

# *US PNW Pulp Mill Sector*

**MAPPING THE COURSE**

VANCOUVER, WASHINGTON

JANUARY 24, 2019

Larry Davis

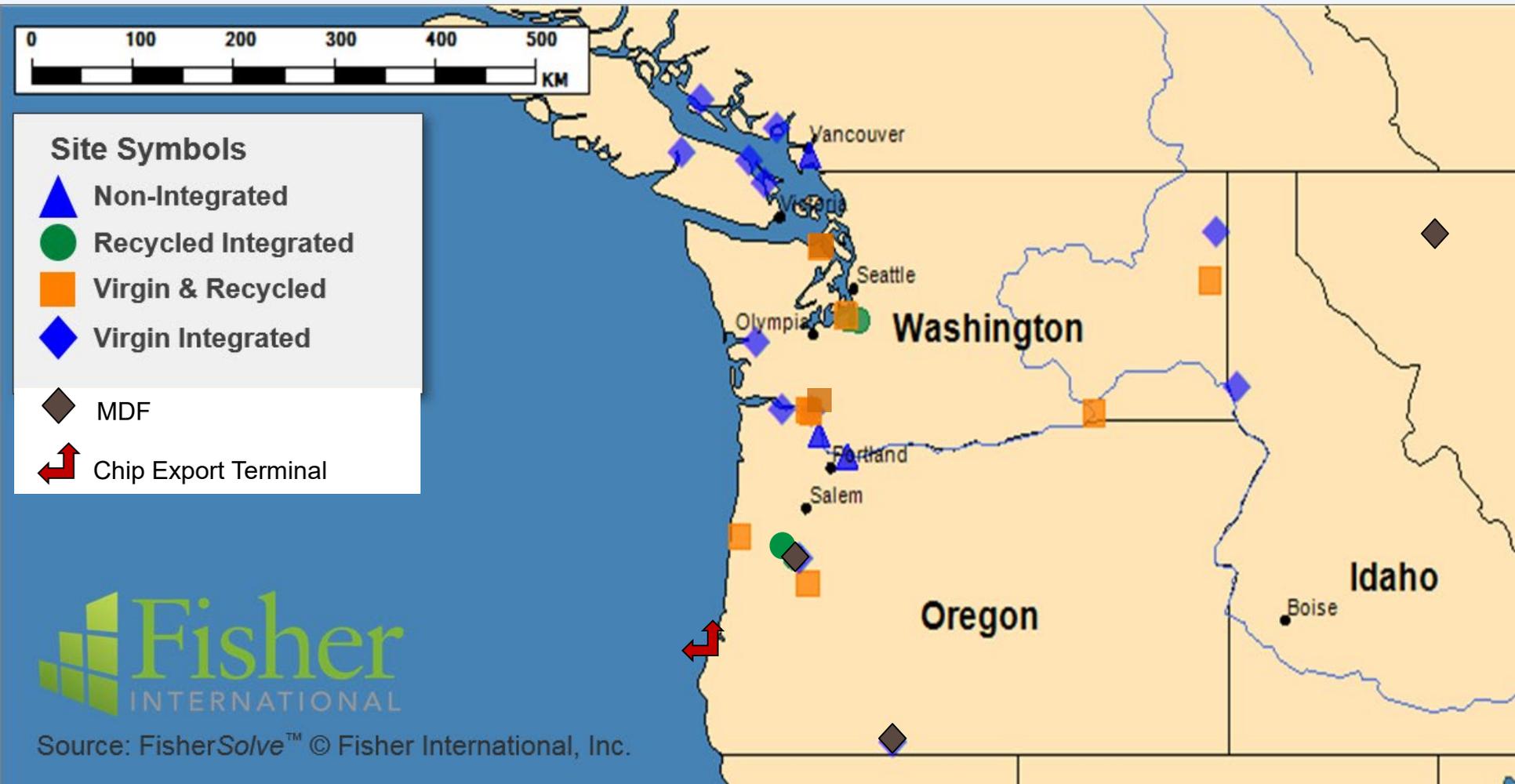
**COSMO**

SPECIALTY FIBERS INC.

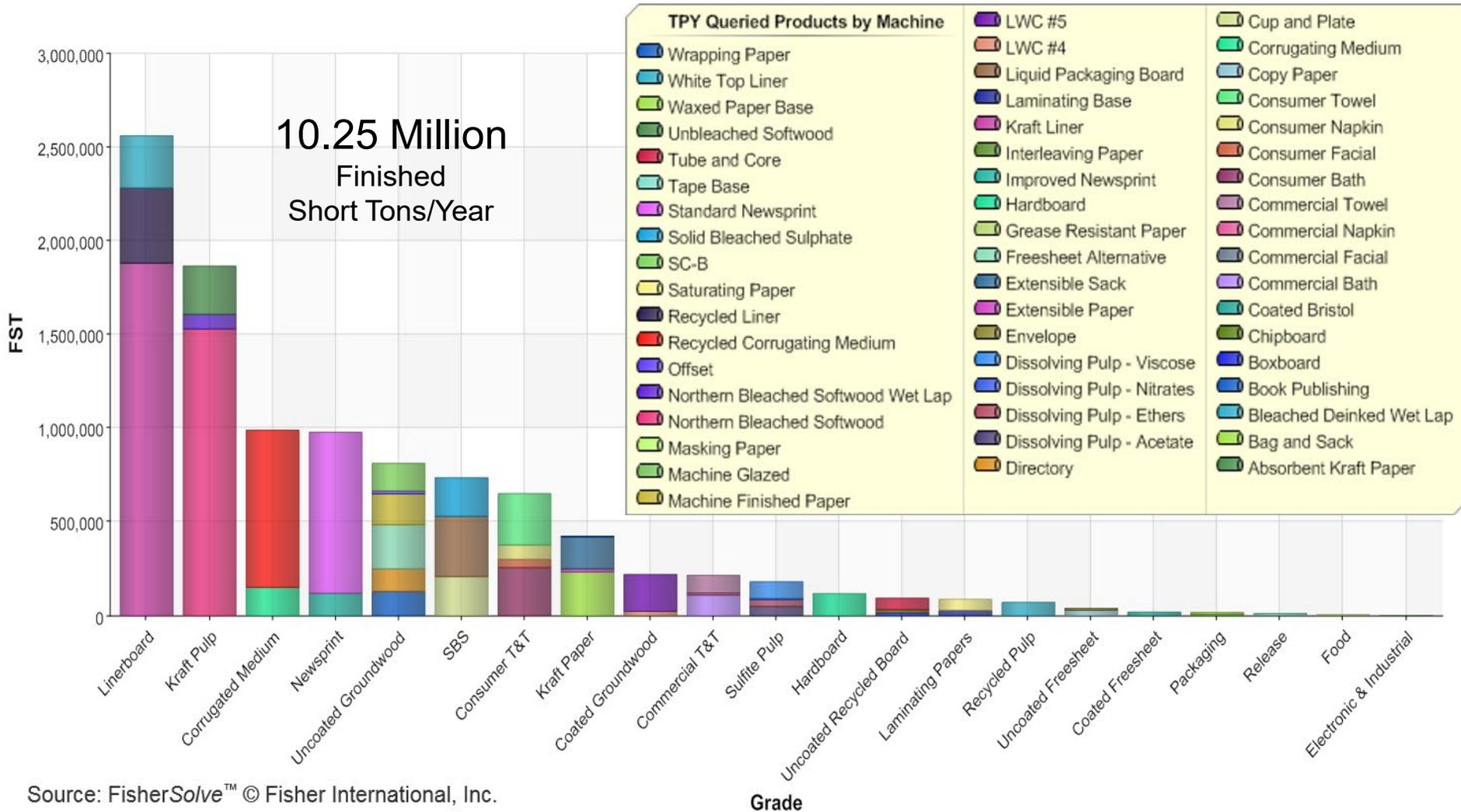
# Topics Covered

- PNW Pulp & Paper Products
- Demand-Side Drivers and Issues
  - Industry health
  - Trade disputes
  - Consolidation
- Supply-Side Fiber Sourcing Drivers and Issues
  - Lower timber harvest
  - Supply deficits in BC and China
  - Recycled fiber
- View of 2019
- Epilogue—What do bison, timber harvest, and climate change have in common?

