

# The Disconnect

Spaces of consumption



Spaces of production



# Green Certification

- **Green certification** can be used to verify claims about green practices
  - But who does the verification?
  - What standards will be used?
  - How much will it cost?

# 3<sup>rd</sup> Party certification vs. self-certification



# Corporate Responsibility vs. Greenwash



# Case Study

Assessing Self-certification practices of  
Do-It-Yourself Retailers

# Globalized Urban Commodity Teleconnections

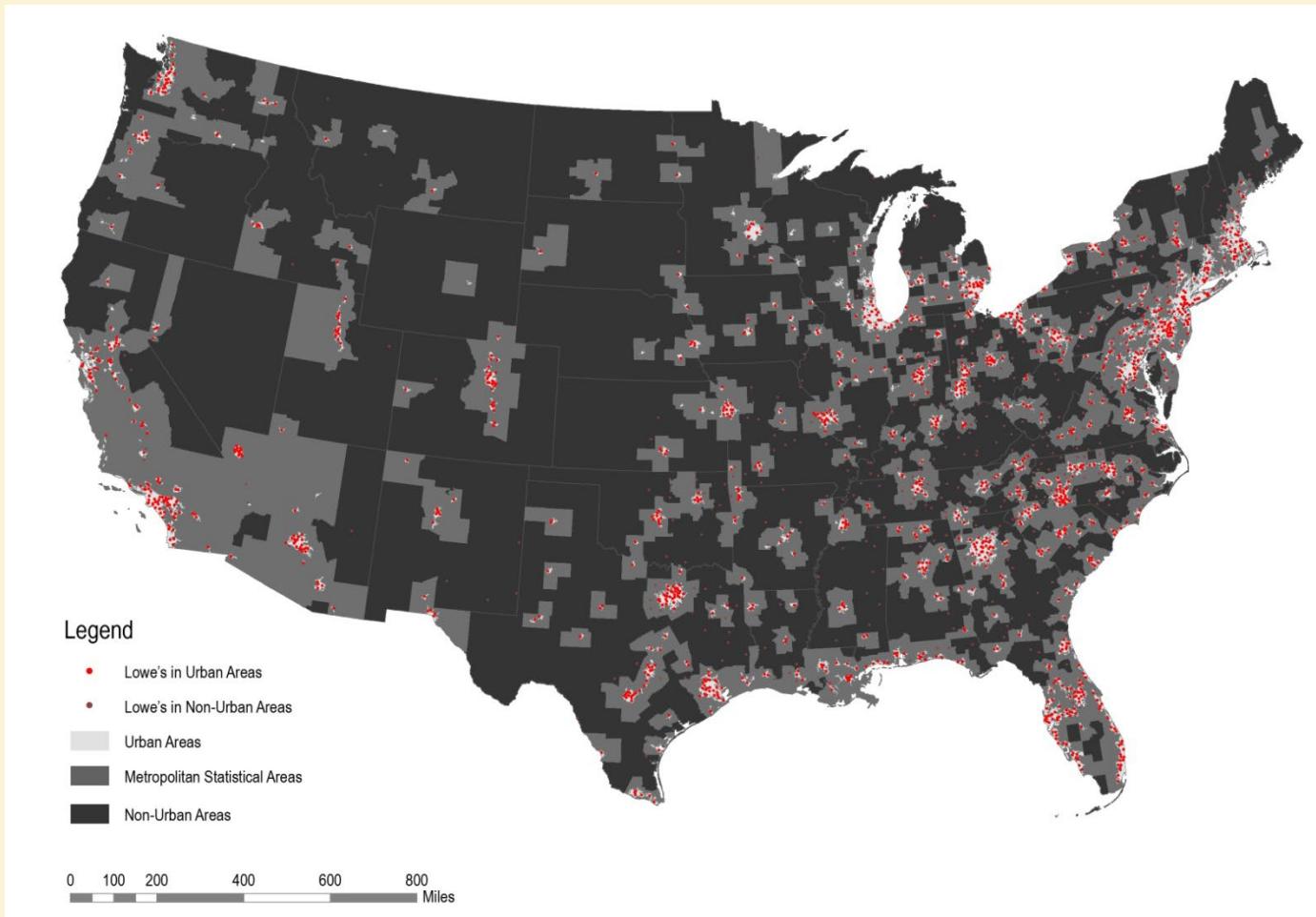
## Tracking Corporate Actors across Time-Space

Joshua Newell

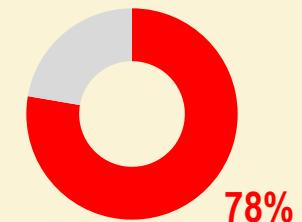
Professor, School for Environment and Sustainability  
University of Michigan



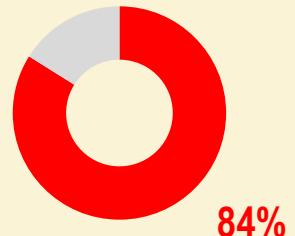
# Spaces of Consumption: Lowe's



1,711 Stores

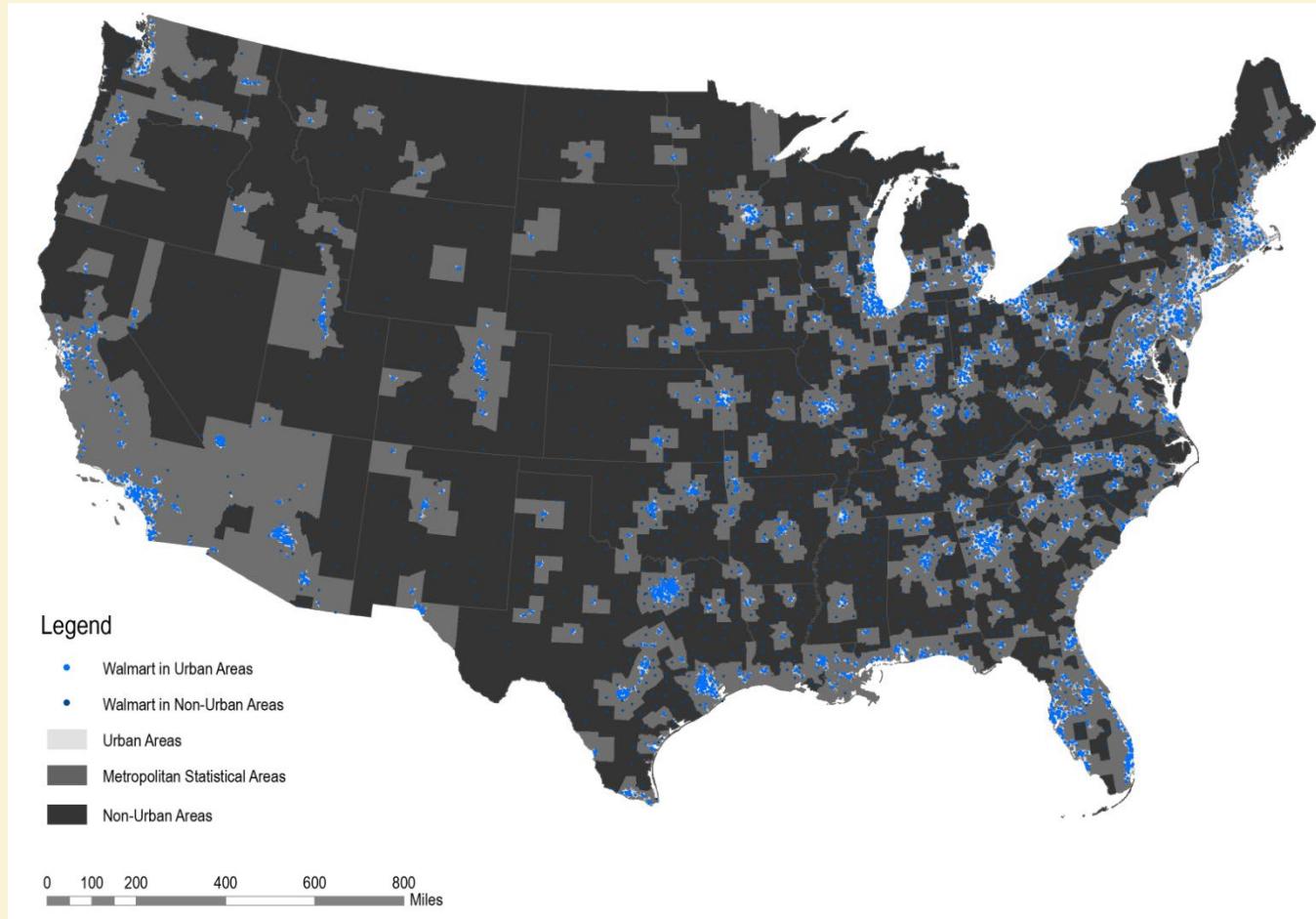


Stores in  
Urban Areas

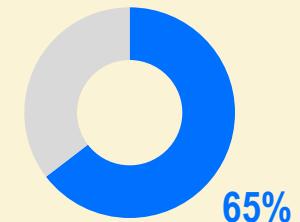


Stores in  
Metropolitan  
Statistical Areas

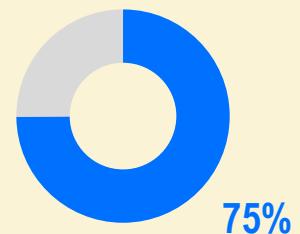
# Spaces of Consumption: Walmart



4,187 Stores



Stores in  
Urban Areas



Stores in  
Metropolitan  
Statistical Areas

Source: AggData Home and Garden Database (Lowe's, Home Depot, Walmart, etc. – accessed June 5, 2014) <https://www.aggdata.com/data>

# 'Greening' of Big Box or DIY Retailers

- IKEA: Largest furniture retailer
- The Home Depot: Largest lumber retailer)
- Inserted standards in supply networks: No products from 'endangered forests'
- Self-certification not third-party



# Consumer Boycott

*“A method of protest that aims to pressure corporations into changing their practices by urging people to forgo purchasing products associated with the targeted corporations.”*

