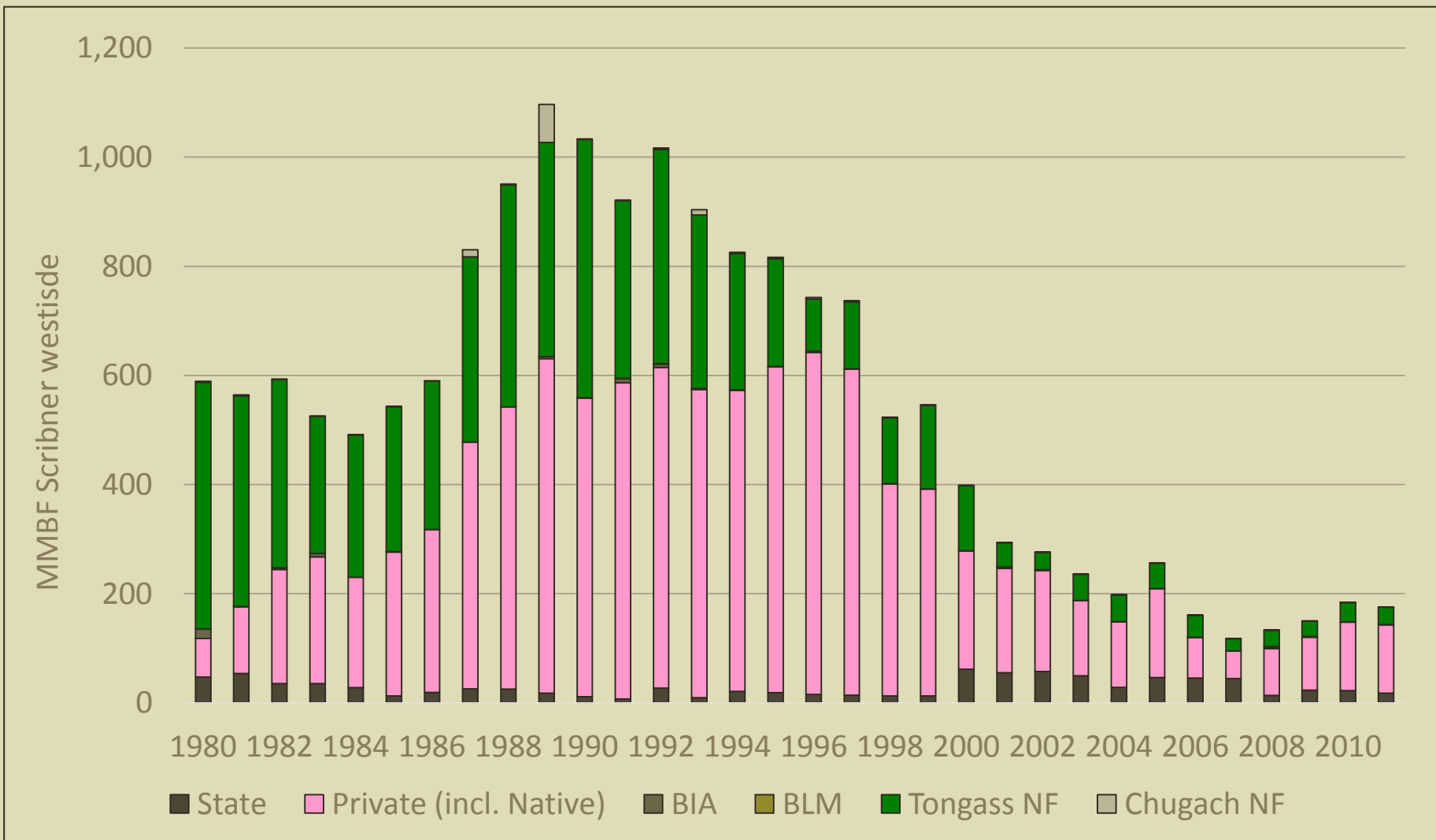


Alaska forest sector data

- 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*

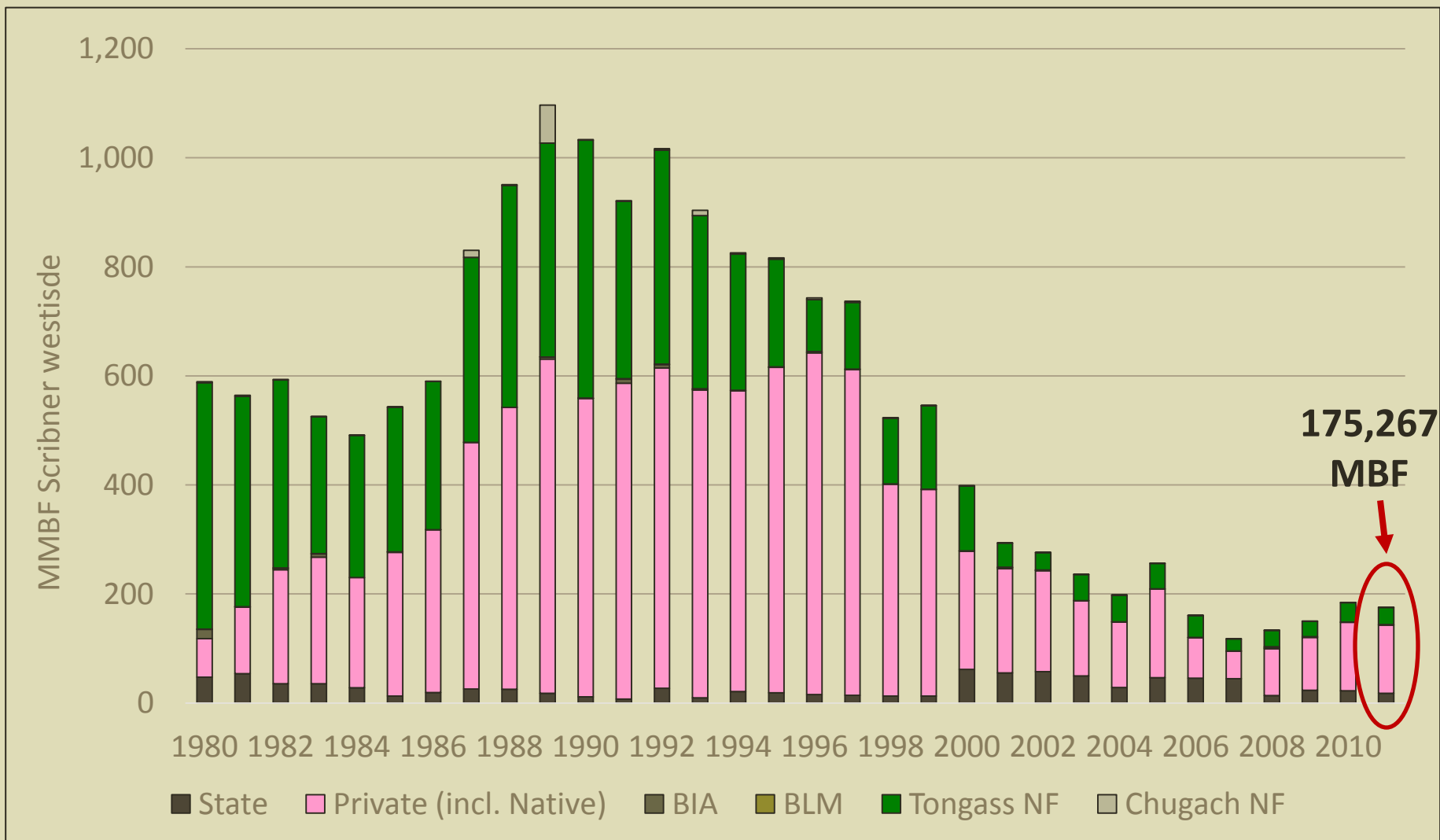


* Last year of complete data set

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

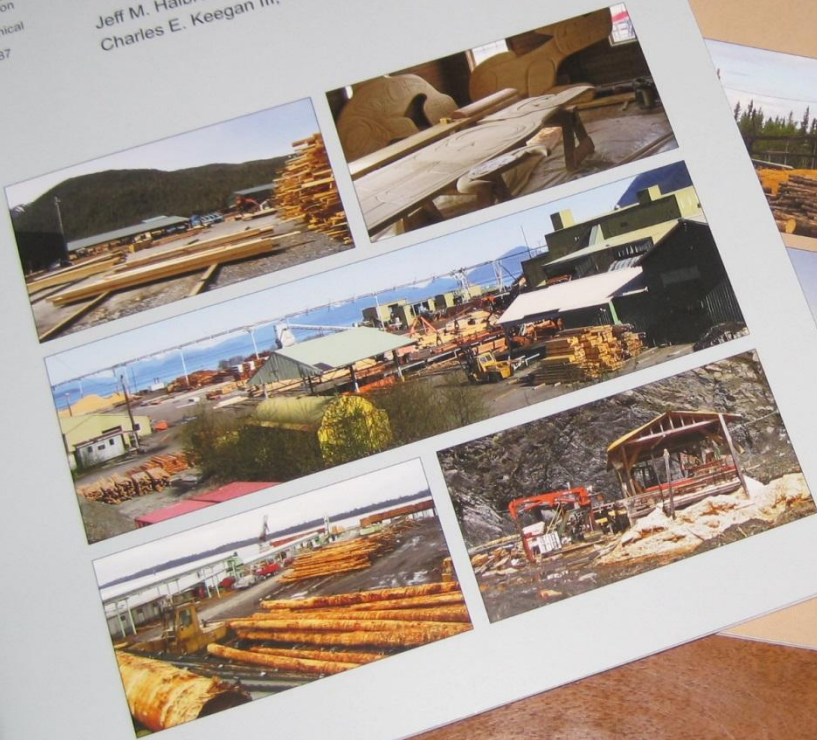
Source: Region 10 economist



Alaska's Timber Harvest and Forest Products Industry, 2005

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

United States
Department of
Agriculture
Forest Service
Pacific Northwest
Research Station
General Technical
Report
PNW-GTR-787
April 2009



United States Department of Agriculture

Alaska's Timber Harvest and Forest Products Industry, 2011

Erik C. Berg, Charles B. Gale, Todd A. Morgan, Allen M. Brackley,
Charles E. Keegan, Susan J. Alexander, Glenn A. Christensen,
Chelsea P. McIver, and Micah G. Scudder



