Fibre Utilization – Locally focused discussion on applicable utilization and waste policy - Coast

February 16, 2020

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Outline

- Fibre Recovery Process
- Fibre Recovery Tenures
- Coast Fibre Recovery Zone
- Residual fibre scaling systems
- Successes and Trends
- Available Resources
- Questions

Recent Initiatives

- Greater emphasis on reducing unnecessary slash burning of residual fibre (employment/air quality/CO2)
- LCE and FESBC (fibre utilization)
- Coast Revitalization Initiative
- Coast Area Fibre Recovery Zone
- Concurrent harvest scaling
- Cost Driver Initiative

Coast versus Interior

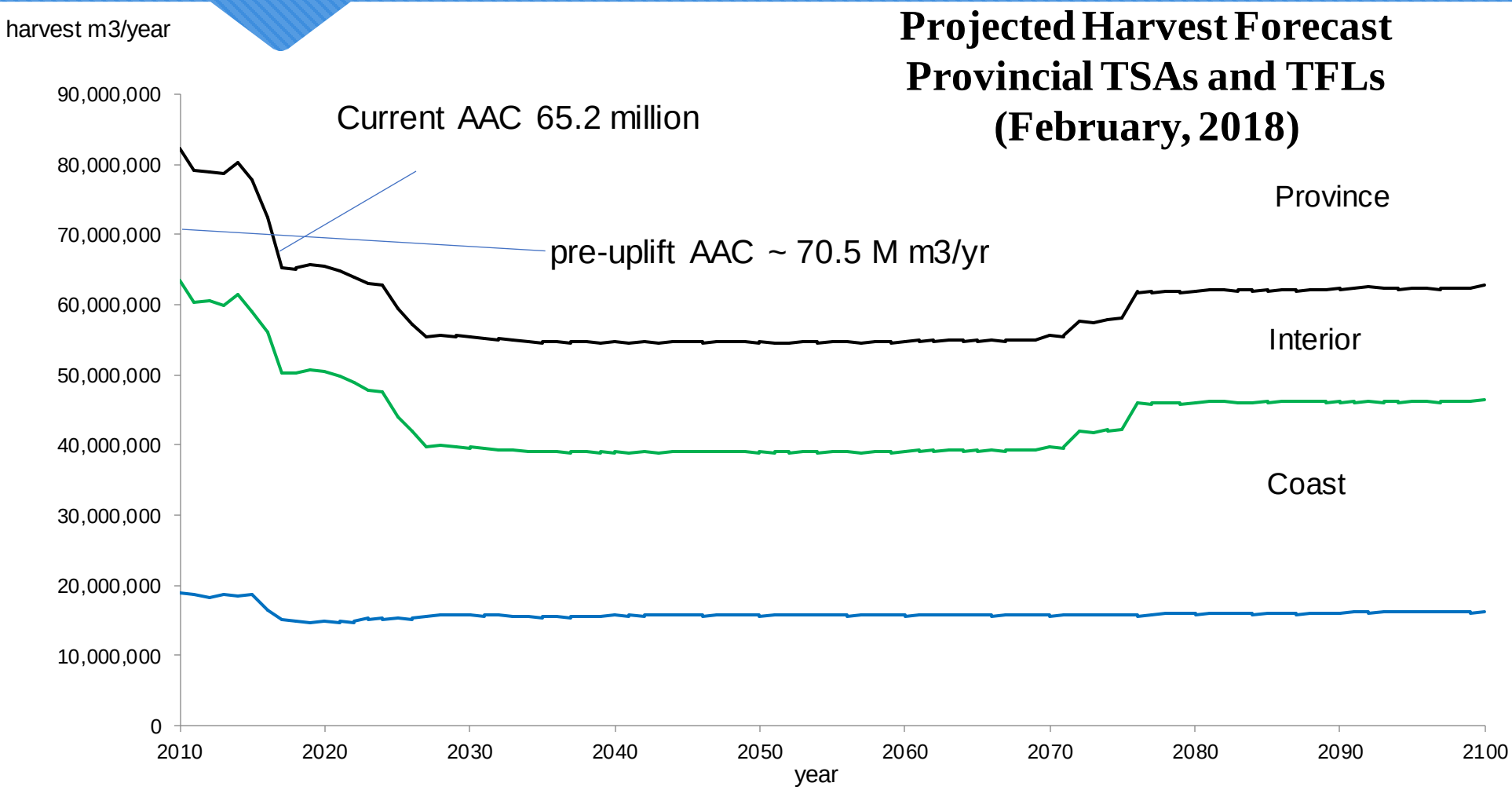
Interior

- Many commodity lumber mills – lots of residual chips/ sawdust
- Similar sized timber/ lower harvesting costs - increased efficiency
- Diverse sector using residuals – pellet facilities, pulp facilities, OSB plants, bioenergy plants, etc.
- Vertical integration of large players (sawmill/plywood/pulp)

Coast

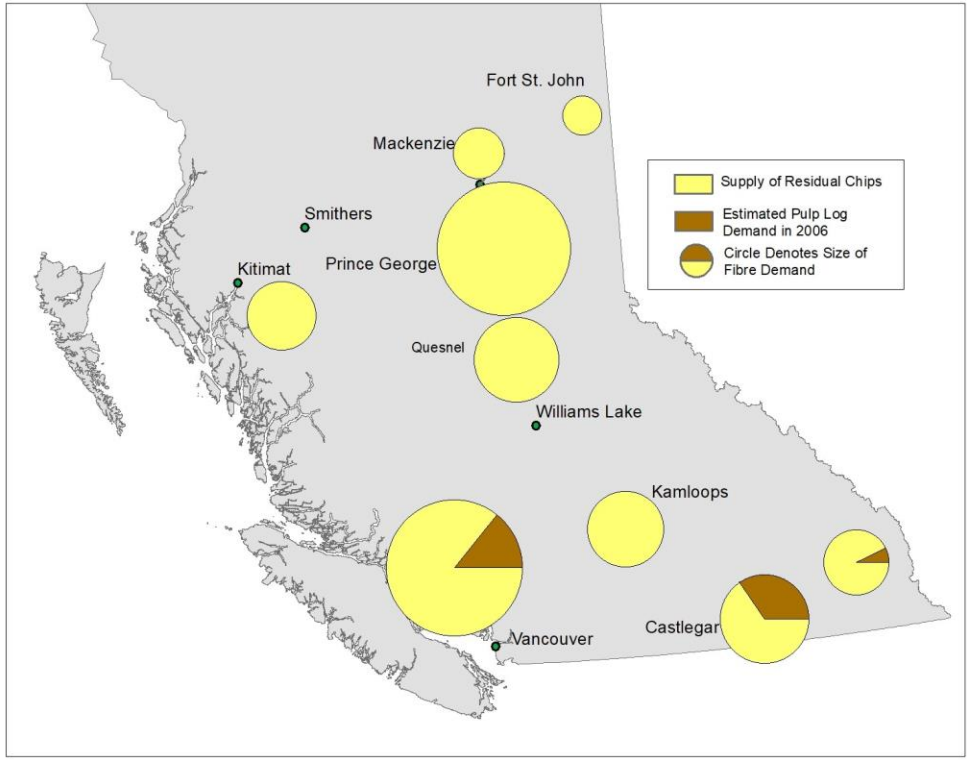
- More expensive harvesting/ larger, higher value logs
- Fewer sawmills – less residuals from sawmilling
- Transportation issues (salt water) – difficult to make pellets and use in bioenergy facilities
- Pulp sector not as integrated with sawmills