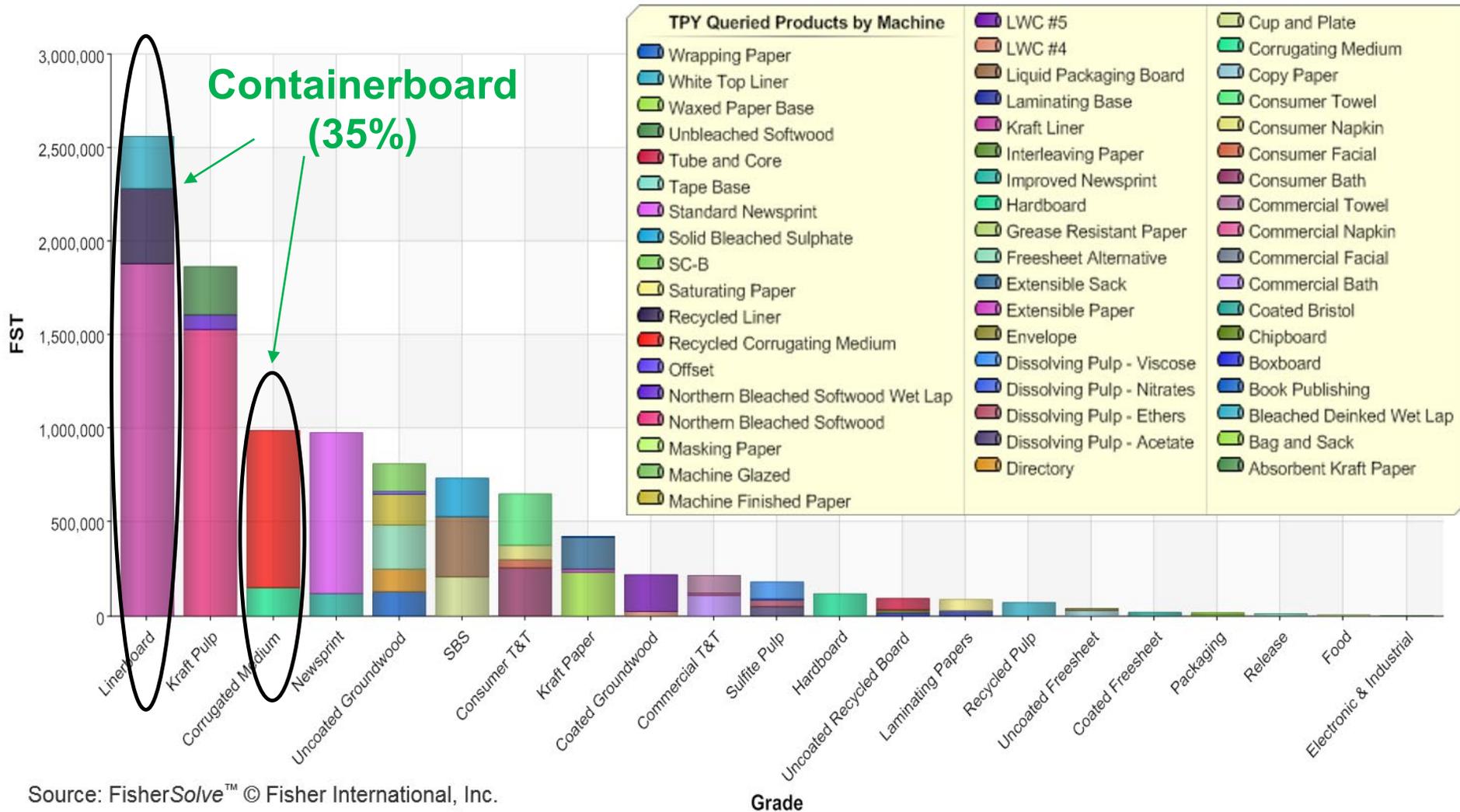
# US PNW & Coastal BC Pulp & Paper Mills (and MDF plants)



# US PNW & Coastal BC Pulp & Paper Grades

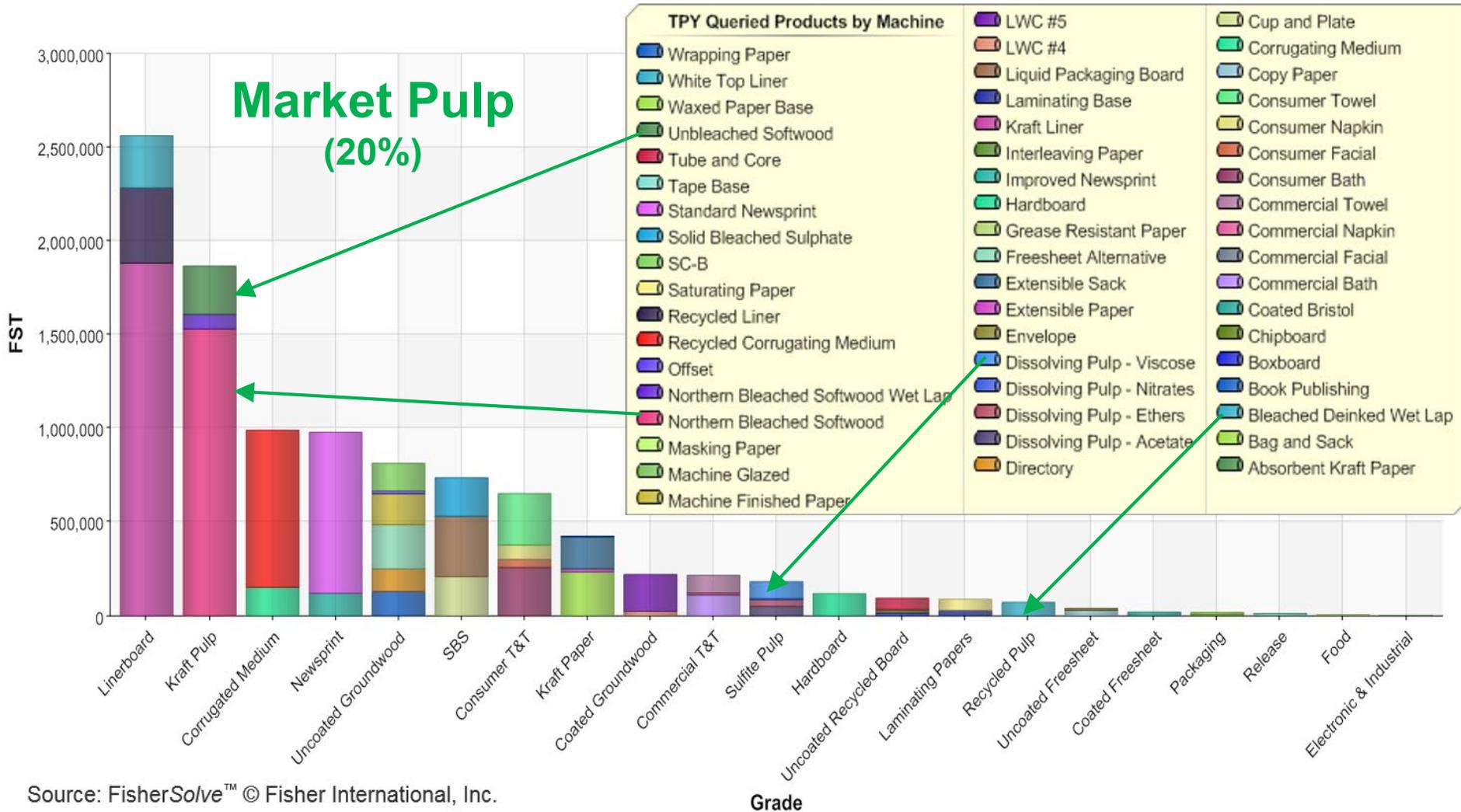


# US PNW & Coastal BC Pulp & Paper Grades



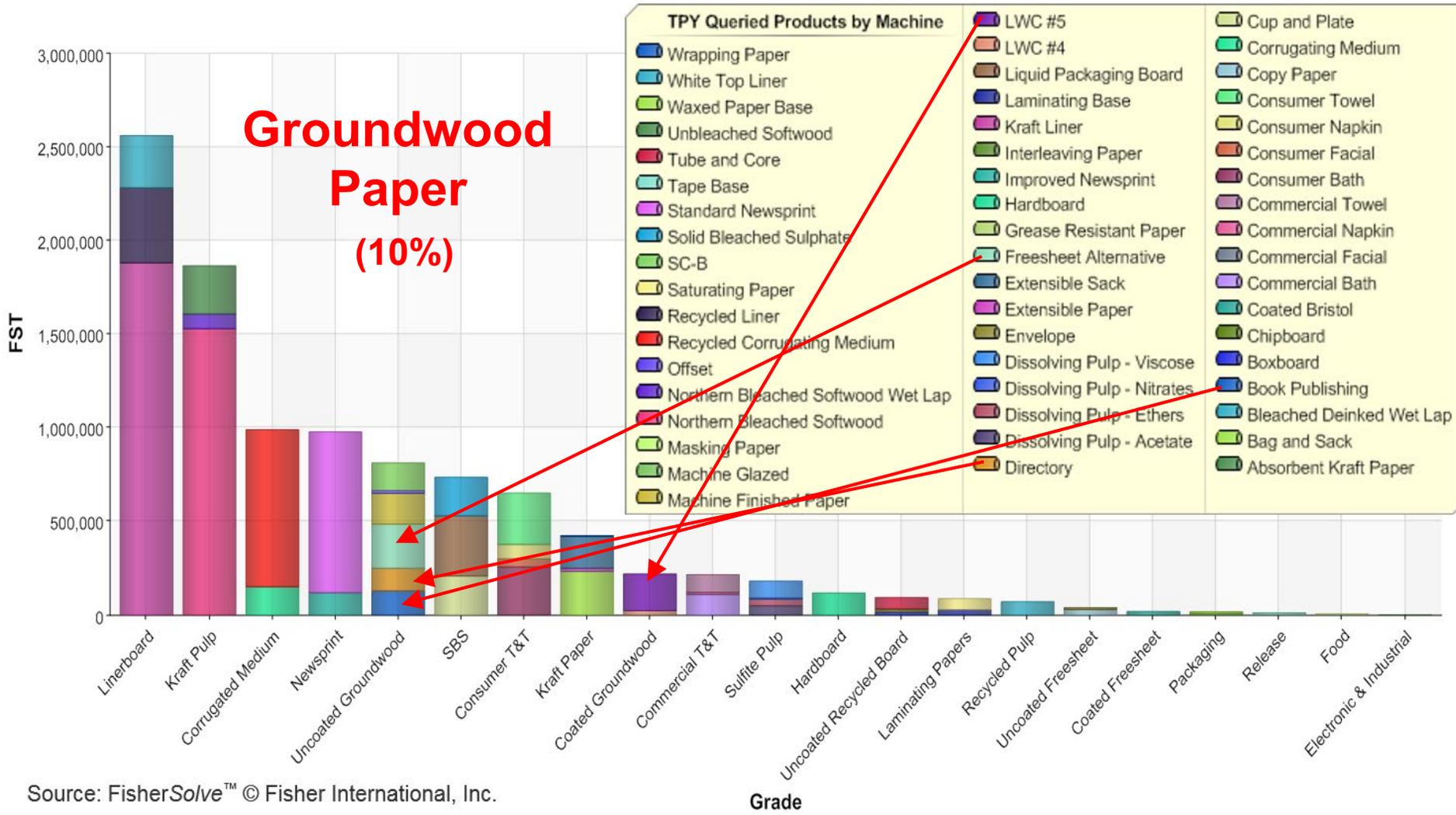
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# US PNW & Coastal BC Pulp & Paper Grades