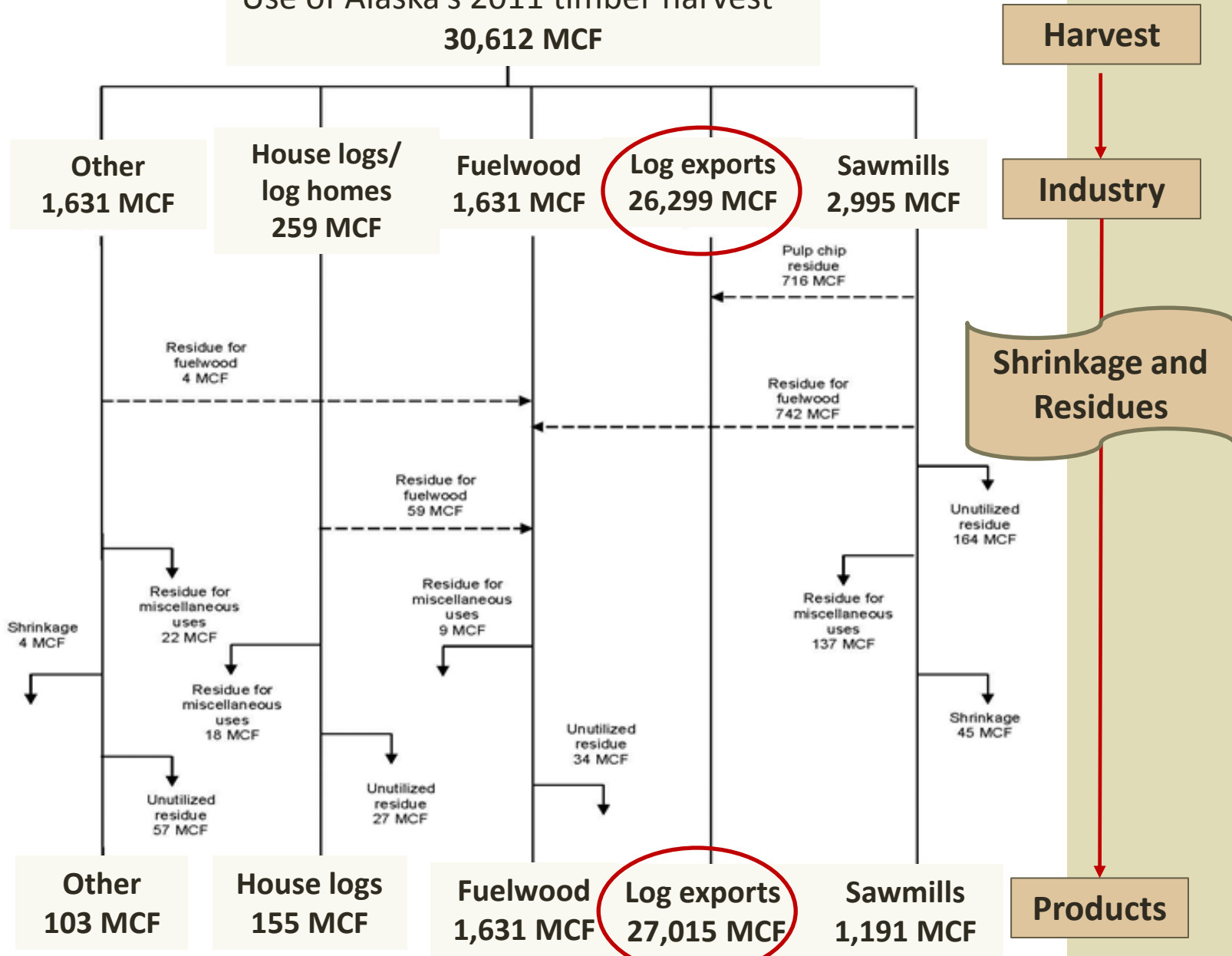
General Technical Report
PNW-GTR-903

November
2014

2011 BBER Alaska mill census: harvest by owner

Ownership class	Sawlogs	House logs	Fuelwood	Other	Total
<i>Thousand board feet, Scribner</i>					
Private—including Native corporations	126,076	191	1,423	300	127,990
National forest	28,381	73	143	91	28,688
State and other public	14,856	1,046	2,689	-	18,590
All owners	169,313	1,309	4,255	391	175,267
<i>Percentage of harvest</i>					
Private—including Native corporations	74.5	14.6	33.4	76.7	73.0
National forest	16.8	5.5	3.4	23.3	16.4
State and other public	8.8	79.9	63.2	-	10.6
All owners	96.6	0.8	2.4	0.2	100

Use of Alaska's 2011 timber harvest 30,612 MCF



^a Thousand cubic feet (MCF) excludes bark.

^b Other manufacturers include manufacturers of log furniture, tonewood, novelty items, and cedar products.



Log export data: US International Trade Commission database

- 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

United States International Trade Commission

Main Menu
Version 3.1.0

Create a New Query/Report:

Select Trade Type:	Select Classification System for List and Display	Select Years for Trade Data
<input checked="" type="radio"/> U.S. Imports For Consumption <input type="radio"/> U.S. Domestic Exports <input type="radio"/> U.S. General Imports <input type="radio"/> U.S. Total Exports <input type="radio"/> Trade Balance	<p>Try This First! <i>Includes HTS, SIC, SITC, End-use, AG codes, and pre-defined country groups. Fast and easy!</i></p> <p><input checked="" type="radio"/> QUICK QUERY</p> <p>Advanced Searching <i>ONLY for using customized product or country "lists".</i></p> <p><input type="radio"/> HTS ITEMS <input type="radio"/> SIC CODES <input type="radio"/> SITC CODES <input type="radio"/> NAIC CODES <input type="radio"/> EXPERT MODE</p>	<p>Years:</p> <p><input checked="" type="radio"/> Current U.S. Trade (1996-2015) <input type="radio"/> Historical Data (1989-1995)</p>

Users : See [A Note on U.S. Trade Statistics](#)

Note: To start a new query click on "Proceed With New Query".