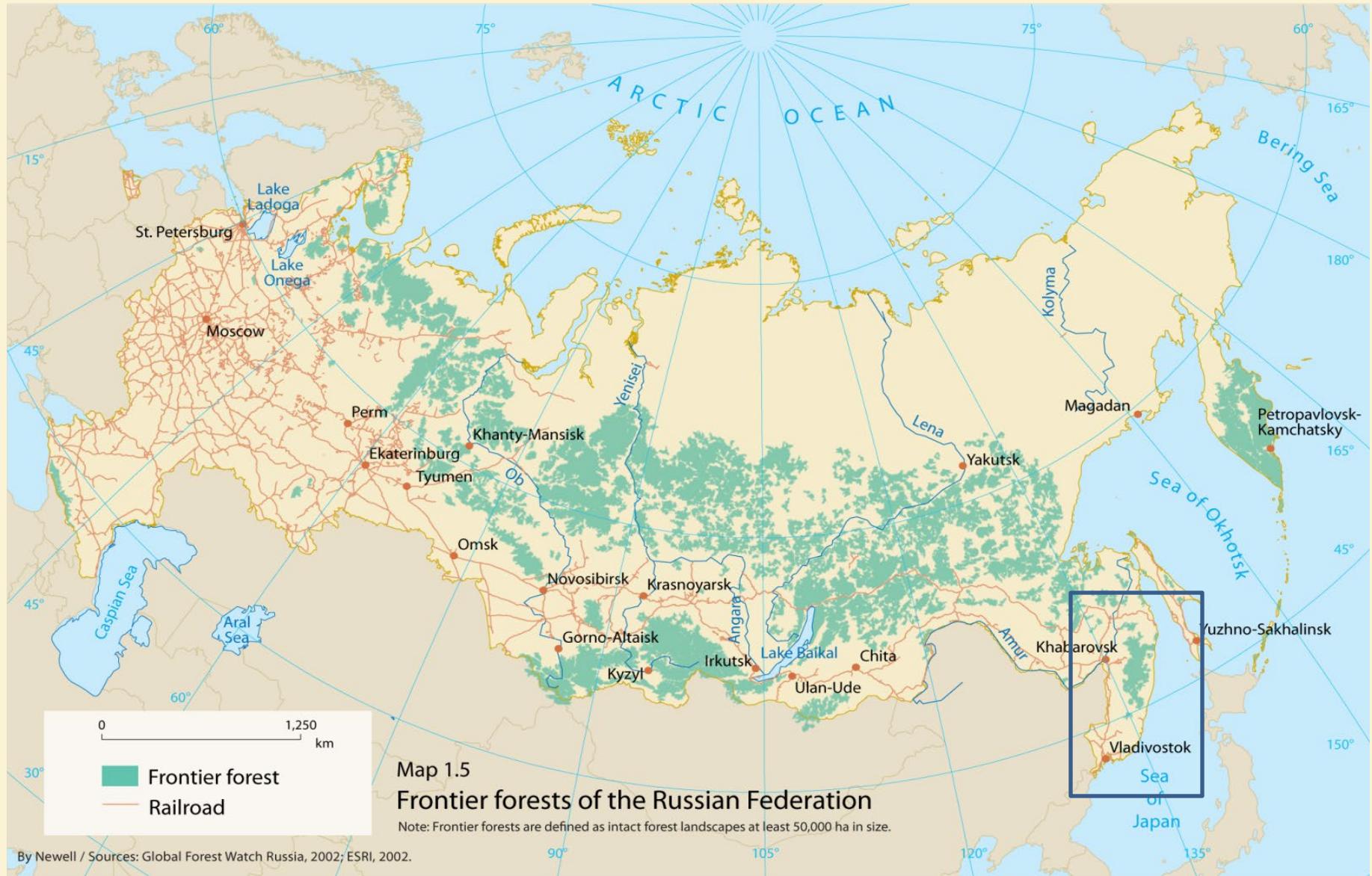
---Robbins et. al, 2010.



*"We promise to eliminate the purchase of wood and wood products from **endangered forests** (HCVFs) around the world."*

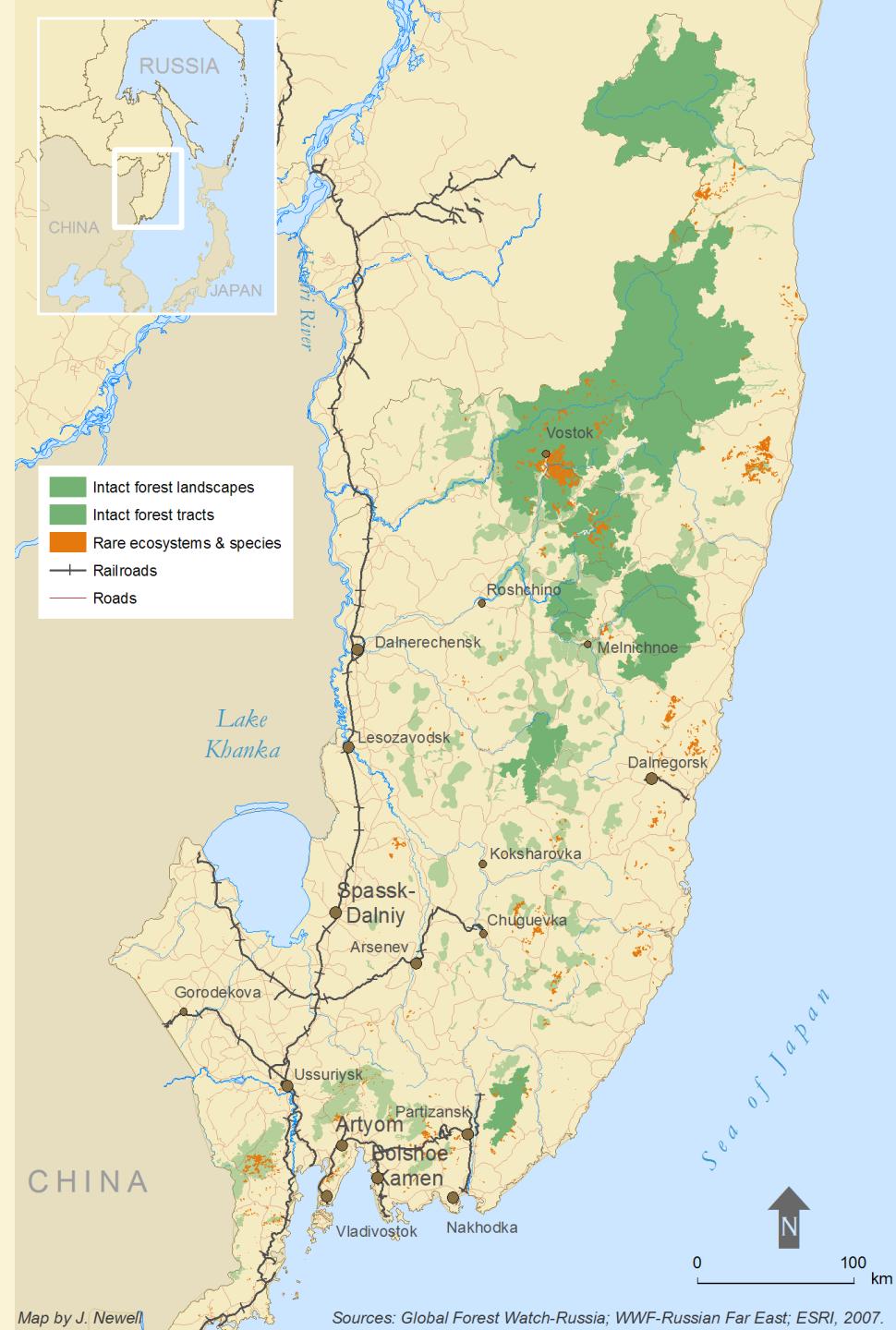
*"After years of research, **we now know item by item** – from lumber to broom handles, doors to molding and paneling to plywood – **where our wood products are harvested.**"*

# Spaces of Production: Russia's Forests

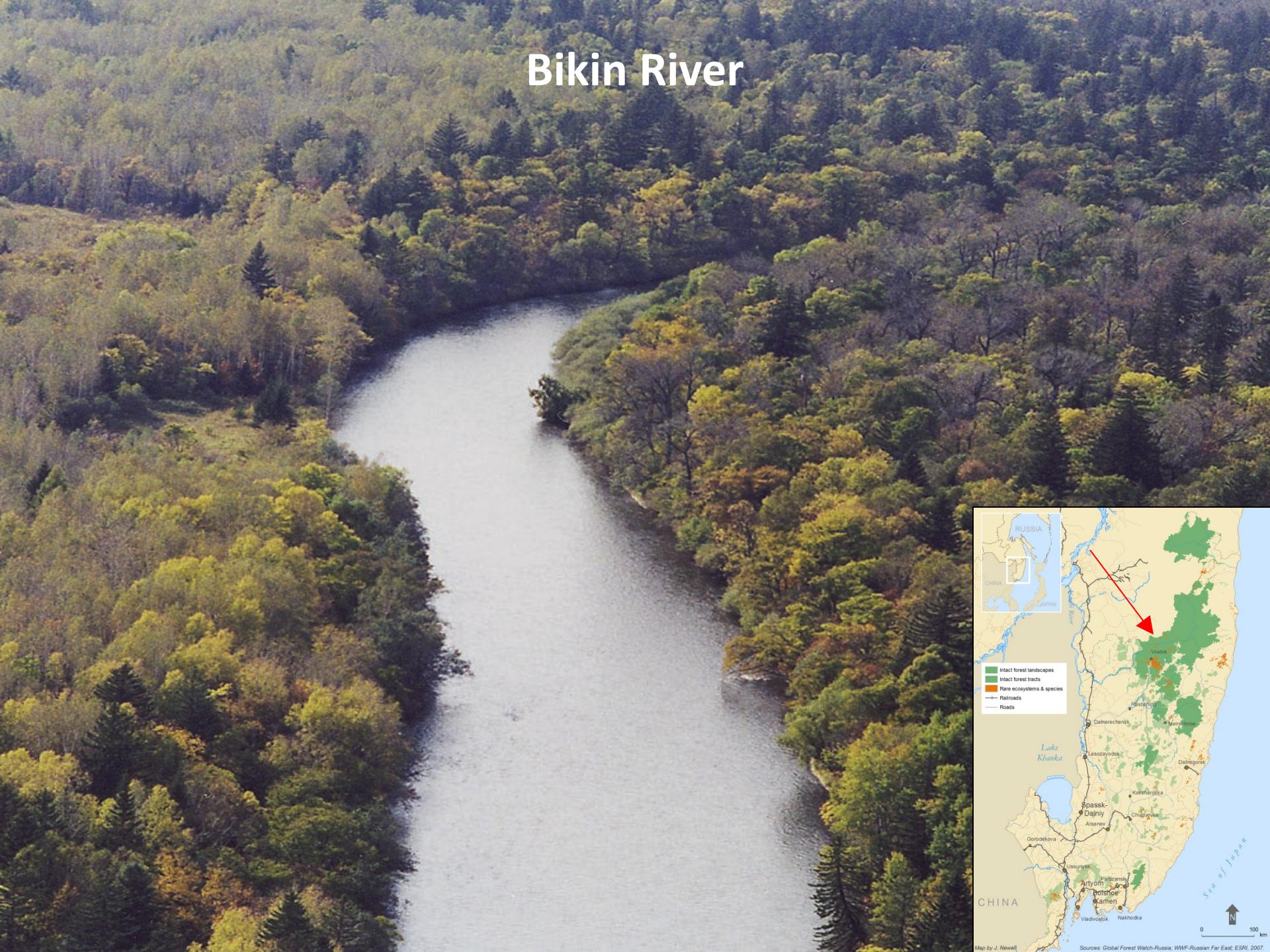


# Forests of the Sikhote-Alin

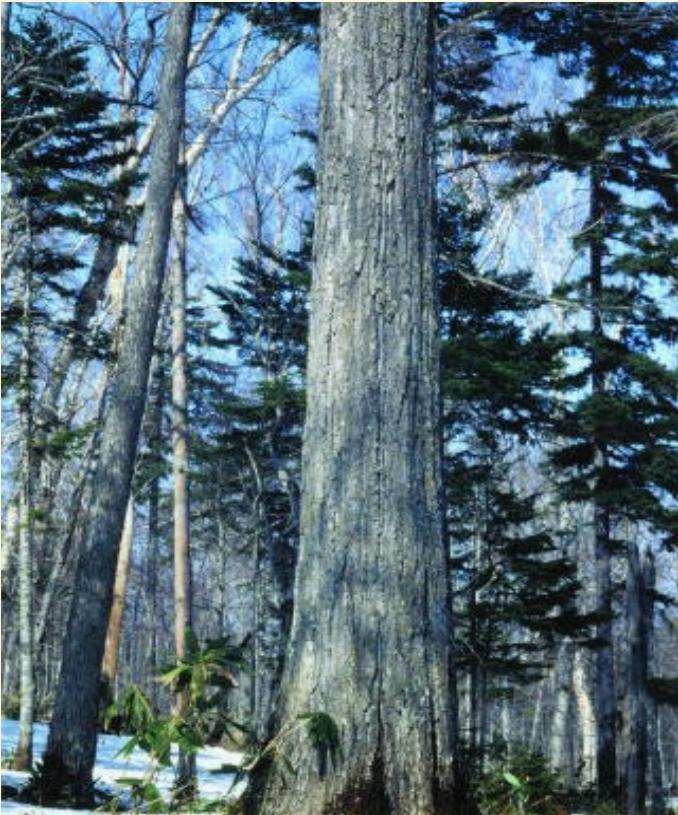
- Extend 1,000 km along Sikhote-Alin Range
- Most biologically diverse remaining forest in Russia
- High Conservation Value Forests (HCVFs) mapping  
(Completed in 2007)



# Bikin River



# Sikhote-Alin: Species in Demand



Mongolian oak  
(*Quercus mongolica*)



Manchurian ash  
(*Fraxinus mandshurica*)

## Research Questions

1. Is it possible to map out the supply chains of companies using publicly available data?
2. What are the chain of custody practices of these supply chains?
3. What is the broader structure of Russian-Chinese-U.S. wood trade?
4. What are the implications for market-based environmental governance?