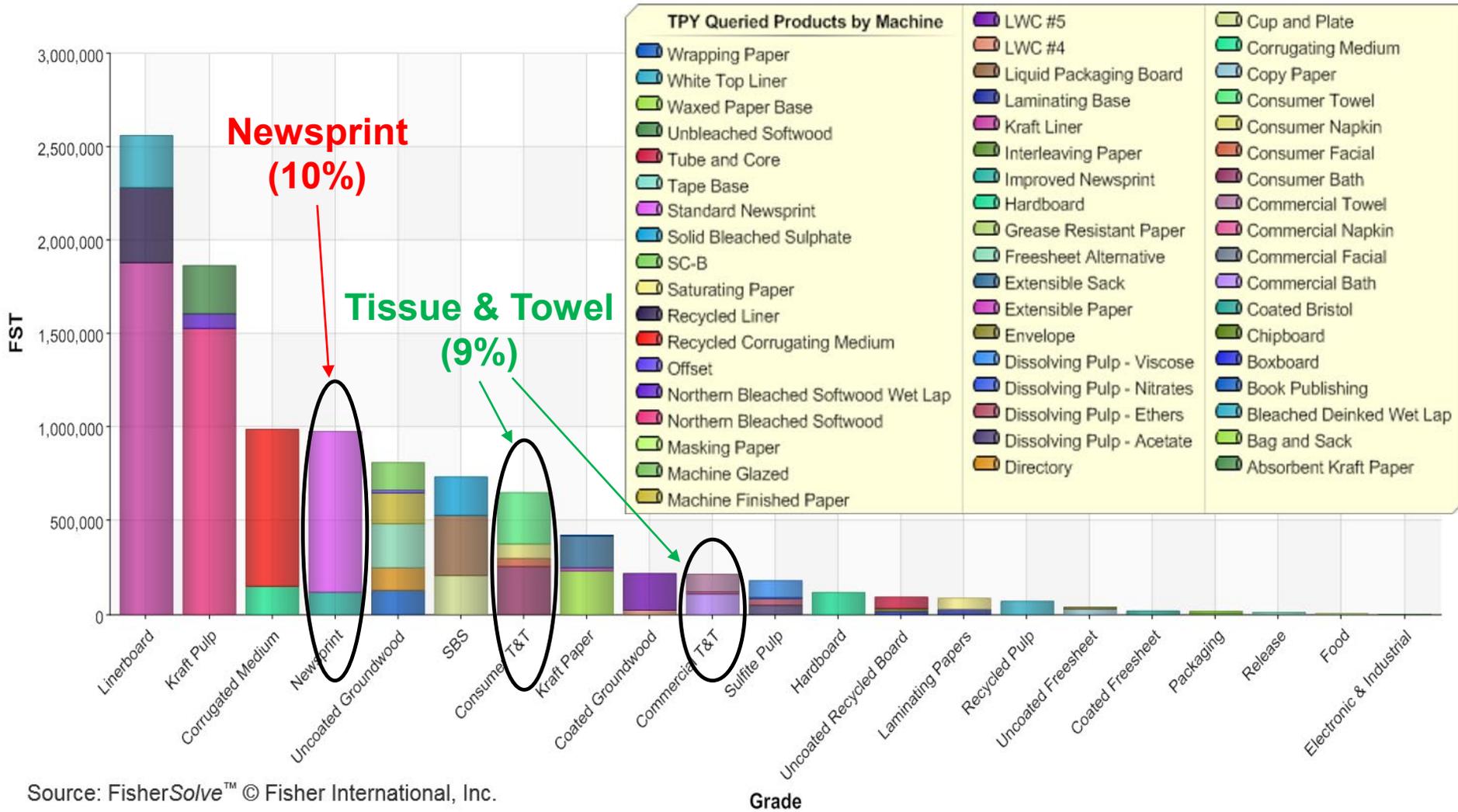
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# US PNW & Coastal BC Pulp & Paper Grades



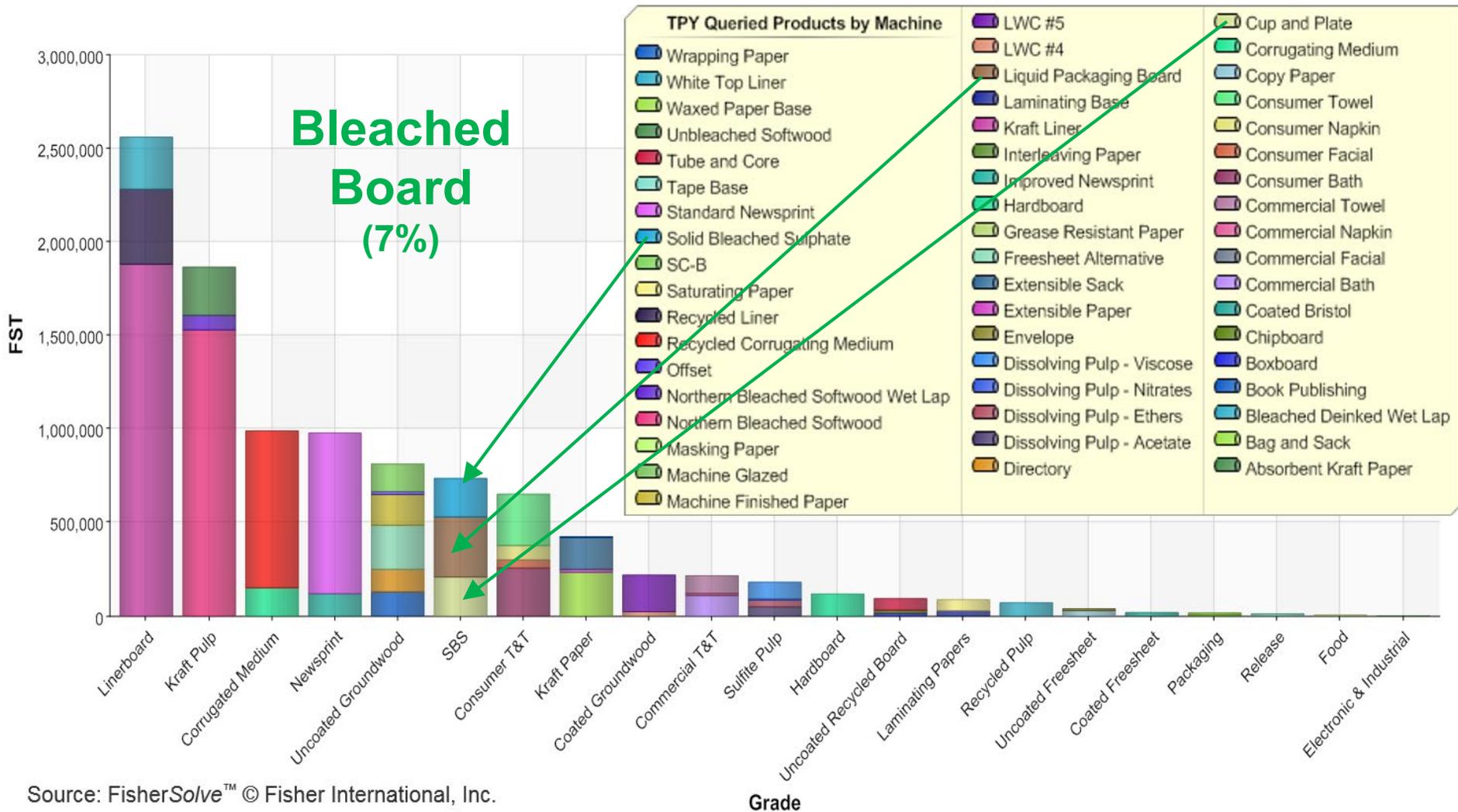
Source: FisherSo/ve™ © Fisher International, Inc.