Run a report from a saved query:

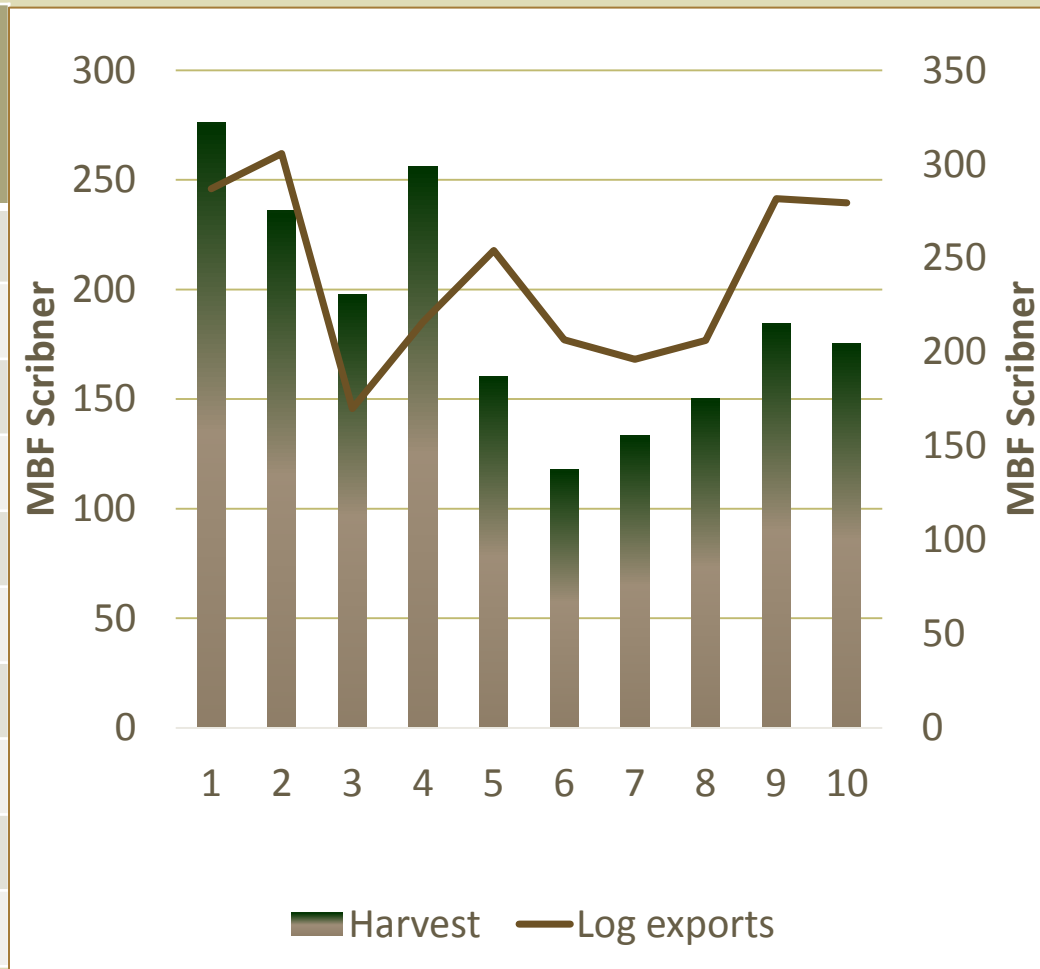
Select User Saved Queries: 6digitchips89-95 6digitchips96-2011 6digitdwdlumber89-95 EX8digitchips89-95 IM6digitchips89-95	Download Report Directly to Excel: <input type="checkbox"/> (This will create an Excel file from your saved query.)	<input type="button" value="Run Report From Saved Query"/> <input type="button" value="Delete Saved Query"/>
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Account Information:

Click the "Modify User Account" to change your password or email address.

