



Pacific Northwest Log Export Trends

Chuck Holland

Special Projects Manager

Jones Stevedoring Company

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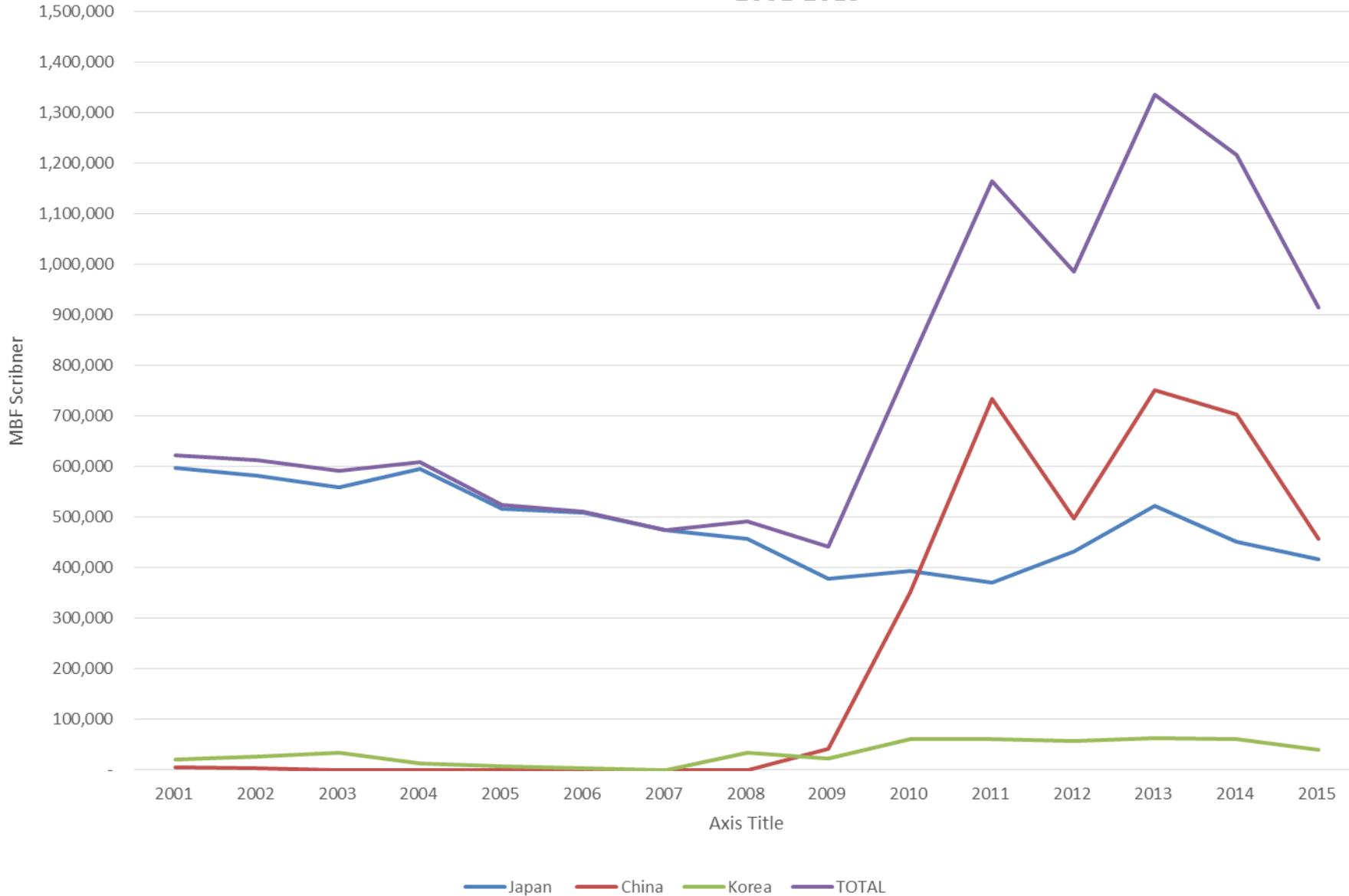
What will this presentation cover?

- **Annual and First Quarter export log volumes from the U.S. West Coast and British Columbia(PNW)**
- **The variables that affect export log markets**
- **Overview of PNW log export markets**
- **The future for PNW log exports**

British Columbia, California, Oregon and Washington						
January through December 2013, 2014 & 2015 Breakbulk Log Export Volumes						
(MBF Scribner Scale)						
<u>Area</u>	<u>2015 Volume</u>	<u>2014 Volume</u>	<u>2013 Volume</u>	<u>2014-2015 % Change</u>	<u>2013-2015 % Change</u>	
British Columbia	789,660	887,162	932,590	-11.0%	-15.3%	
California	2,999	16,441	18,000	-81.8%	-83.3%	
Oregon	647,231	803,648	942,019	-19.5%	-31.3%	
Washington	264,074	396,628	376,072	-33.4%	-29.8%	
TOTAL:	1,703,964	2,103,879	2,268,681	-19.0%	-24.9%	
<u>Country</u>	<u>2015 Volume</u>	<u>2014 Volume</u>	<u>2013 Volume</u>	<u>2014-2015 % Change</u>	<u>2013-2015 % Change</u>	
<i>China</i>	914,574	1,238,193	1,293,261	-26.1%	-29.3%	
<i>Japan</i>	590,452	677,706	771,755	-12.9%	-23.5%	
<i>Korea</i>	198,938	187,980	203,665	5.8%	-2.3%	
TOTAL:	1,703,964	2,103,879	2,268,681	-19.0%	-24.9%	
British Columbia information courtesy of Tidal Transport & Trading Ltd.						