# US PNW & Coastal BC Pulp & Paper Grades

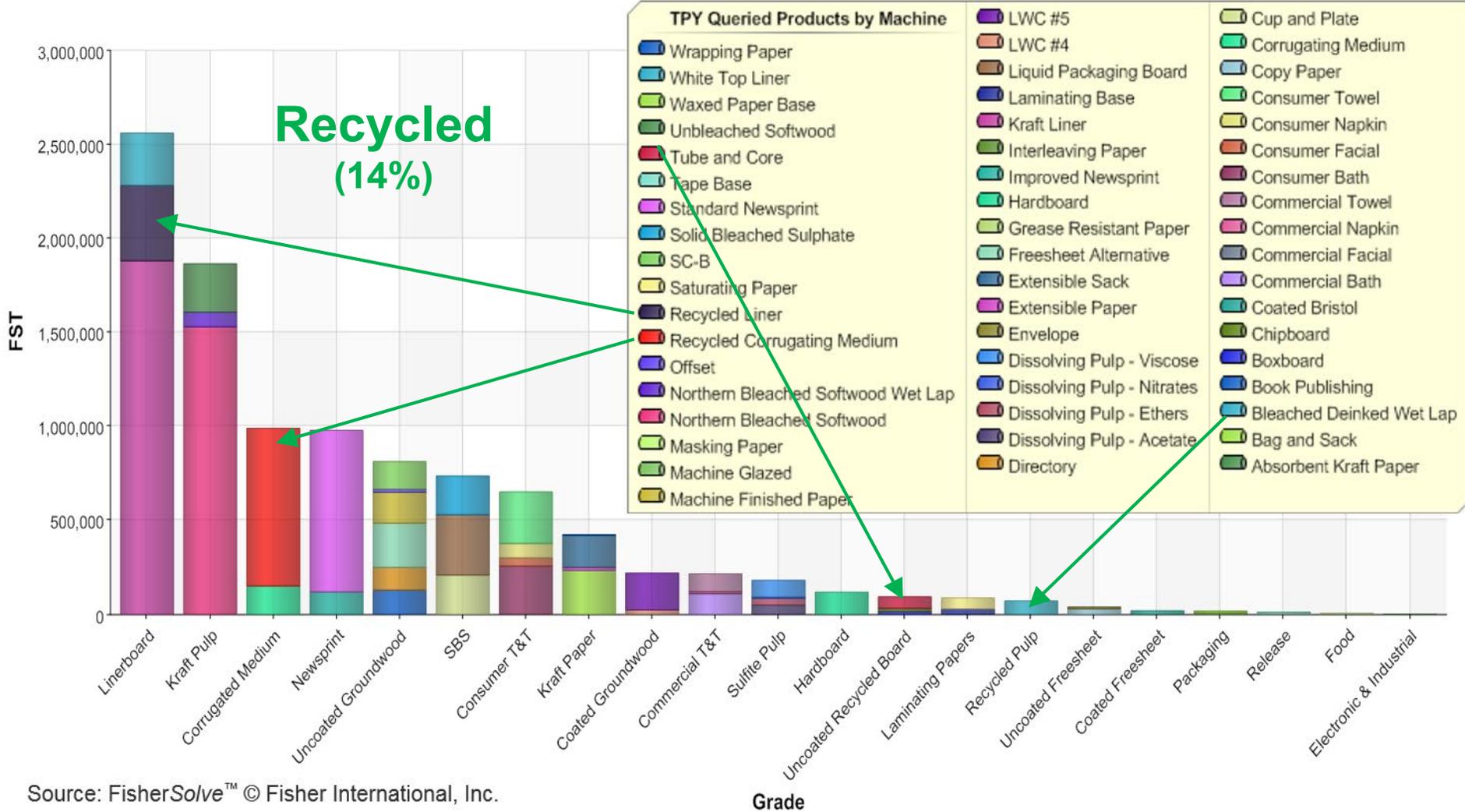


Source: FisherSolve™ © Fisher International, Inc.

# US PNW & Coastal BC Pulp & Paper Grades

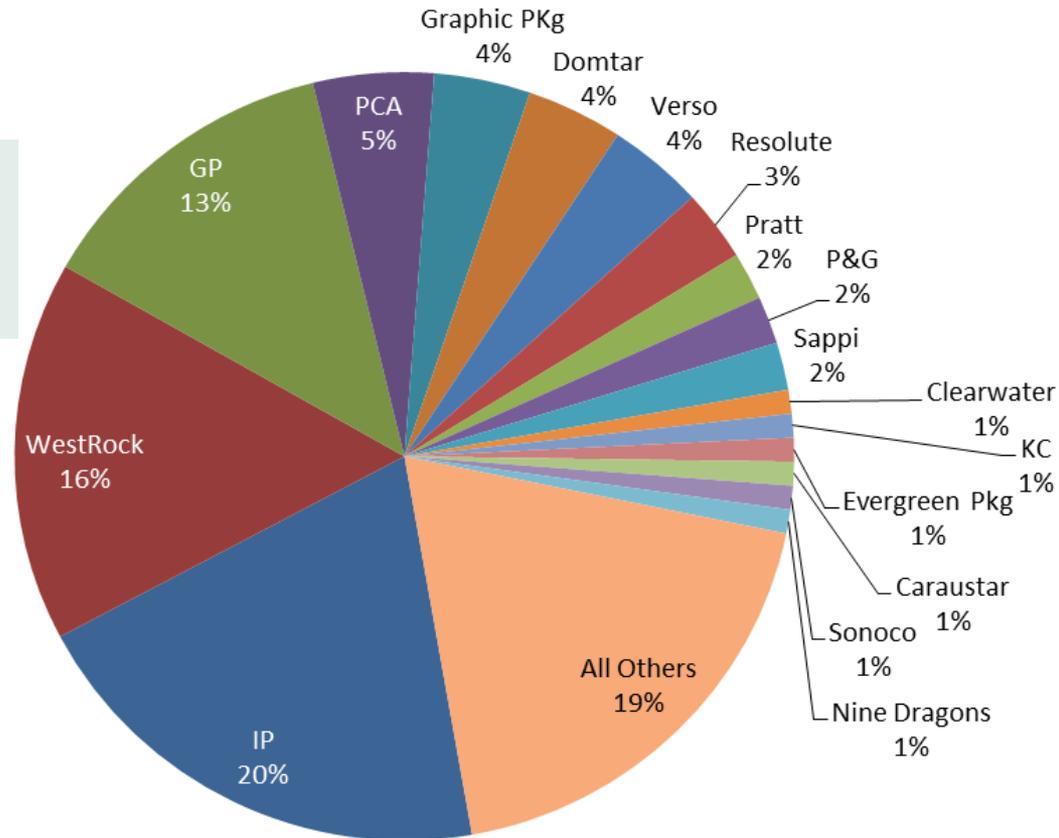


# US PNW & Coastal BC Pulp & Paper Grades



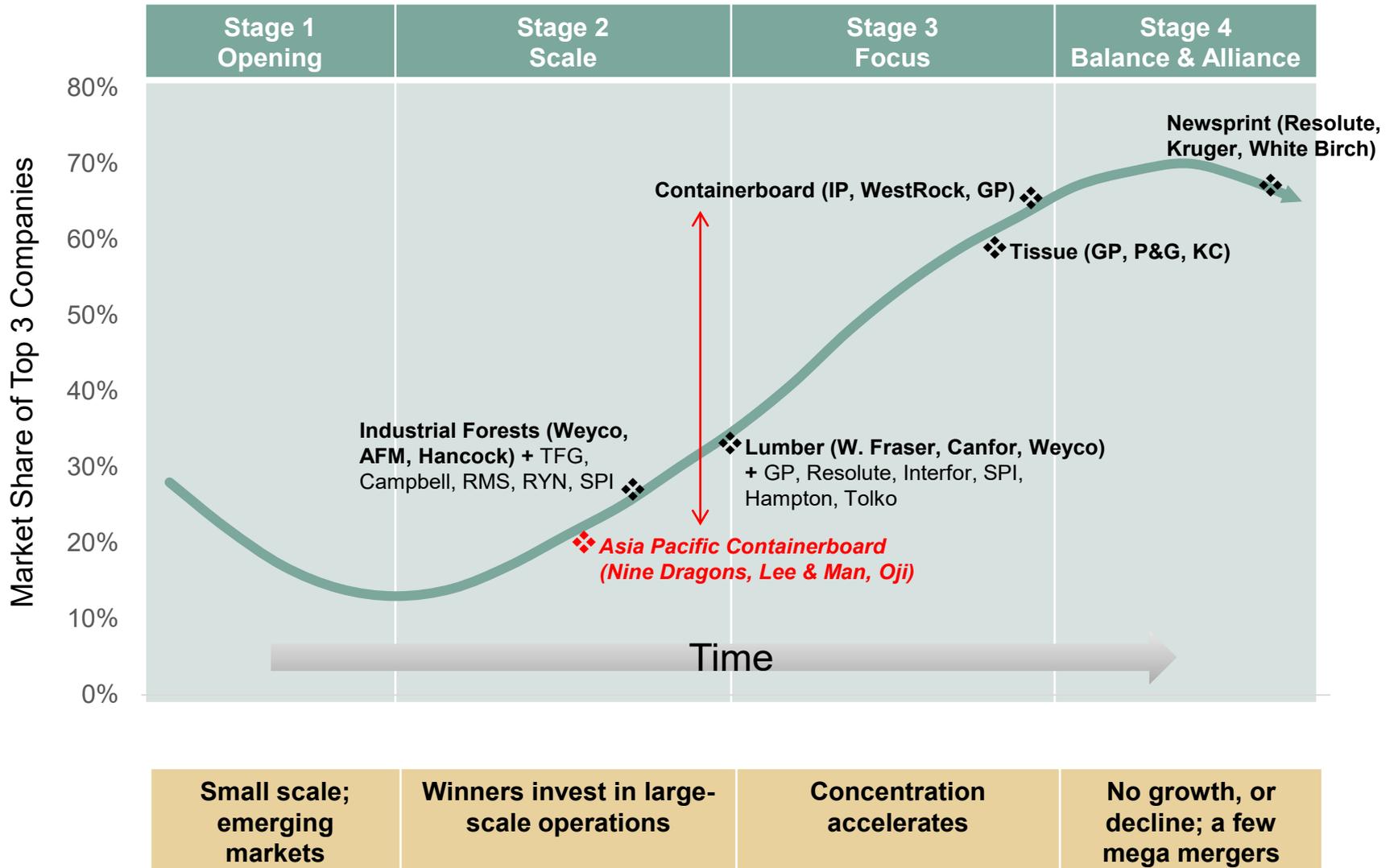
# US Paper Manufacturers by Market Share

Over half of the 12 pulp & paper mills in the US PNW are owned by the 4 largest paper producers in the US



Source: FisherSolve™ © Fisher International, Inc.