We found data discrepancies after converting to MBF

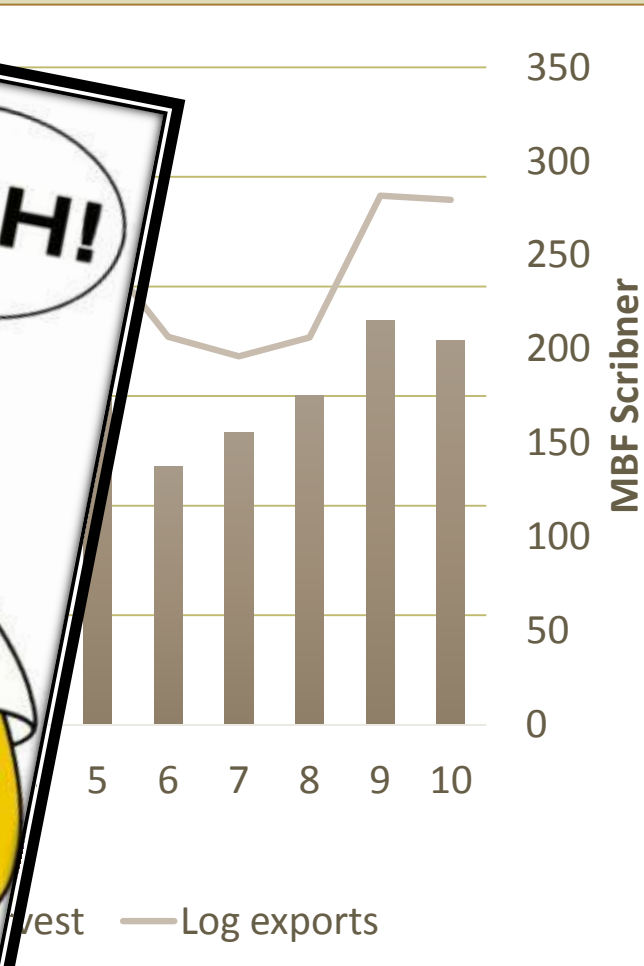
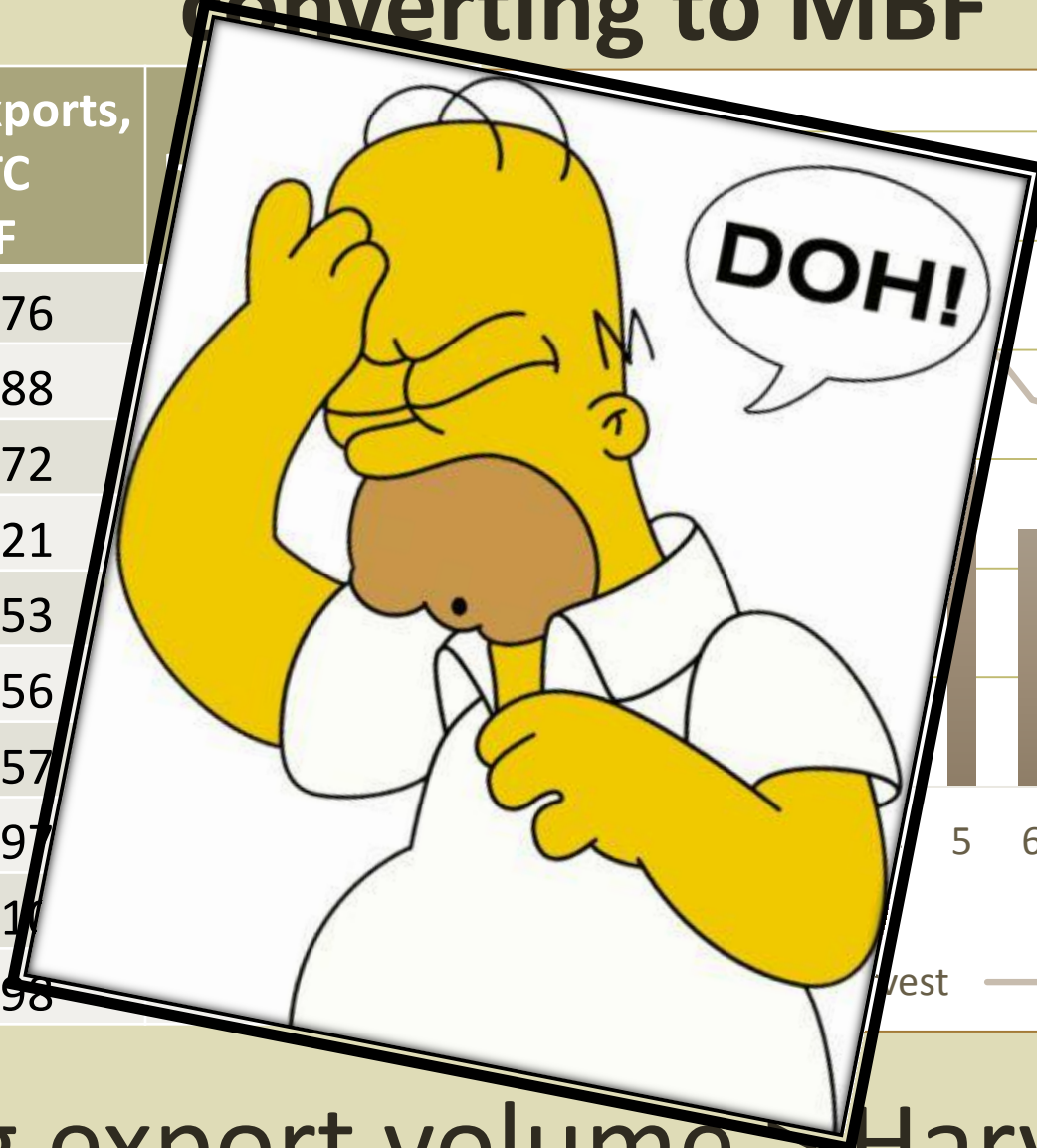
Year	AK log exports, USITC MBF	Alaska harvest, PPET MBF
2002	286,976	276,132
2003	305,588	235,797
2004	169,872	197,892
2005	216,021	255,869
2006	254,053	160,472
2007	206,456	117,910
2008	196,157	133,206
2009	206,197	150,044
2010	281,610	184,292
2011	279,398	175,394