# Case Study: Oak Hardwood Flooring sold by Wal-Mart

## Harmonized Commodity Description and Coding System

44

4409

**440920**

Wood Products

Wood, Continuously Shaped / Flooring  
**Nonconiferous Flooring**

**Ark Floors Artistic 4-3/4" Solid White Oak Flooring in Antique**

★★★★★ 0 reviews Q&A By: Ark Floors



**Ark Floors Artistic 4-3/4" Solid White Oak Flooring in Tobacco**

★★★★★ 0 reviews Q&A By: Ark Floors



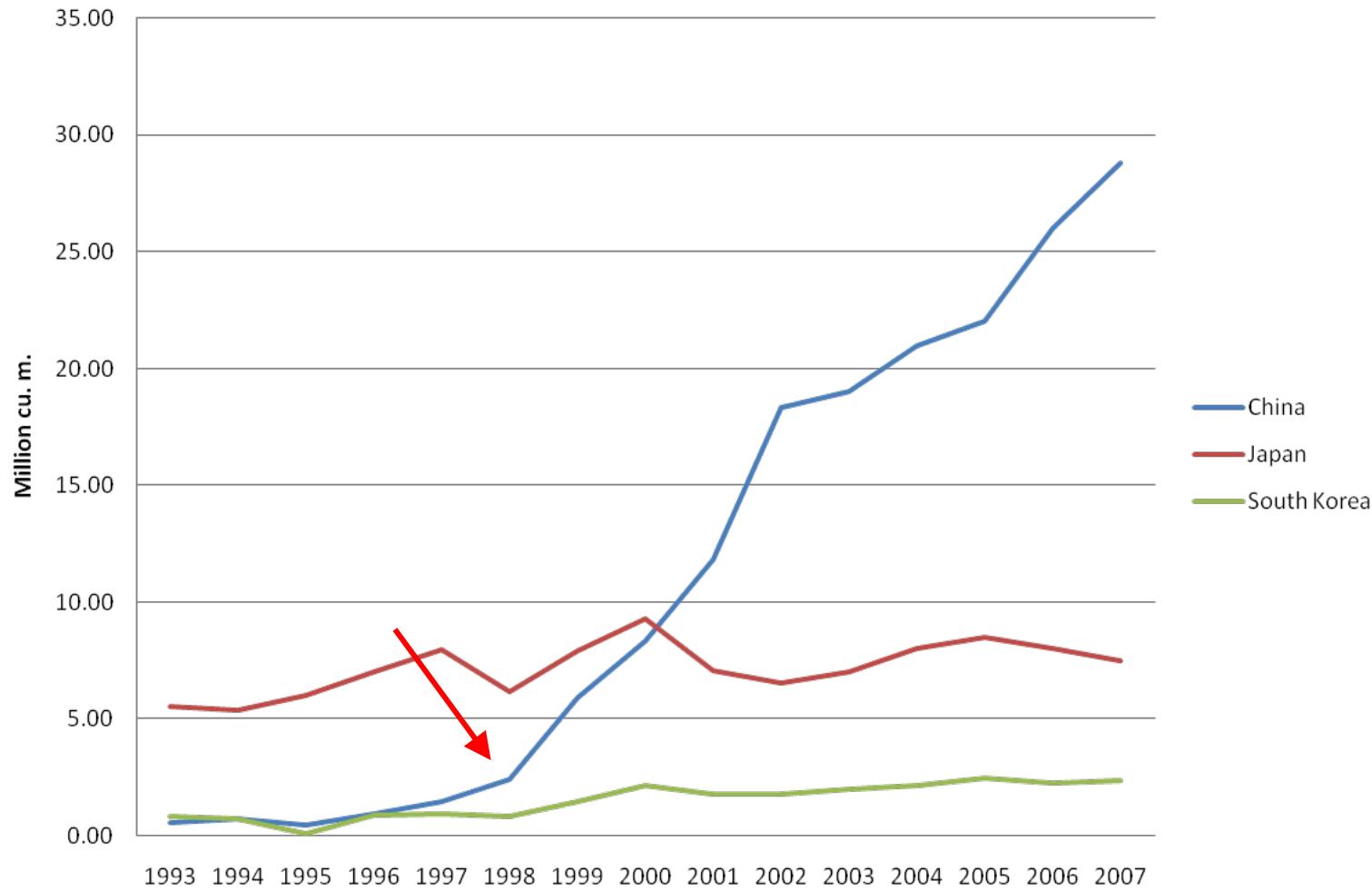
**Ark Floors Estate 4-3/4" Engineered Oak Flooring in Brushed Linen**

★★★★★ 0 reviews Q&A By: Ark Floors



# China's Ecological Shadow?

Russian Timber Export to Northeast Asia, 1993-2007



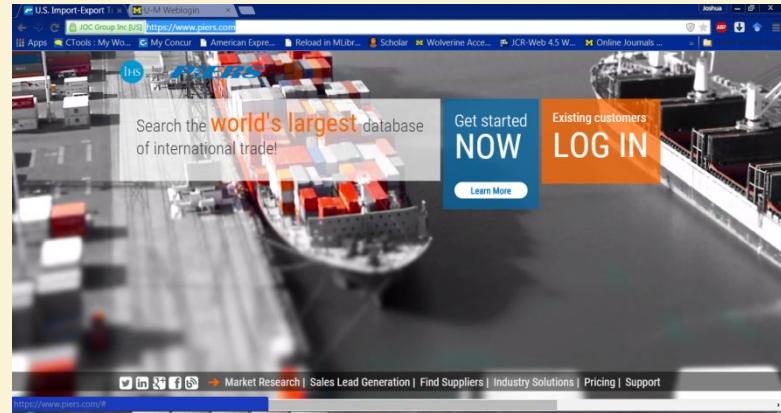
Source: ITTO, 2008.

# Research Design: Travel with the Timber (2007)



# Methodological Approach

1. Use “big data” to track corporate supply chains from production to consumption
  - U.S., Chinese, and Russian customs data (e.g. PIERS)
  - GIS forest concessions (Russia)
  
2. Conduct field work along key nodes of supply chain
  - Focus on corporate actors in the chain
  - Chain of custody: Identification, segmentation, documentation
  - Conducted in 2007; Renew in Summer 2015

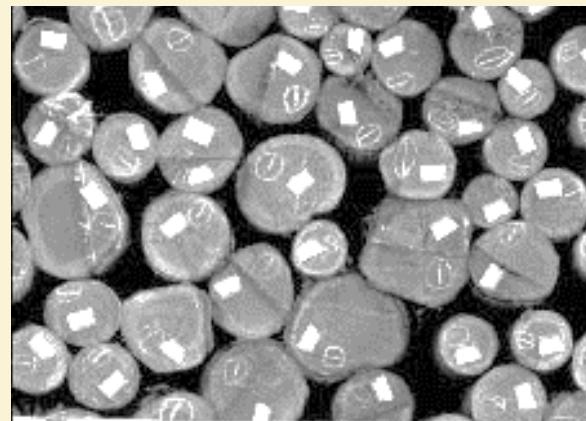


[www.piers.com](http://www.piers.com)

# Research Design: Quality Convention

## Three pillars of chain of custody

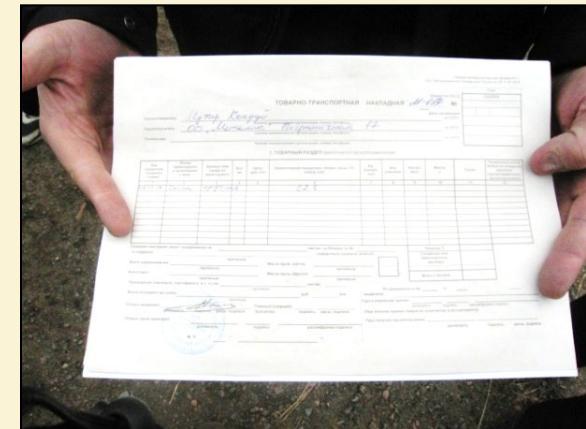
### Identification



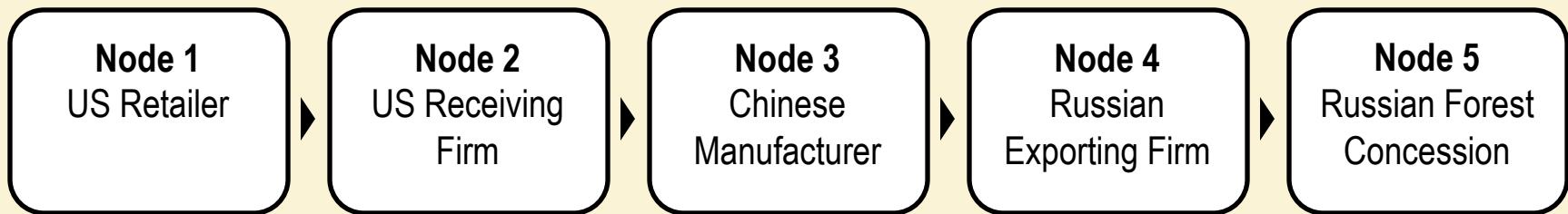
### Segmentation



### Documentation



# Overview of Trade Nodes



# US Receiving & Retailer Chinese Exporter



Source: PIERS database for import Bills of Lading. Includes data on: Country of Origin, Dates, Commodity Description, Shipper, Vessel, HS Code, Quantity. [www.piers.com](http://www.piers.com)