# North America Industry Consolidation (and Asia Pacific Comparison)

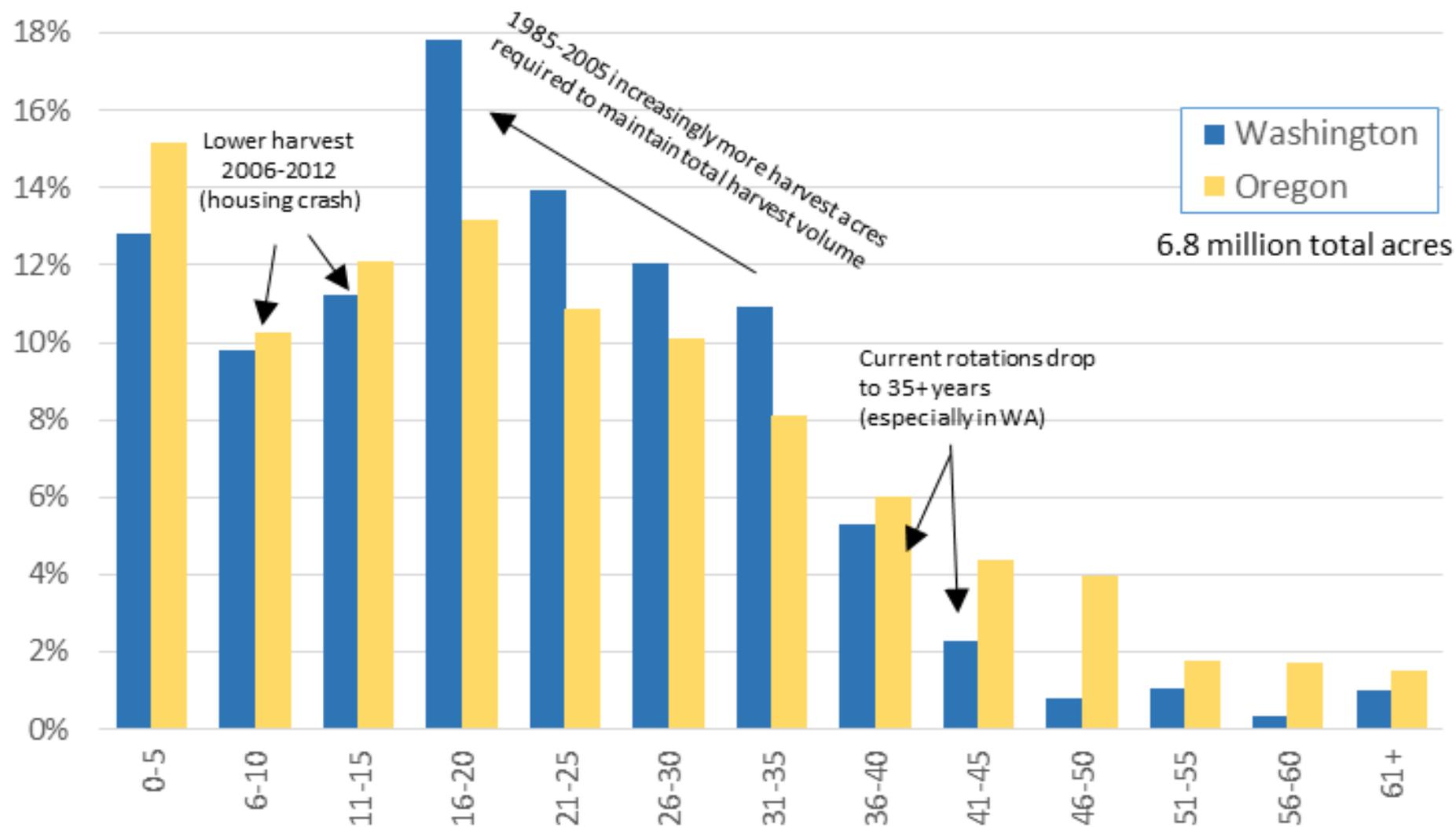


# Unique Challenges of PNW Fiber Procurement

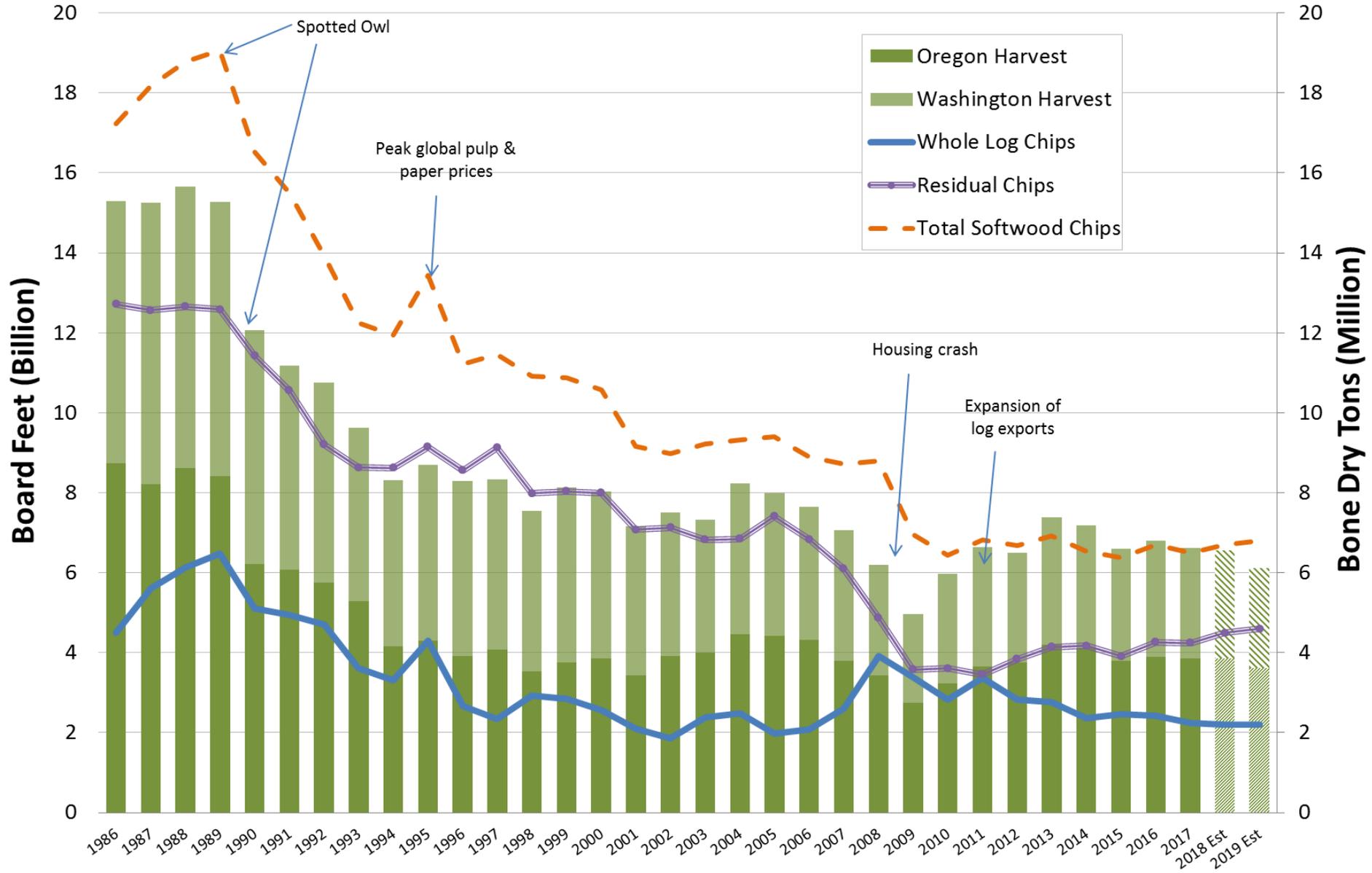
PNW chip prices are hypersensitive to changes in both supply and demand, due to:

- Producers of our raw material would prefer to reduce (if not eliminate) the residual chips and pulp logs that we depend upon
  - Improving sawmill and veneer plant efficiency reduces residuals
  - Landowners manage toward the significant step-up in value from pulpwood to sawlogs
- Residual chip supply often moves independently from chip demand
- Shift to ~~more~~ all unrelated-party chip transactions—few integrated forest products companies
- Export chip volumes can vary significantly over time and accentuate both up and down cycles