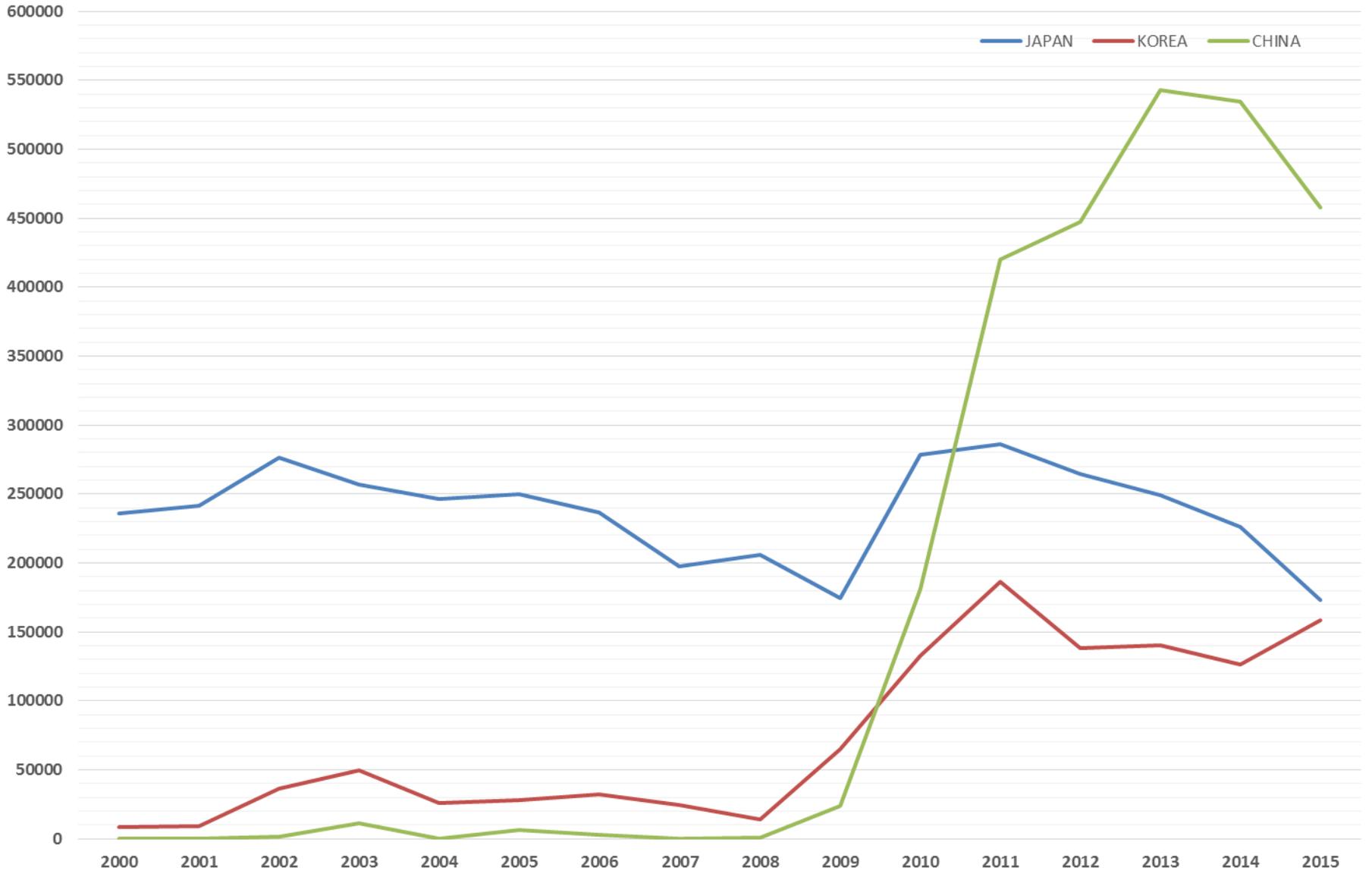


California, Oregon & Washington Breakbulk Log Export Volumes 2001-2015





British Columbia Breakbulk Shipments





First Quarters 2013 to 2016 Breakbulk Log Export Volumes

CA, OR, WA and B.C.