# US Receiving & Retailer ← Chinese Exporter

## Entire 2013 Trade

### US FIRM DYNAMICS

2007: 1672

2013: 1183

Overlap: 267

### CHINESE FIRM DYNAMICS

2007: 1441

2013: 1007

Overlap: 140

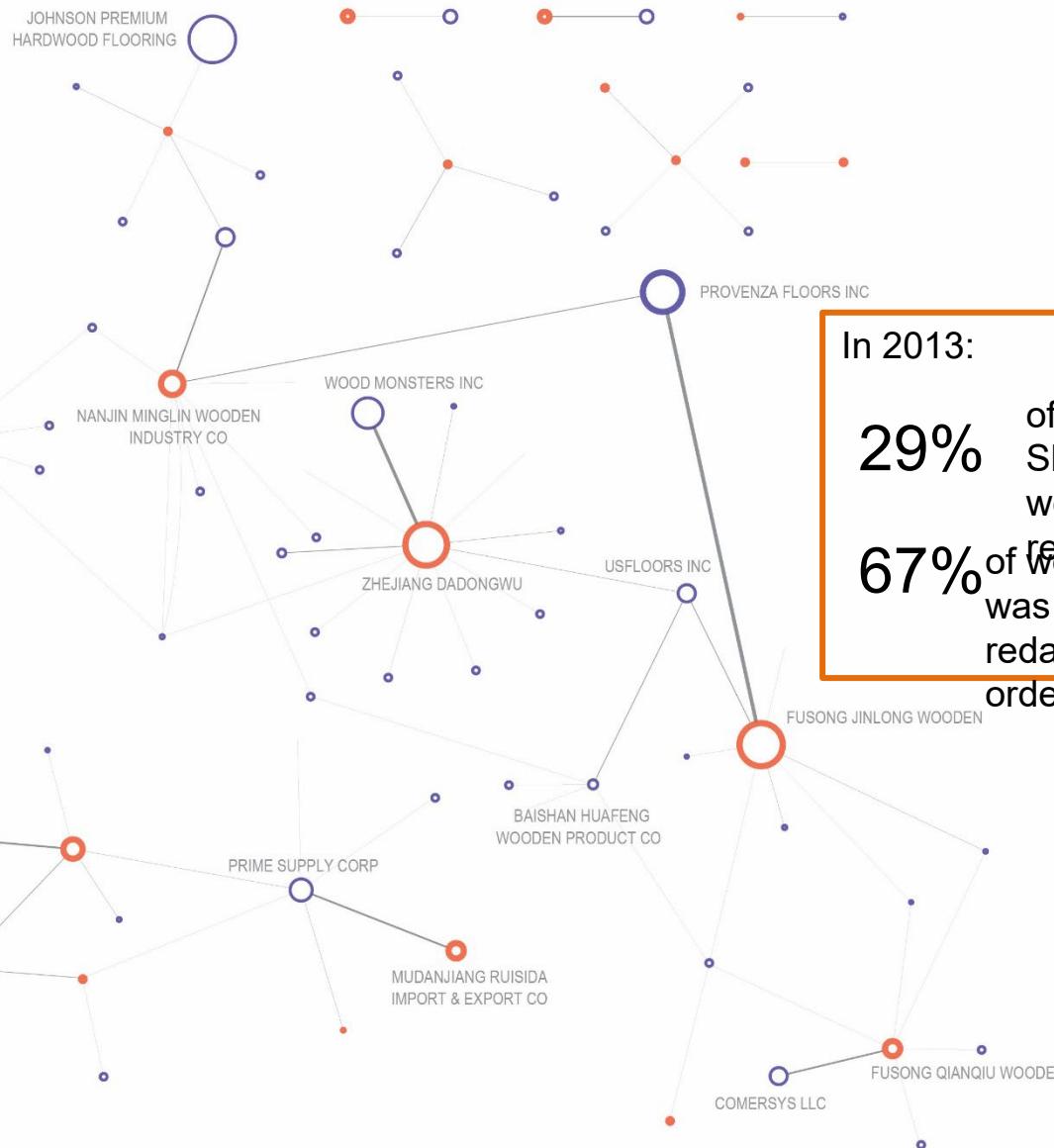
RFE LINKS: 21

CHINESE, 100 U.S.

A&W GROUP INC

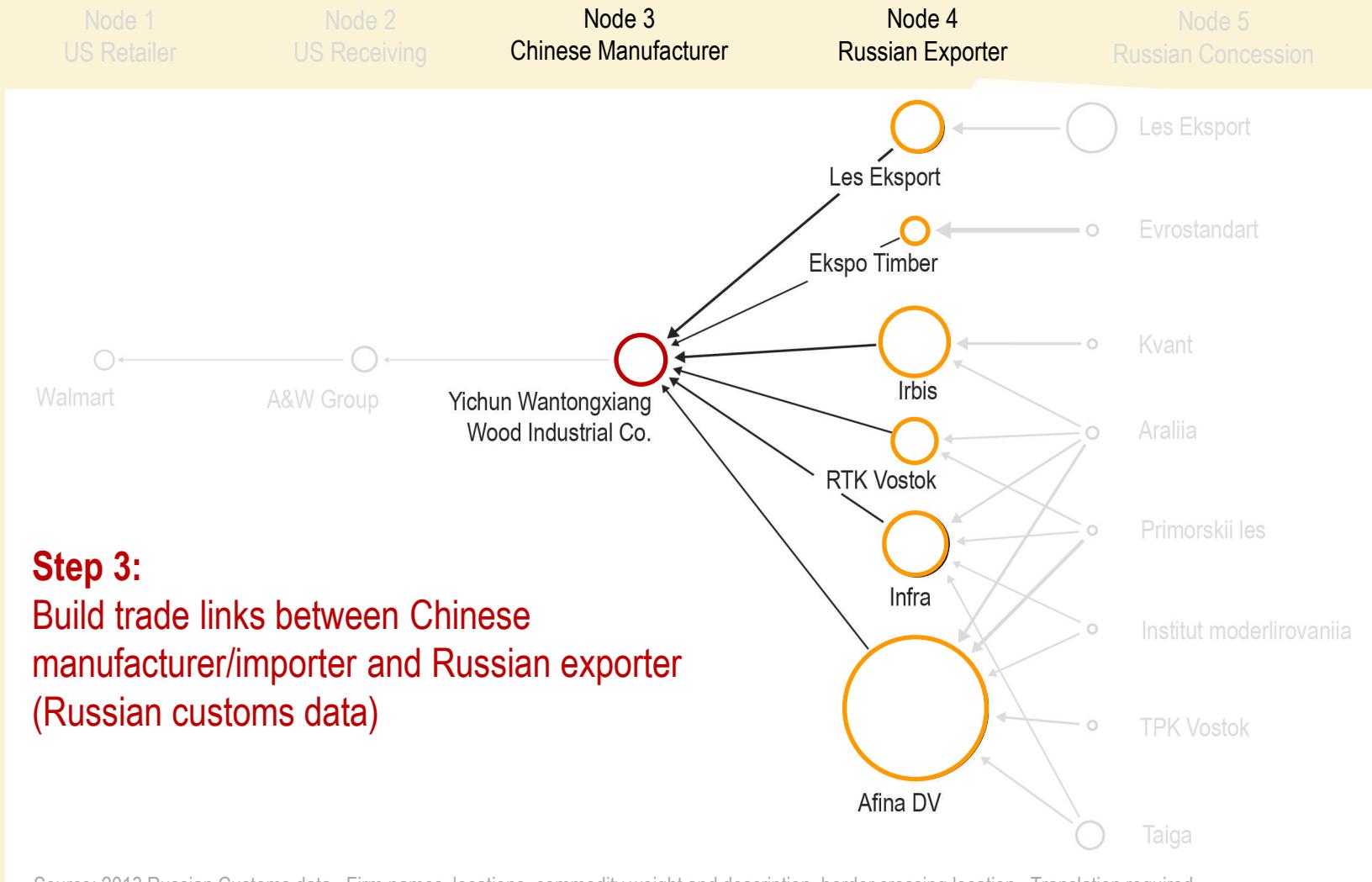
YICHUN WANTONGXIANG  
WOODEN

REDACTED ORDERS



In 2013:  
**29%** of Shipments were  
**67%** of Weight was in a  
redacted order