Log export volume > Harvest?

We found data discrepancies after converting to MBF

Year	AK log exports, USITC MBF
2002	286,976
2003	305,588
2004	169,872
2005	216,021
2006	254,053
2007	206,456
2008	196,157
2009	206,197
2010	281,617
2011	279,398



Log export volume > Harvest?

Four possible sources of error

- Lag between harvest and export
- Rebucking 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 trade data

	Thousand board feet	Percent of scaled harvest
Total scaled timber harvest	192,937	100
Scaled timber harvest received by AK mills	12,136	6
Scaled timber available for export	180,801	94
USITC log export volume converted to MBF	279,428	145
Scaled log export volume	180,801	94
Difference	98,627	

- USITC data in reported in cubic meters, converted to MBF using 4.53
- Scaled data in reported in MBF

It's the conversion factor

	Volume (MBF Scribner)	Conversion Factor (M3 per MBF)	USITC log export volume (M3)
Scaled export log volume reported in MBF	180,801	7.00 (calculated)	1,265,809
USITC export log volume converted to MBF	279,428	4.53 (published)	1,265,809
Reported 2011 AK harvest	175,267		

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

Exporters choose their conversion factor

Neal Hart, Timber Measurements Society, 2014 meeting

Misleading conversions in gov't publications



United States Department of Agriculture
Forest Service

Pacific Northwest
Research Station

Resource Bulletin
PNW-RB-265

December 2013

Production, Prices, Employment, and Trade in Northwest Forest Industries, All Quarters 2012

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: .885 cubic meters equals 1 thousand

For chips, paper, and pulpwood: .907 metric tons equals 1 short ton

4.53 m³/MBF

2.36 m³/MBF



We have begun talking about
this, no one seems to care

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:

Co-authors: Erik Berg, Micah Scudder, Todd Morgan

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PNW FIA TPO



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