# Age Class Distribution on Planted Private Timberland in Western WA and OR

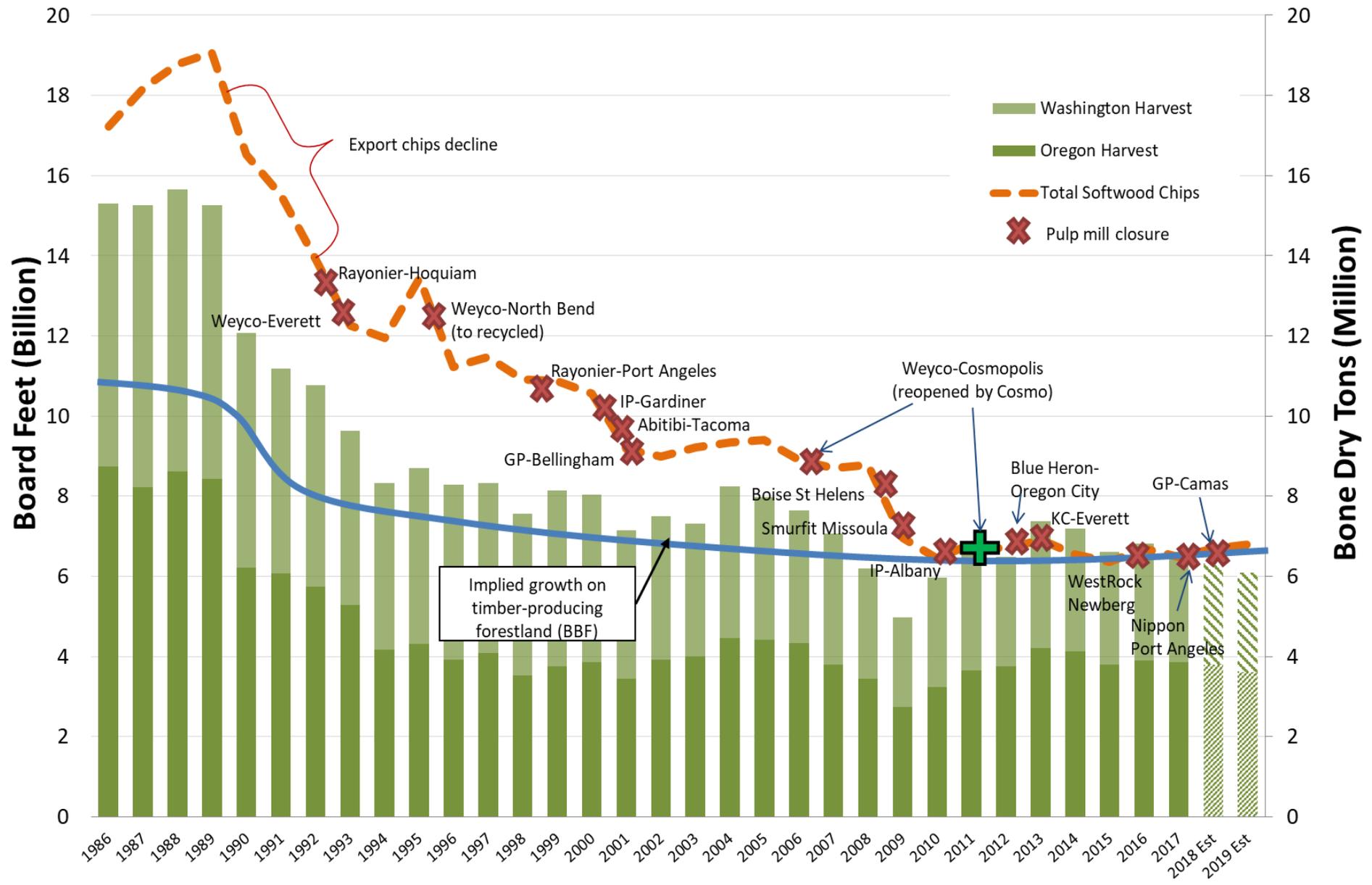


# Total Washington & Oregon Timber Harvest (BBF) and Softwood Chip Production (MBDT)



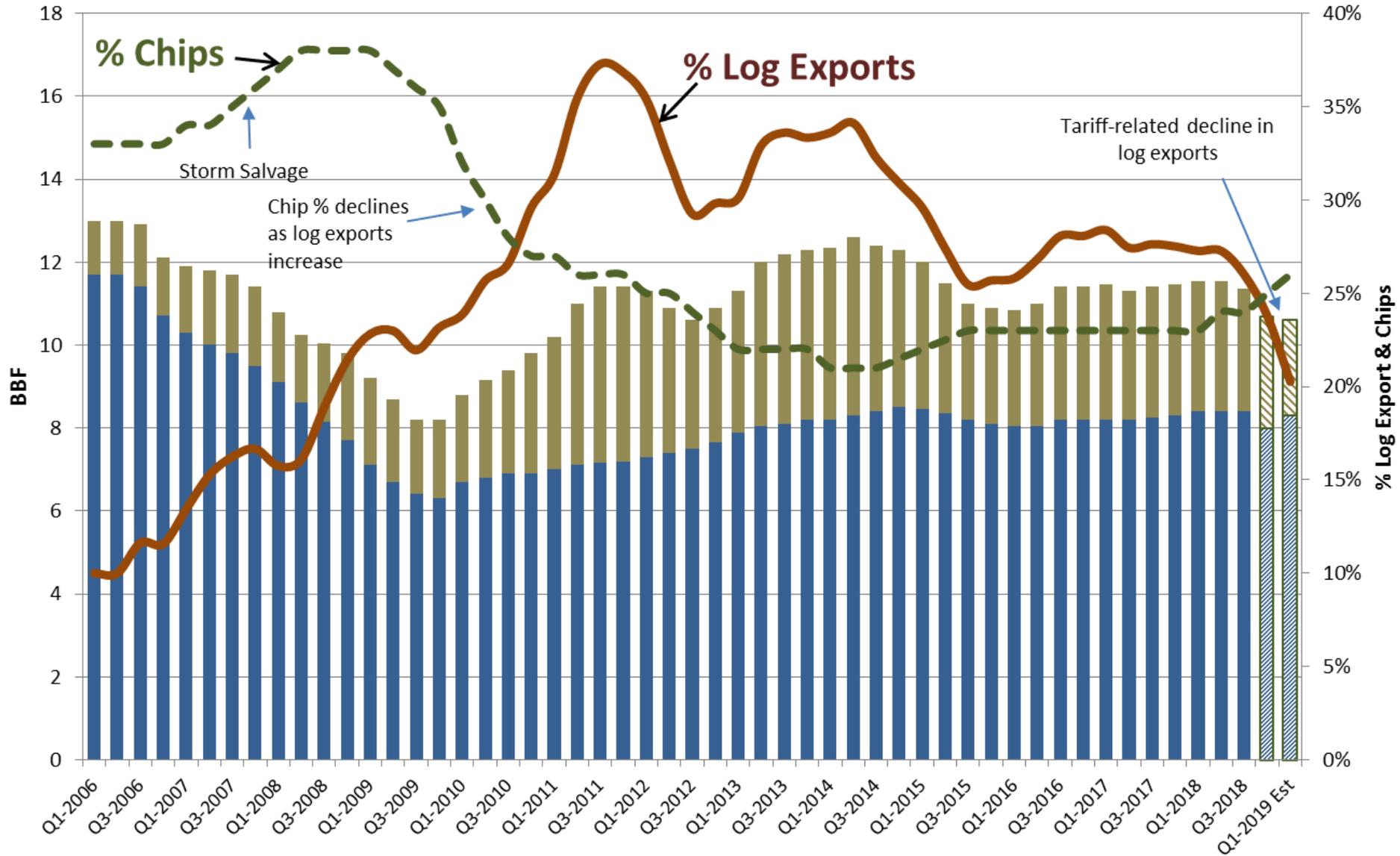
Sources: Timber Harvest—WA DNR & OR DOF; Chip Receipts—Forest Resources Association

# Pulp Mill Closures vs Chip Production, Timber Harvest, and Estimated Timber Growth



# PNW Log Demand

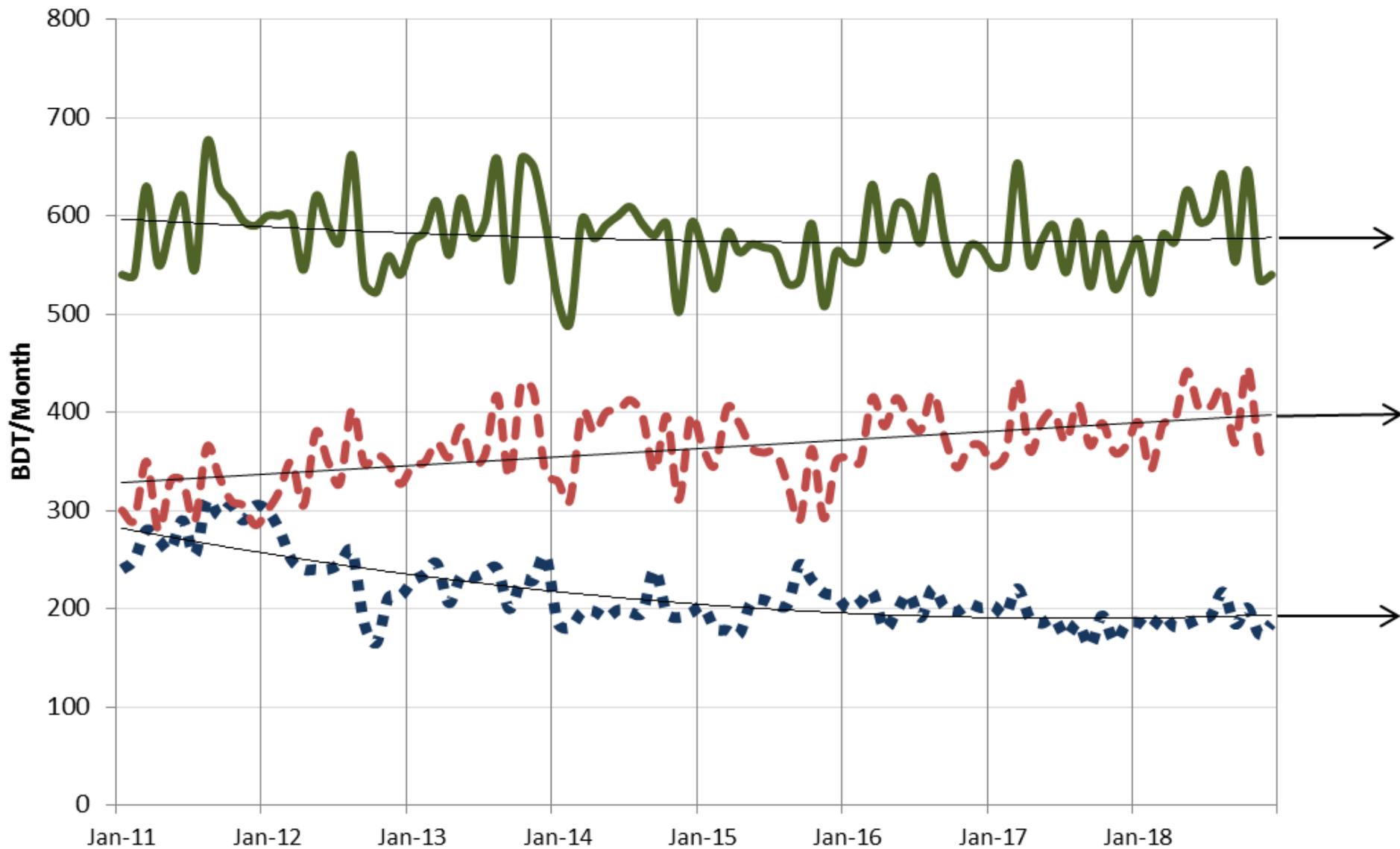
■ West Coast Lumber Production    ■ Log Exports (Lumber Basis)