# Chinese Manufacturer ⇄ Russian Exporter



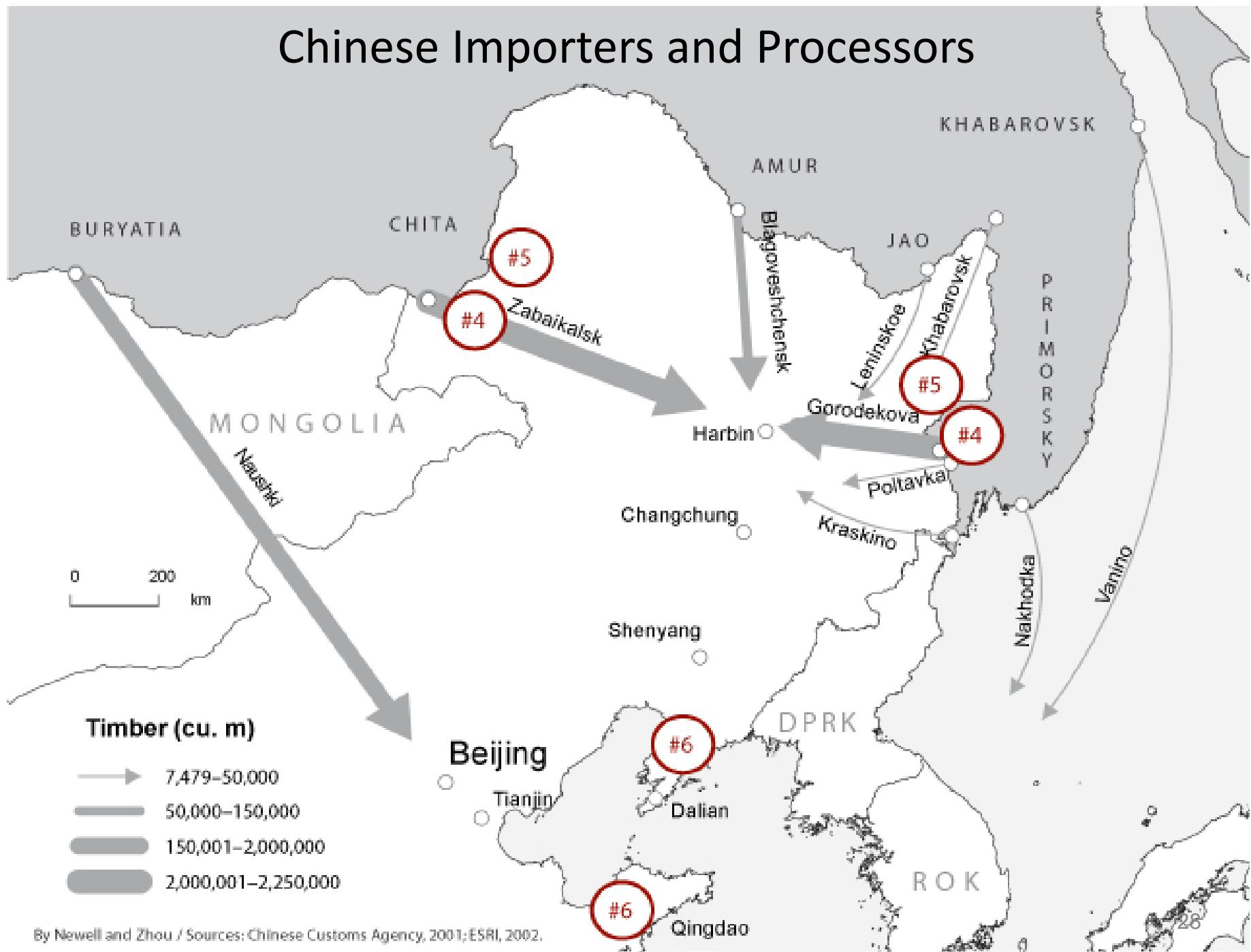
# Flooring and Furniture Manufacturer



# Import Yard

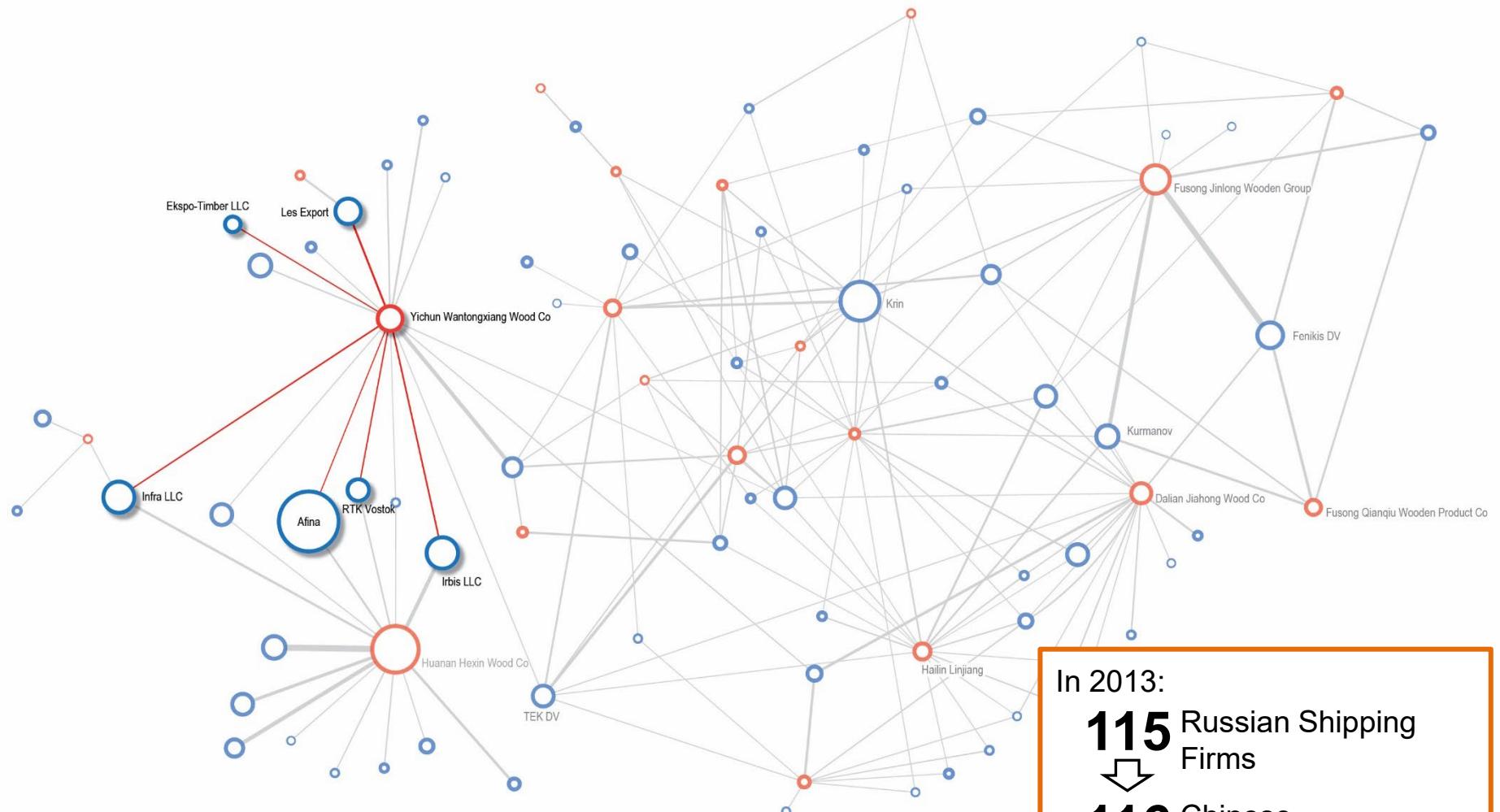


# Chinese Importers and Processors



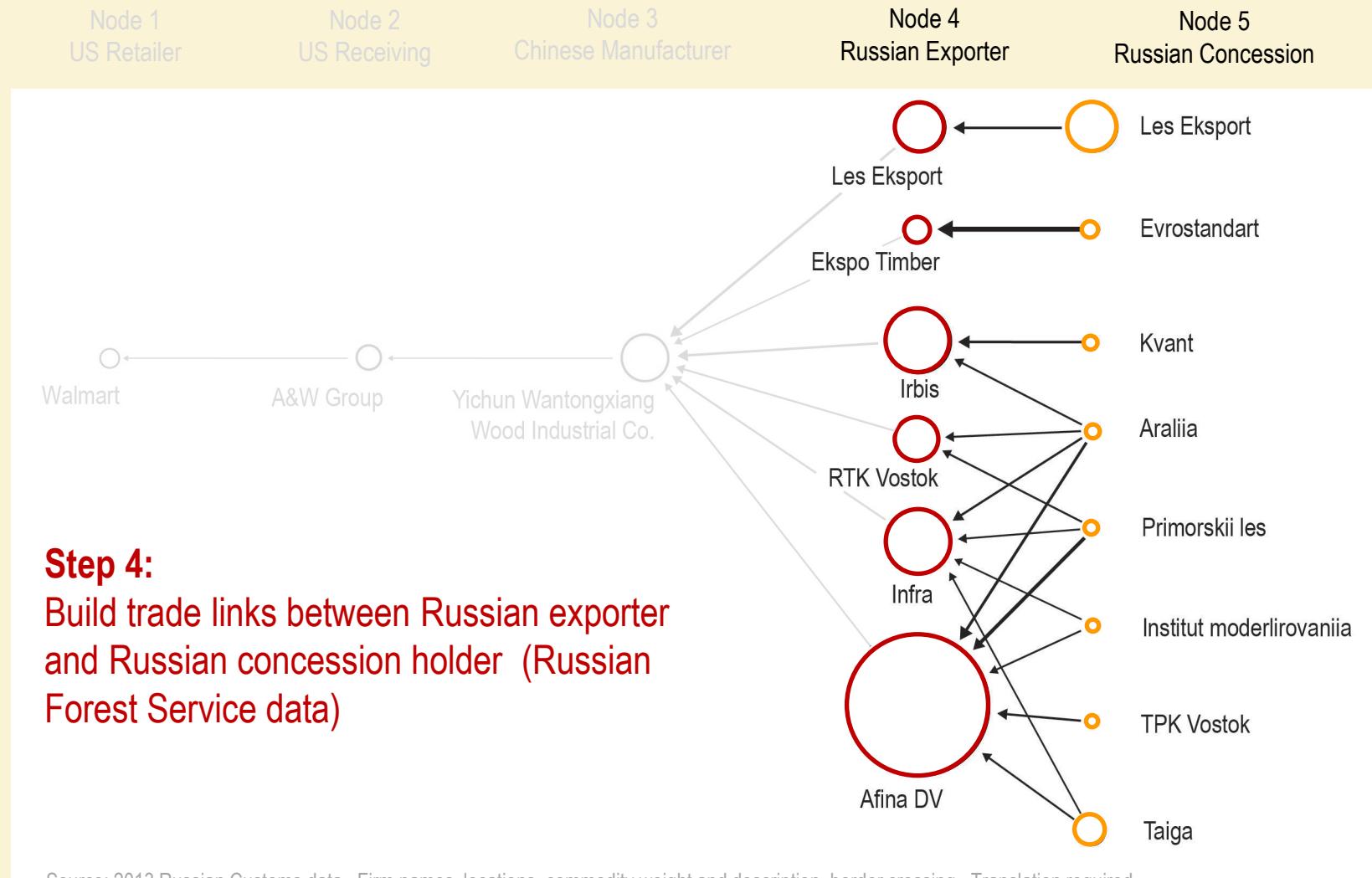
# Chinese Manufacturer ↘ Russian Exporter

## Entire 2013 Trade



In 2013:  
**115** Russian Shipping  
Firms  
↓  
**116** Chinese  
Manufacturers  
336,100,000 kg total

# Russian Exporter ← Russian Concession

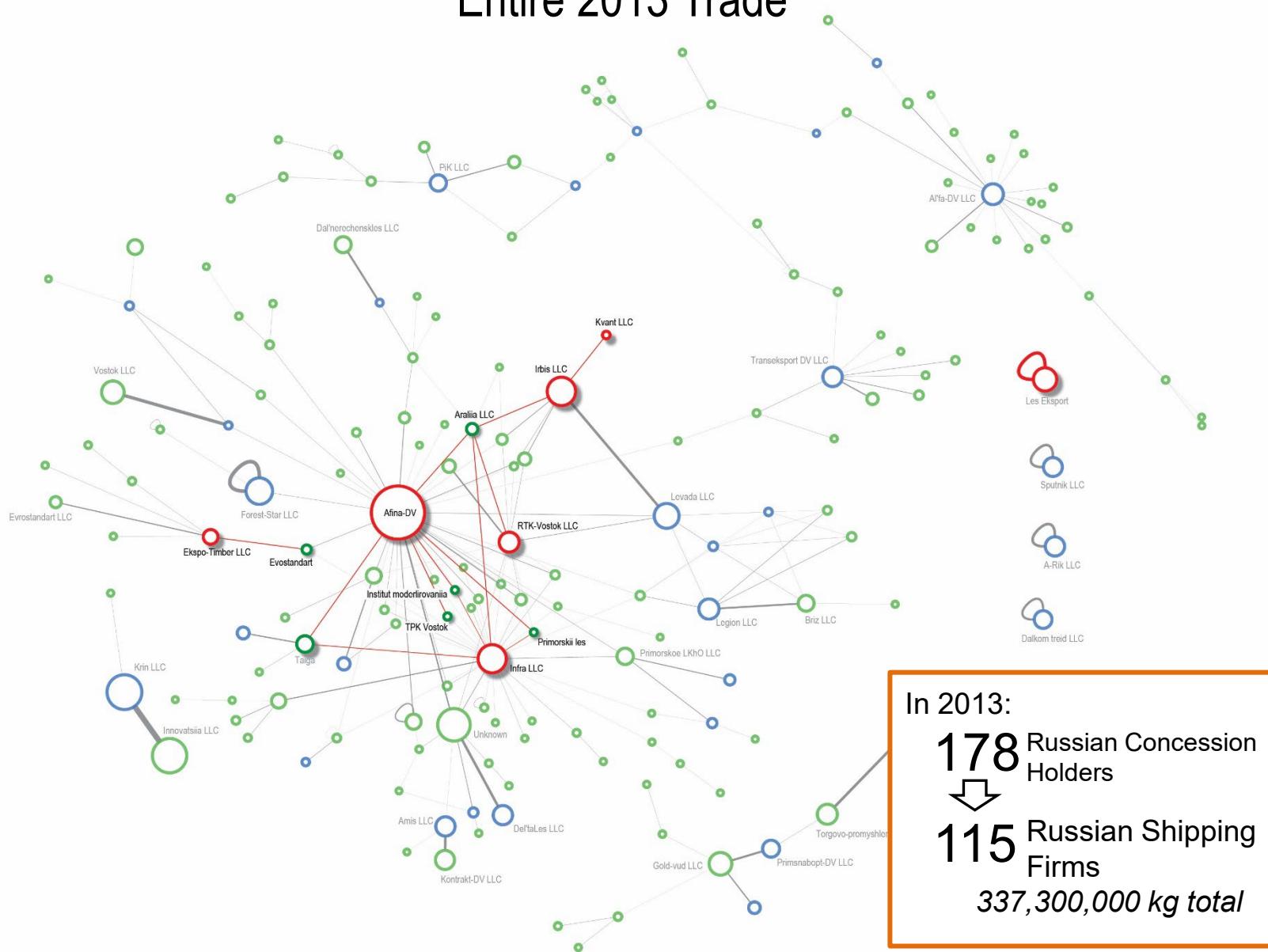


Source: 2013 Russian Customs data. Firm names, locations, commodity weight and description, border crossing. Translation required.