First Quarter:	<u>2016</u>	<u>2015</u>	<u>2014</u>	<u>2013</u>	<u>Average</u>	<u>2015 to 2016 % change</u>
Japan	179,578	129,863	189,899	193,390	173,183	38%
China	187,926	237,083	356,717	262,096	260,956	-21%
Korea	29,471	55,665	33,577	46,597	41,328	-47%
Total:	396,975	422,611	580,193	502,083	475,466	-6%

The variables that affect export log markets

Wood Cost: Wood species can be substituted if too high cost. Hemlock can be replaced with radiata pine, and rubber wood with alder.

Ocean Freight Cost: Kills markets if high. Recently low as measured by the Baltic Dry Index. The Baltic Dry Index (BDI) is a daily economic indicator that assesses the price of moving the major raw materials by sea in 23 shipping routes.

Currency Exchange Rates: The current strong U.S. dollar makes U.S. logs higher priced. The lower Canadian dollar gives Canadian logs an advantage. Low wood and transportation costs can help offset this variable.

Tariffs: Russian log exports have a 25% export tariff. This helped create the PNW China log export market and make New Zealand the largest log supplier to China.

Logistics and Treatment Costs: The total logistical cost from stump to buyer must be efficient and competitive. China requires fumigation or log debarking for U.S. logs and wood chips adding cost. Average logistics costs make up about 35% of the log sales price (Tom Leeds, Pacific Lumber & Shipping).

Domestic Log Demand: Domestic demand can push log prices higher than the export market. PNW lumber mills can consume increasing log volumes and impact local log markets (Sierra Pacific/Hampton/Manke Lumber).

Catastrophes: Create wood product supply and demand. The 1962 Columbus Day Storm created instant export log supply. Earthquakes create wood product demand.

China

- 915 million board feet PNW logs exported breakbulk in 2015, a 26% decrease from 2014.
- *Volatile price and inventory supply sensitive market.* Average CA/OR/WA breakbulk volume from 1986 to 2015 is 193 million board feet. The lowest volume was 1.5 million board feet in 2000. The highest was 750 million board feet in 2013.
- Tacoma, Port Angeles, Astoria and Coos Bay reopened as log ports due to the China market. Newport may open.
- Low quality logs of different species are used for concrete forms, pallets, furniture, and some secondary products. Many log brokers and small mills.
- China's weak domestic economy is hurting log exports worldwide. New Zealand and Russia are larger suppliers.

Transferring slabs from the headrig to the resaw



Re-sawing slabs into finished lumber products



Shanghai Huang P. R.
Log Inventory



Japan



- Oldest PNW breakbulk export log customer that demands high quality logs. In 2015, 590 million board feet exported breakbulk, an 13% decrease from 2014.
- The lowest annual volume from 1986 to 2015 was 370 million board feet in 2011.
- Has an aging population. Population estimated to decline of one-third in the next 45 years.
- Japan's lumber mills have become larger and are owned by fewer companies. PNW Douglas Fir logs are imported for these mills.
- Fewer companies have dramatically reduced the number of breakbulk log importers. 19 importers in 2000. Now five.
- First Quarter 2016 volume higher than normal due to expected April 2017 Consumption Tax increase from 8 to 10%.

Japan Sawmill



Korea

- PNW exported breakbulk 199 million board feet in 2015, the only market with a 5.8% increase over 2014. 196 million board feet in 2012
- It is a price sensitive market, determined by the total price of the log and logistics. Uses lower quality logs than Japan.
- Logs are often shipped in 40 foot containers averaging 4500-5000 board feet per container. The total annual volume shipped by container is unknown, but steady.
- Biggest supplier is New Zealand. British Columbia supplies a greater volume than the U.S. West Coast.

Korean Sawmill



Log Supply Changes

- The largest export log suppliers are Timber Investment Management Organizations (TIMO) or Real Estate Investment Trusts (REIT). TIMO and REIT forest land ownership changes. (Weyerhaeuser/Plum Creek merger Hancock Resources/Muckleshoot Tribe/Campbell Global Pierce and Lewis County forest lands)
- TIMO and REIT timber is grown and sold for the highest shareholder return, for whatever market.
- TIMO and REIT *Higher Better Use (HBU)* and family forest lands are being sold and converted from forest land.
- Log exports are a political issue in Oregon and B.C.. There may be future restrictions, in order to bolster coastal lumber production.
- Russian Far East timber harvests have declined due to lower log quality and high harvest and transportation costs.

The Future for PNW Log Exports

- PNW log exports shall continue. China has a net wood deficit and needs to import logs. Japan demands Douglas Fir for the species' structural integrity.
- The Japanese government recognize Douglas Fir as a domestic specie under its domestic forest harvest incentive program, "Wood Use Points Program".
- PNW log export volumes will fluctuate yearly due to China and U.S. domestic market volatility. The U.S. housing market will recover due to growing household creation.
- Log exports will help maintain the logging industry when the U.S. domestic market demand drops.
- World wood fiber demand increases due to biomass energy, pellets and new products.