Source (through Q3 2018): RISI, Forest Economics Advisors

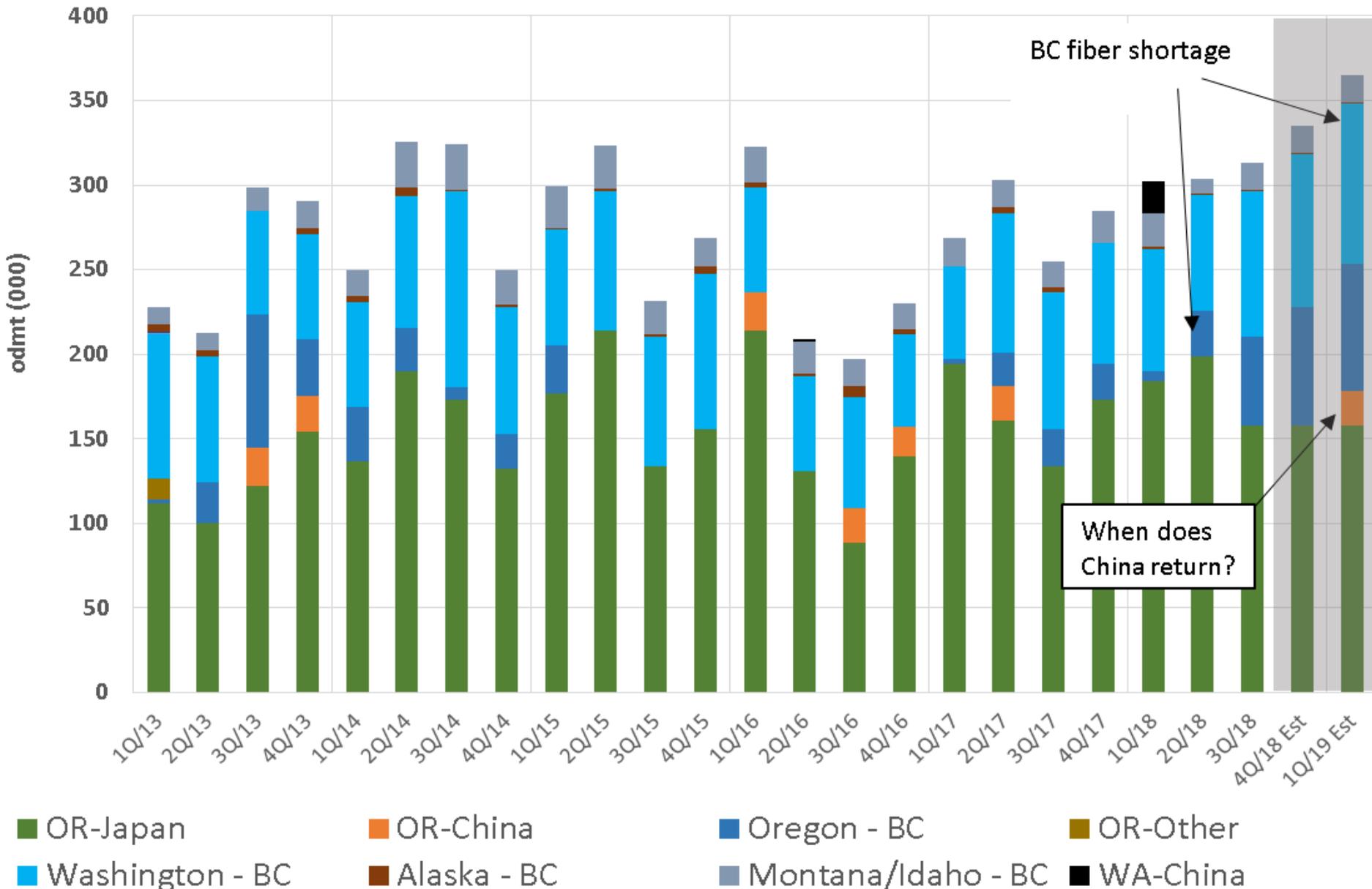
# Monthly PNW Softwood Chip Receipts

■ ■ ■ Whole log    - - - Residual    — Total



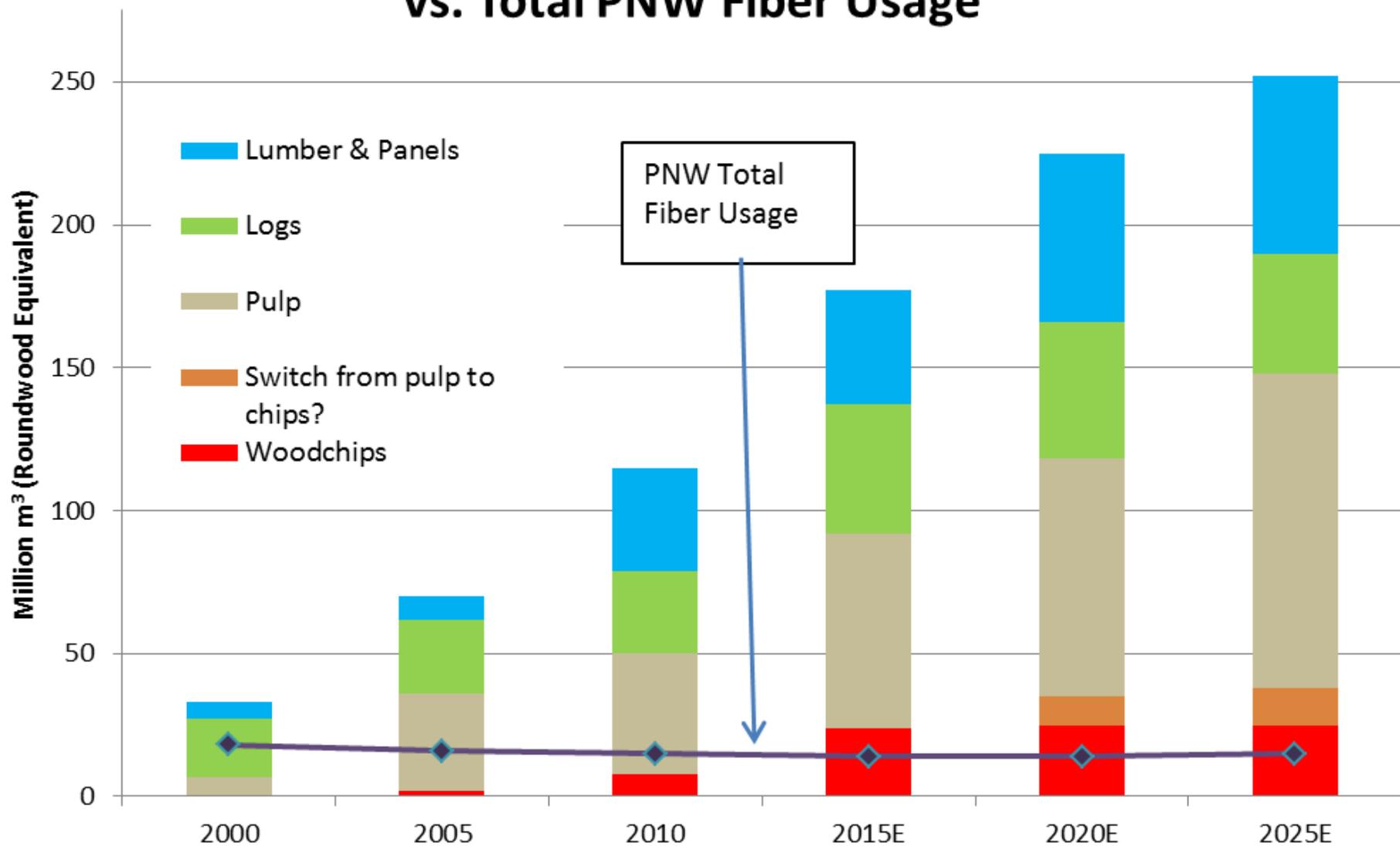
Source: Forest Resources Association

# US Northwest Chip Exports

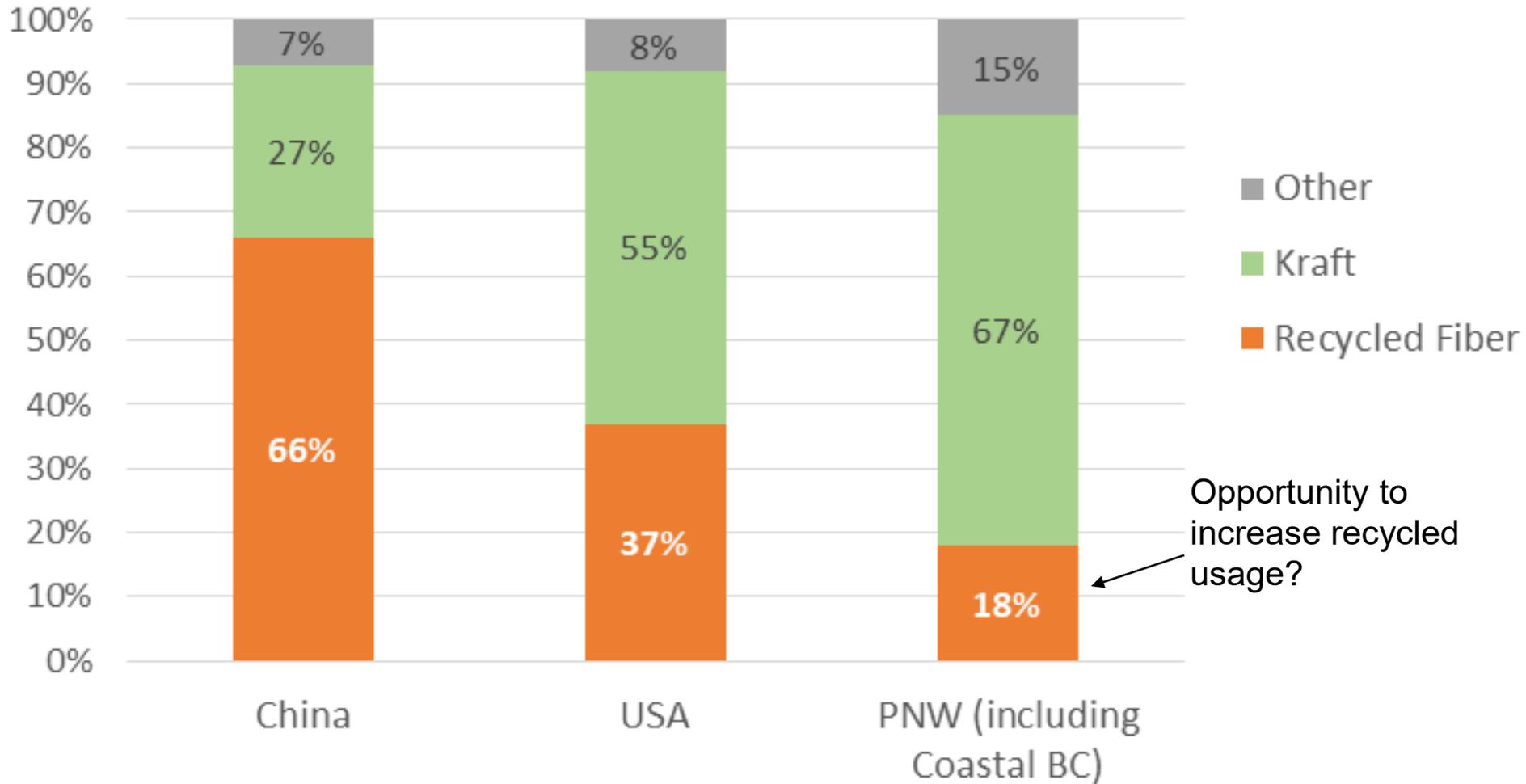


Source: (Through Q3/18) Wood Resources International

# China Total Timber Supply Deficit vs. Total PNW Fiber Usage



# Fiber Furnish of Paper Making Industry

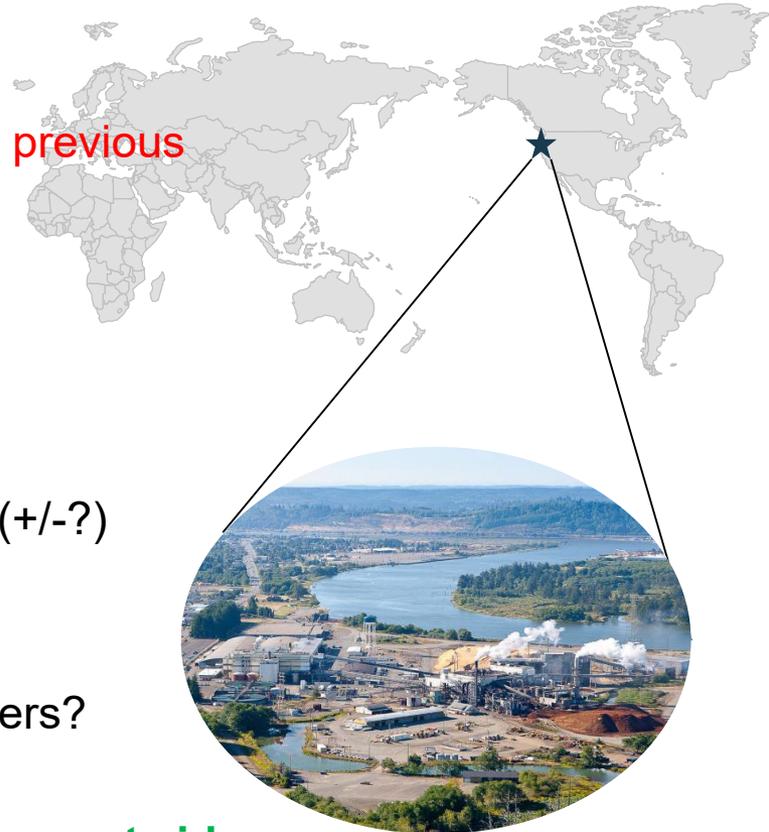


Source: FisherSolve™ © Fisher International, Inc.

# Summary of What May Be Coming

## 2019 (and beyond) Expectations

- **Few** landowners able to increase harvest due to **previous excessive harvest levels**
- Changing timber profile—shorter rotations
- **High chip exports—BC, Japan, China?**
- **New demand for pulp logs (e.g. CLT, fuel chips)**
- **Switch to higher recycled content**
- Lumber & panel production changes marginally (+/-?)
- Lower log export markets, short-term
- Better sawdust utilization (wood pellets?)
- More consolidation(s)...landowners, manufacturers?
- **Extreme weather events and fires**