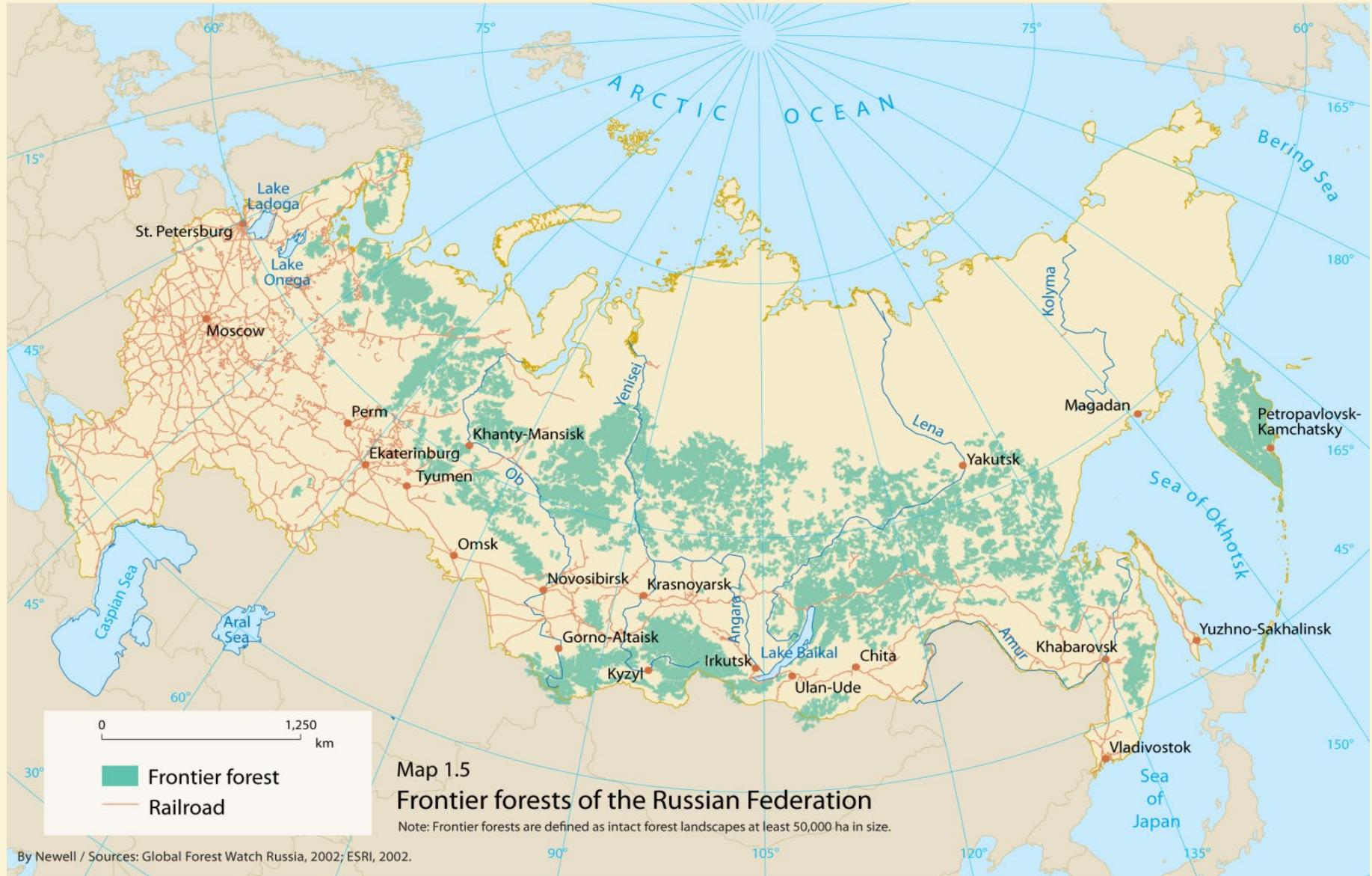
2007 Russian Primorsky Region GIS Concession Database, Russian Forest Service. Augmented with updated concession data provided by Les Export

# Russian Exporter ← Russian Concession

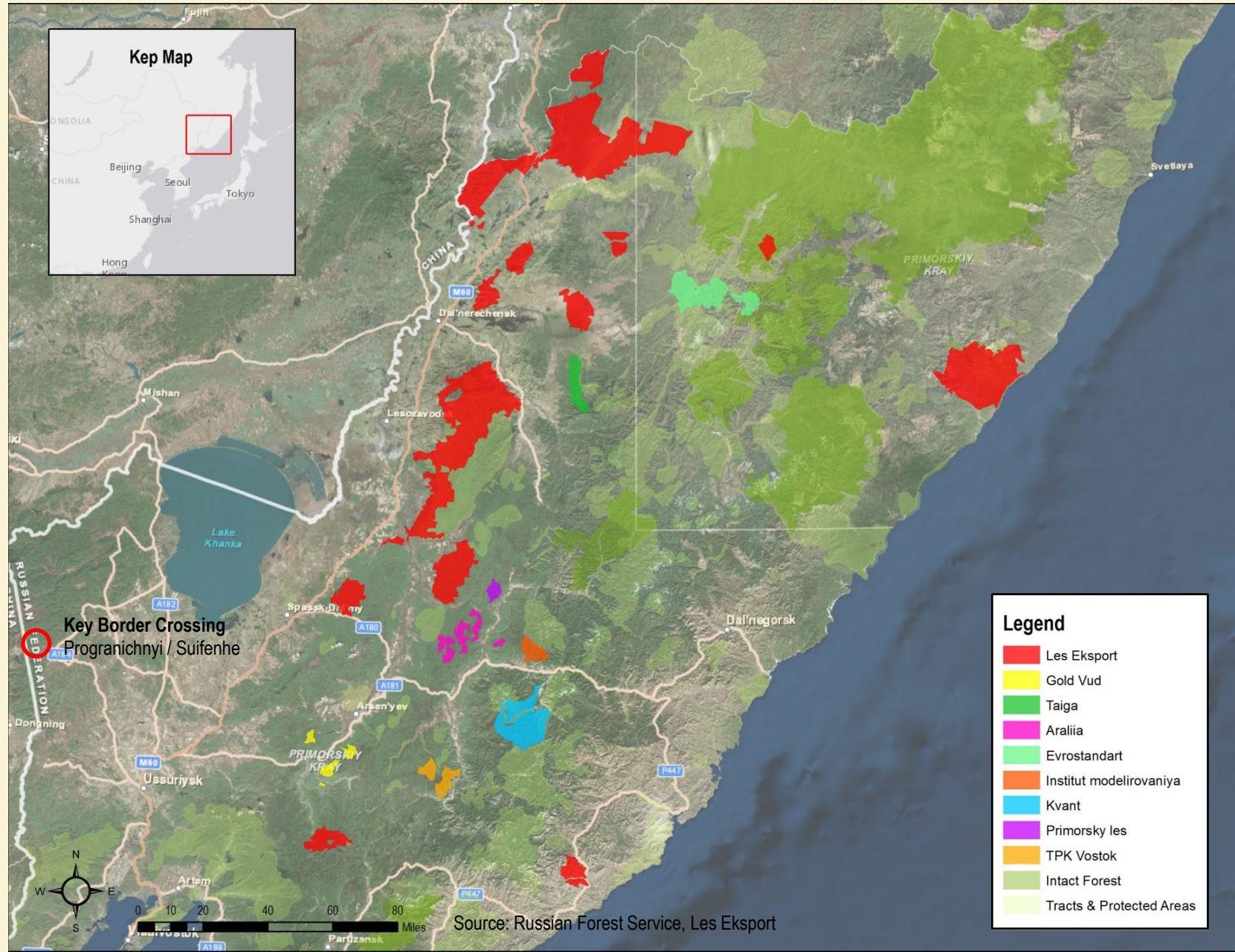
## Entire 2013 Trade



# Spaces of Production: Russia's Forests



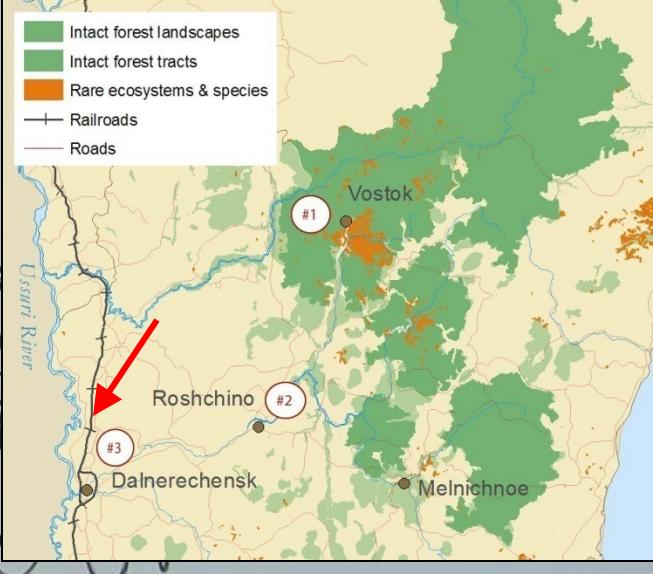
# Russian Timber Concessions



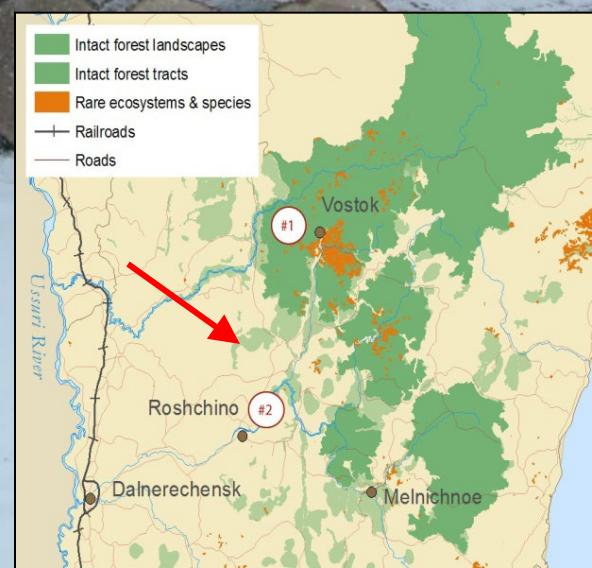
# Timber Concessions of 'Frontier' Forest

| Russian Concession Holder | Total          |  | Intact Forest |               | Tracts         |               | Protected Areas |               |
|---------------------------|----------------|--|---------------|---------------|----------------|---------------|-----------------|---------------|
|                           | Hectares       |  | Hectares      | Percentage    | Hectares       | Percentage    | Hectares        | Percentage    |
| Les Export - New          | <b>633,700</b> |  | <b>6,683</b>  | <b>1.05%</b>  | <b>138,027</b> | <b>21.78%</b> | <b>298,267</b>  | <b>47.07%</b> |
| Taiga                     | 41,431         |  | 0             | 0.00%         | <b>26,871</b>  | <b>64.86%</b> | 0               | 0.00%         |
| Araliaia                  | 21,136         |  | 0             | 0.00%         | 0              | 0.00%         | 0               | 0.00%         |
| Evrostandart              | 46,400         |  | <b>6,093</b>  | <b>13.13%</b> | 24,279         | 52.32%        | 0               | 0.00%         |
| Gold-Wood                 | 9,737          |  | 0             | 0.00%         | 0              | 0.00%         | 0               | 0.00%         |
| Institut modelirovaniya   | 10,733         |  | 0             | 0.00%         | 4,000          | 37.27%        | 0               | 0.00%         |
| Kvant                     | 47,963         |  | 0             | 0.00%         | 20,870         | 43.51%        | 1,105           | 2.30%         |
| Primorsky les             | 5,302          |  | 0             | 0.00%         | 0              | 0.00%         | 0               | 0.00%         |
| TPK Vostok                | 14,928         |  | 0             | 0.00%         | 0              | 0.00%         | 0               | 0.00%         |

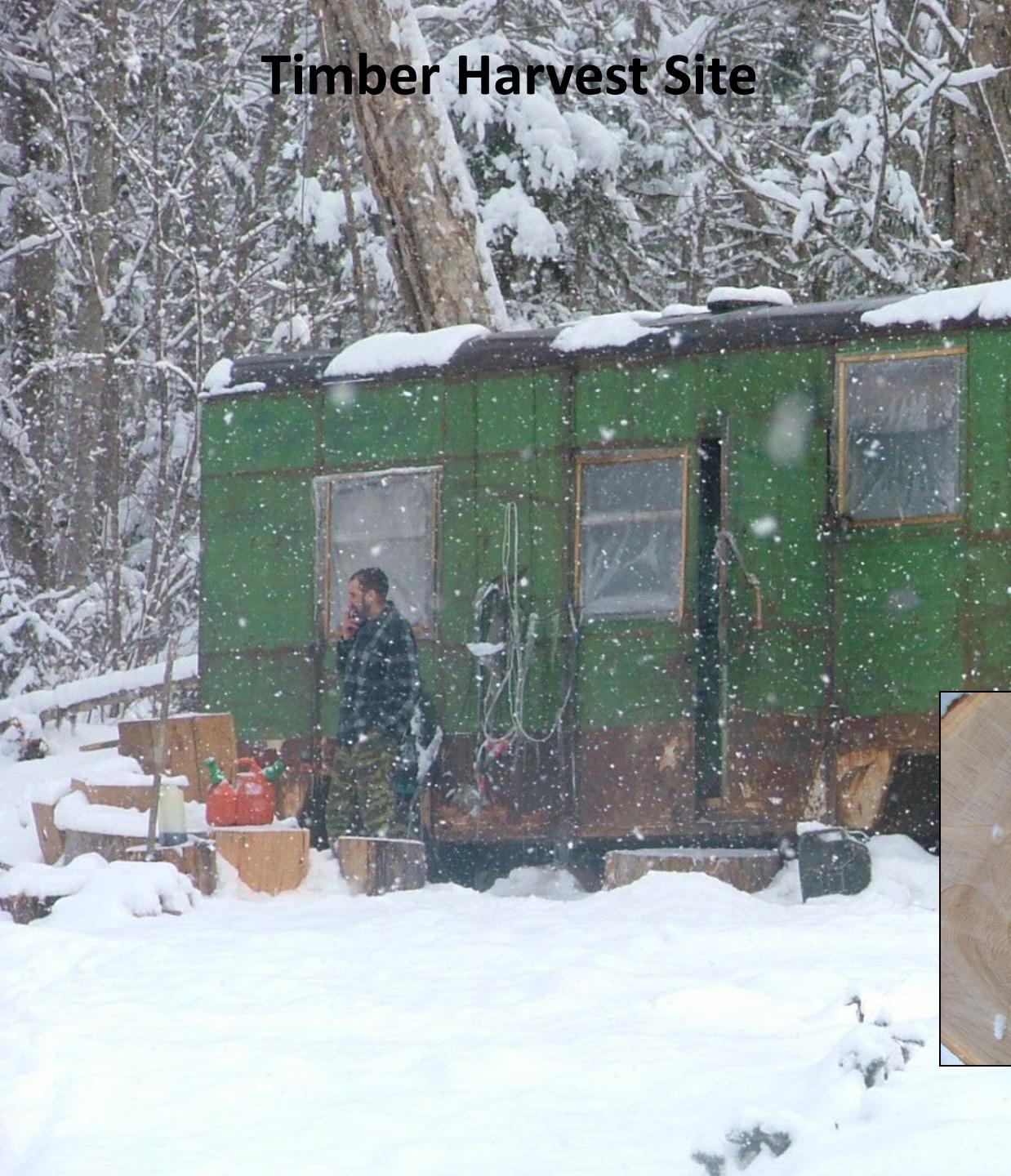
# Loading / Export Depot



# Sorting / Storage / Processing Area

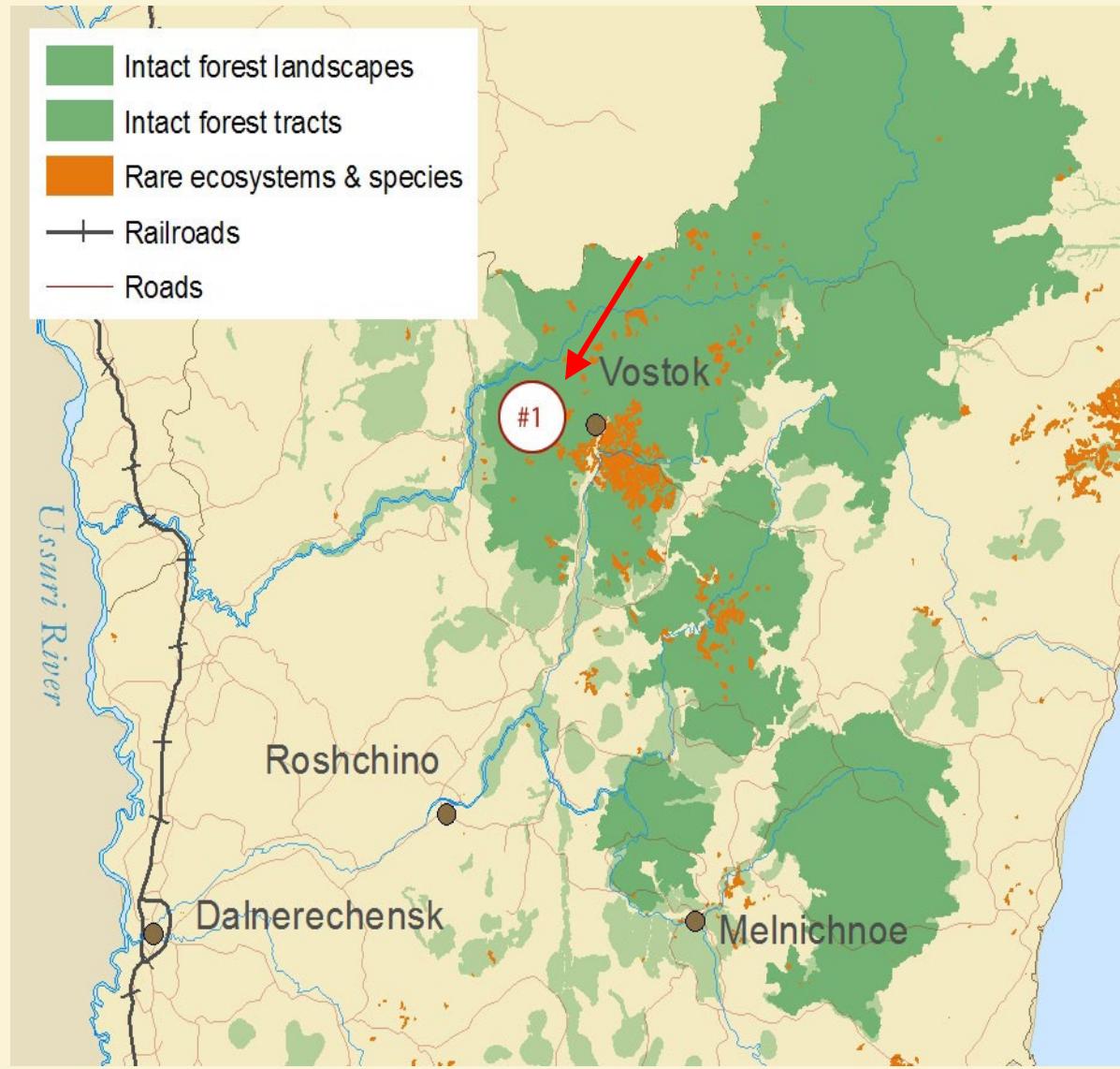


# Timber Harvest Site

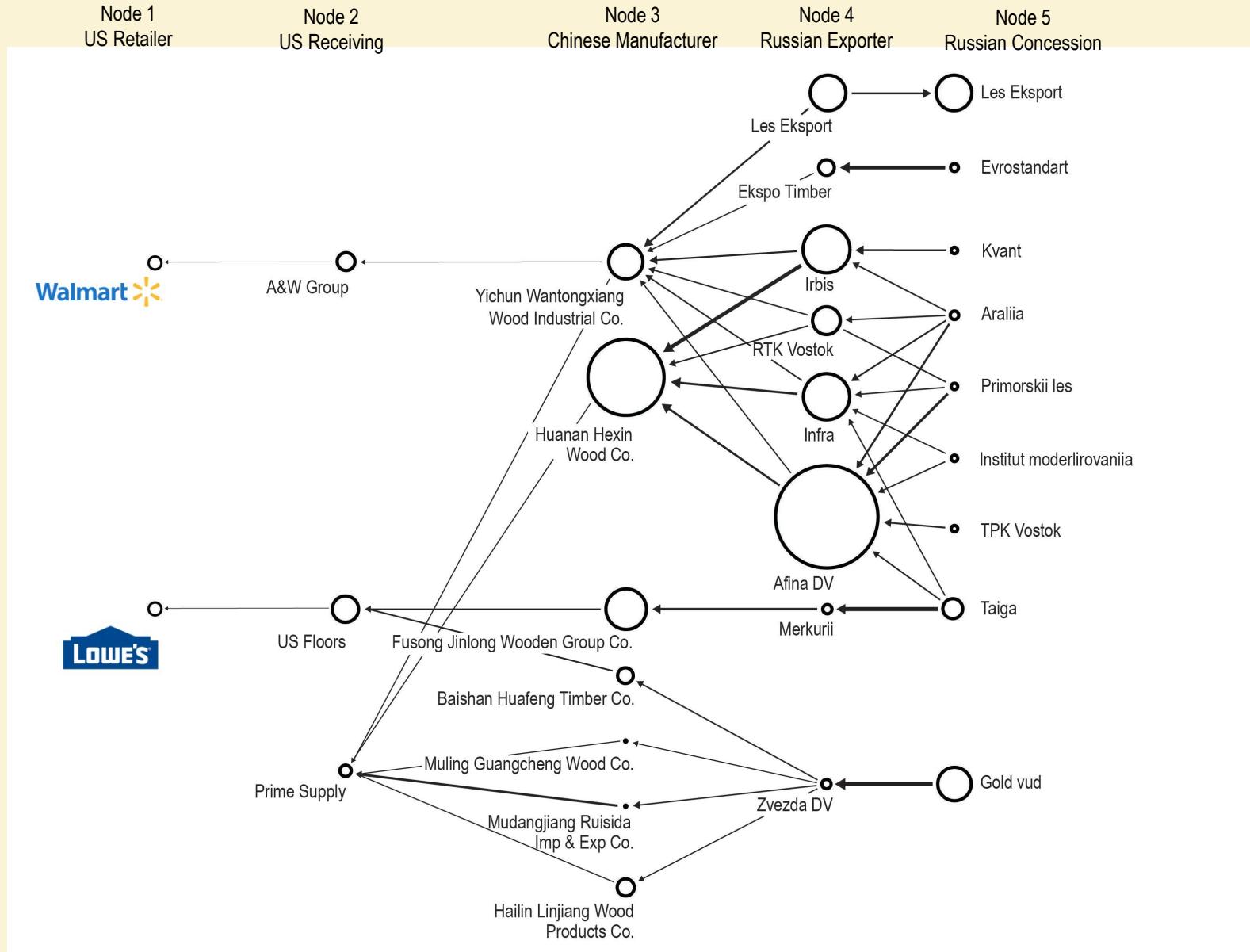


# Timber Harvest Site

- Vostochny Protected Nut Zone
  - Closed for decades
  - Opened to sanitary logging in 2004



# Walmart and Lowe's Oak Flooring Supply Chains



# Result #1: Linked Harvesters-Retailers

- 2013 Trade
- Not by individual log shipments
- But by corporate actor to actor
- Oak sourced from “frontier” and HCVF forests



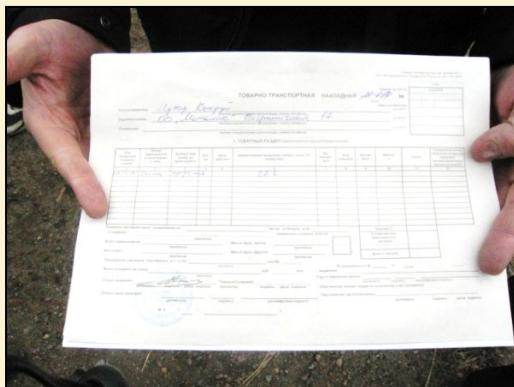
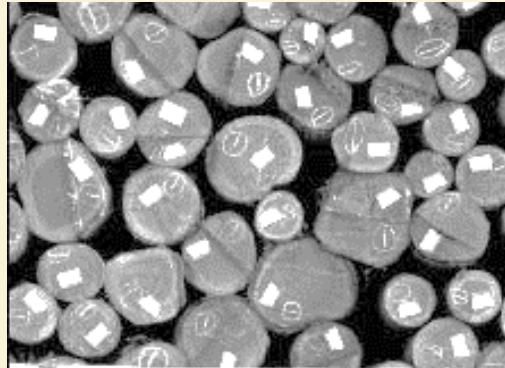
Next step: Complete analysis for 2007

# Result #2: Weak Chain of Custody

## 2007 Field Research

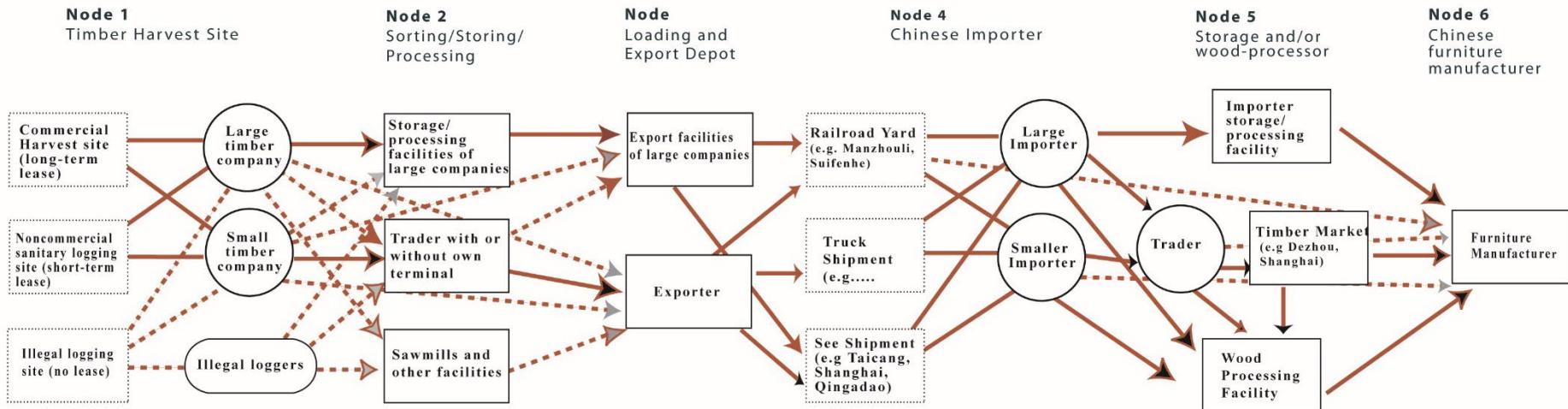
- Identification
  - ‘Species and Diameter’
- Segmentation
  - Mixed early and often
  - Every node
- Documentation
  - No info on wood origin

Next step: CoC Fieldwork in ??



# Result #3: Complex, Shifting Supply Networks

## Furniture CoC Patterns: Russia and China

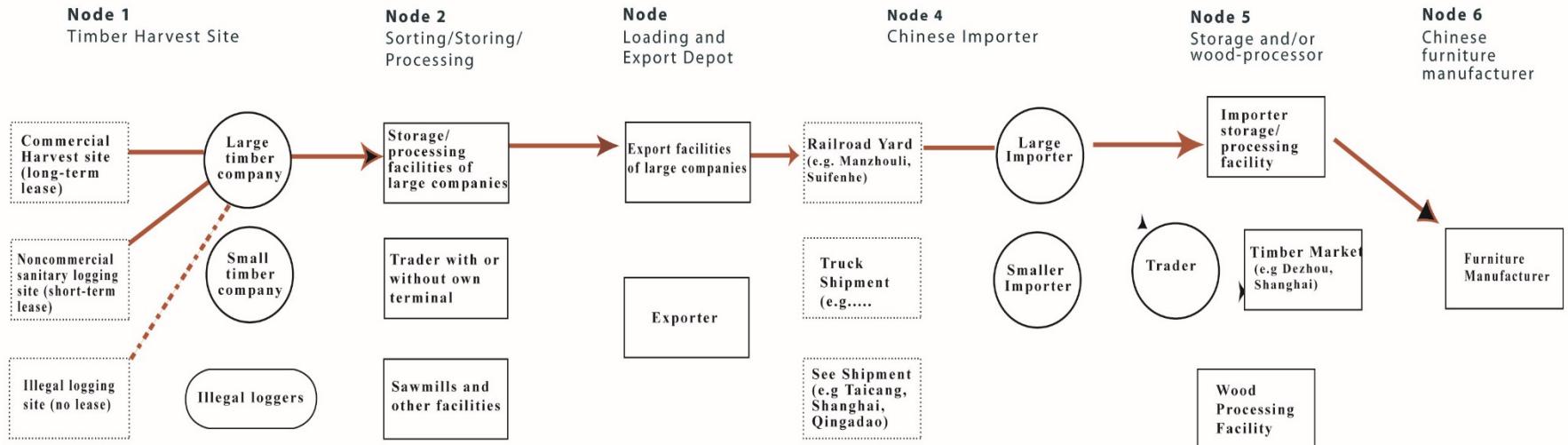


- Manufacturers: Shift based on price and resource availability