- **Limited incremental USFS timber sales on the west side**
- New non-woody pulp production (e.g. Columbia Pulp)

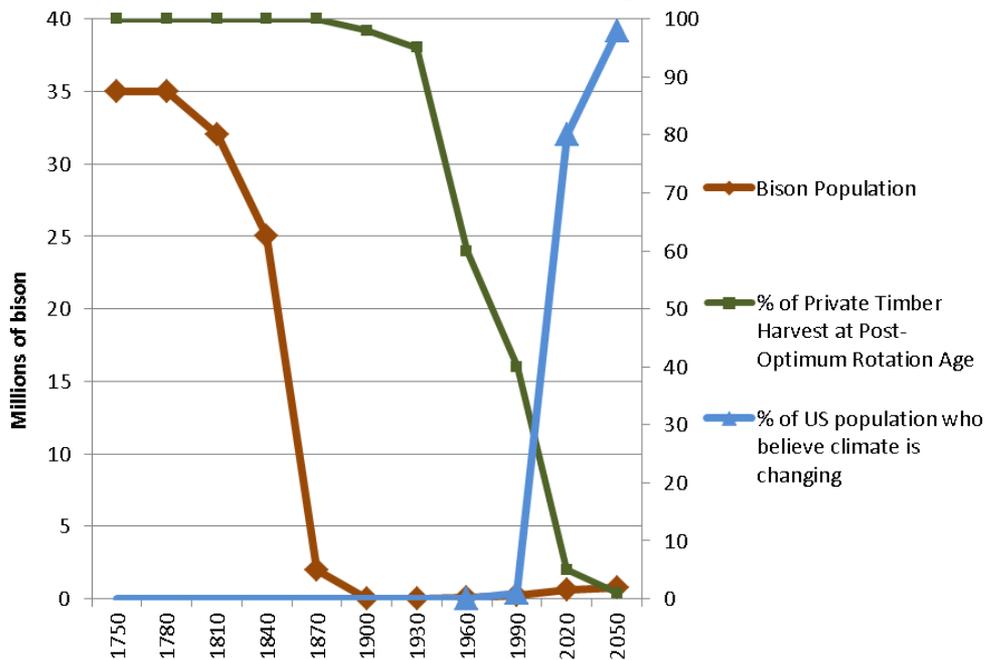


# Cosmo Specialty Fibers, Inc.



# Epilogue—Manifest Destiny Hangover

**Bison Population, Private Timber Harvest Timing, and Belief in Climate Change**



## 2018 Nobel Prize in Economics

- “William D. Nordhaus pioneered a framework for understanding how the economy and climate of our planet are mutually dependent on each other.
- Nordhaus emphasizes that the market economy, while a powerful engine of human development, has important imperfections and his contributions have thus offered insights into how government policy could potentially enhance our long-run welfare.
- **...the externalities are not properly taken into account by the individual polluter (or short-term-rewarded timber executive in our case), absent policy interventions such as subsidies/support for knowledge creation or taxes/quotas on emissions (or unsustainable harvest in our case).**
- To devise the right dose of the right medicine requires models of the sort that Nordhaus pioneered.
- His prize-winning contributions deal with long-run, global, and sustainable growth.”