- 2007 – 2013: New firms in trade
- “Messiness” of Distance
- 2015 Fieldwork

# Conclusions: Market-based Governance & the Consumer Imaginary

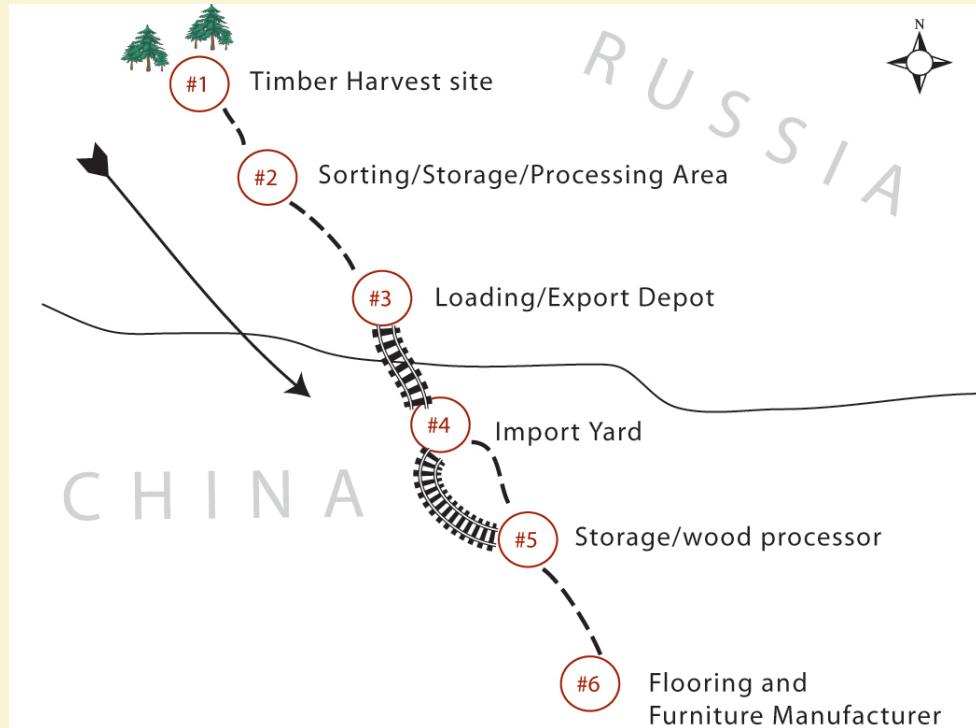
- Market-based governance?
  - Market demands and shifts, lack of Chinese wood supply, weak governance and corruption
  - Chinese business model & complex supply networks hinder information transfer
- Consumer imaginary and the ‘double fetish’
  - Chair is not just a ‘chair’ but an ‘old-growth free’ chair
  - Environmental relations remain obscured

## Supply Networks: Reconfigured



# Reflections: Shipping Data

- Data mining is time intensive
- Temporal snapshot of dynamic flows
- Gaps in trade data
  - 29% PIERS bills of lading - redacted shipper data
- How to track within a country?
- Augment with other data sources and approaches
- Potential for wide-range of commodities



A dark, semi-transparent overlay covers the entire image, featuring a satellite photograph of the Earth's surface. The visible landmasses include the northern part of North America, the Arctic region, and parts of Europe and Asia. The oceans are a deep navy blue.

Thank You  
Questions?