Future Timber Supply

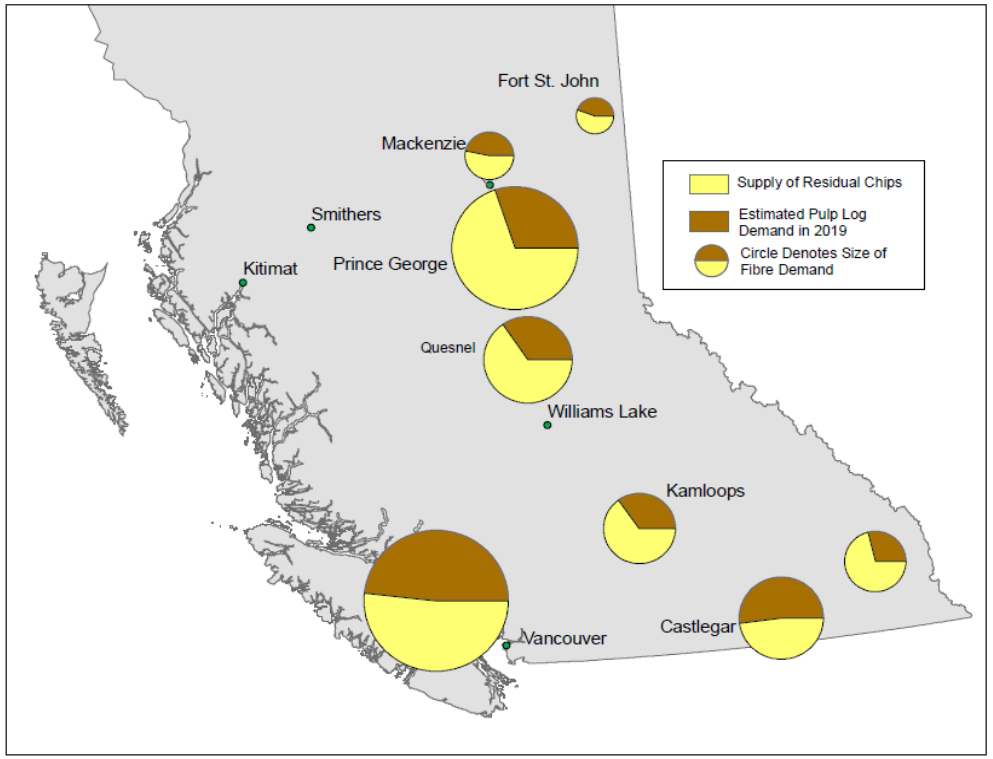


Pulp mill Demand and Supply Type

2006

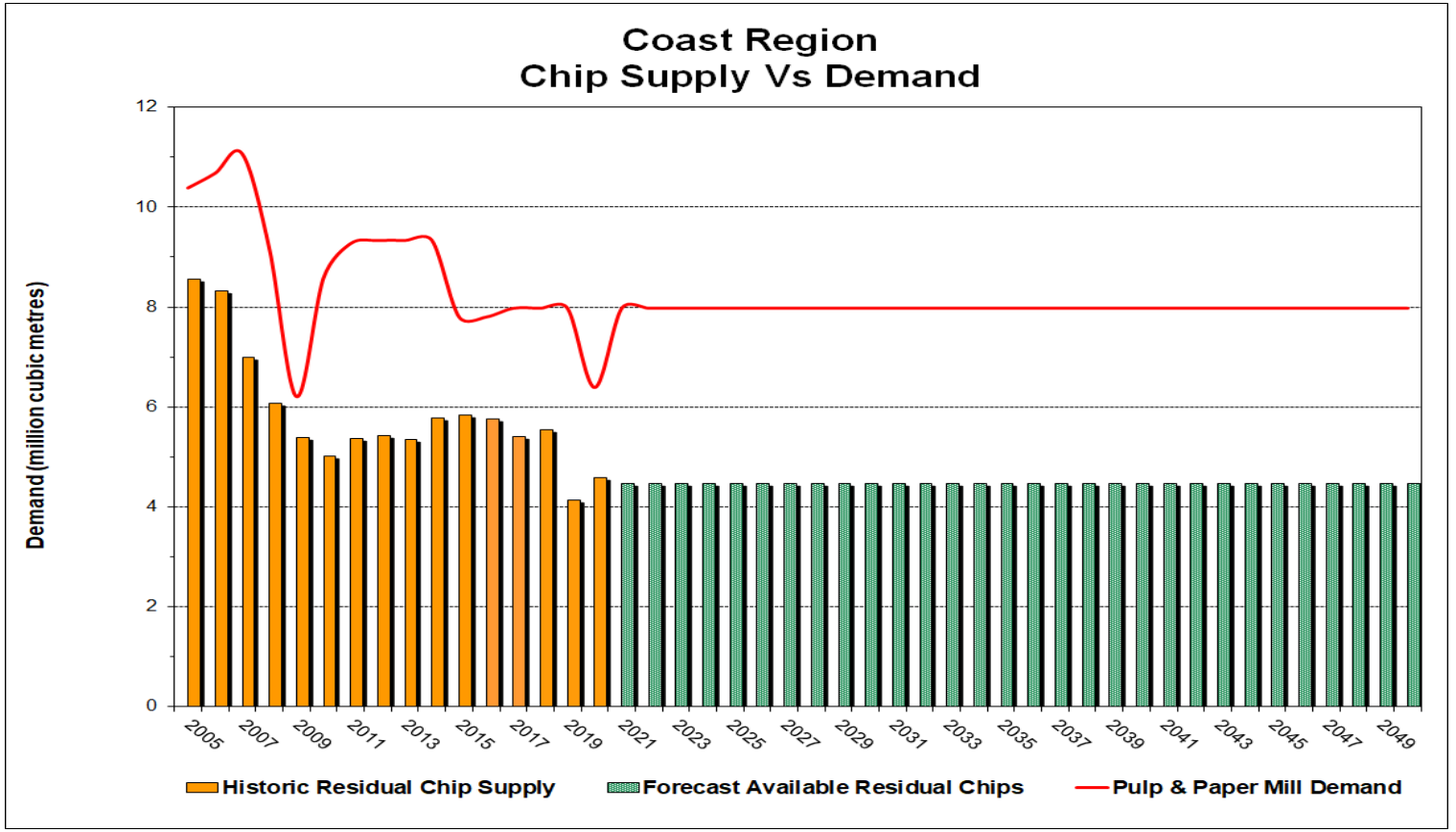


2019



Source: R. Schutz, RPF, Industrial Forestry Service Ltd.

Pulp Chip Demand and Supply



Source: R. Schutz, RPF, Industrial Forestry Service Ltd.

Fibre Recovery Process (FRP)

- District Manager (DM) or BC Timber Sales Manager (TSM) leads the process
- Implement where economics allow and demand for residual fibre exists
- Encourages Business to Business (B2B) between Primary Harvesters (PH) and Secondary Users (SU) where economics allow and demand exists for residual fibre
- Last resort approach – when B2B can't be worked out
- DM/TSM has tools to further encourage utilization if necessary

Fibre Recovery Process (FRP) con't

- Informal process to encourage B2B:
  - Preliminary Review
  - Letter of Expectation to PH(s)
    - Fibre Recovery Zone
    - Information Sharing and planning for defined cutting permits
  - Goal - integrated harvesting while cutting permit is active

Fibre Recovery Process (FRP) con't

- If B2B not working out:
  - Formal request to provide information on any residual fibre that may remain (mandatory PH reporting)
  - If economic, Do Not Damage Orders on PH cutting permit
  - Fibre Recovery Tenures on abandoned residual fibre
- Handling Regulation – Future ability for Government to provide direction on how to stack residual fibre for efficient secondary harvest

Fibre Recovery Tenures

Fibre Forestry Licence to Cut

- Short term opportunity for specific site (months)

Fibre Supply Licence to Cut with cutting permits

- Terms up to 10 years for a geographic area
- 1st right of refusal to any residual fibre abandoned

Decked Timber FLTC

- To remove decked merchantable from a specific site

Fibre Recovery Tenures – When to use

Forestry Fibre License to Cut

- Provide access to abandoned residual fibre on individual Cutting Permits/blocks
- Ideal for small/short term volume requirements (commercial Firewood, pulp wood)

Fibre Supply License to Cut

- Provide longer term fibre security for an established secondary facility

Decked Timber License to Cut

- Provide access to abandoned decked timber on individual Cutting Permits/blocks

Tenures to be used for situations where the fibre cannot be harvested under a B2B agreement and the Primary Harvester's harvest rights have expired.

Special Forest Products

- Available for use on blocks with completed waste surveys
- Allows for the option to manufacture product on block
- Reduced effort to scale volume
- Products Include: Chips, Hog, and Firewood

Tenure Obligations

- Hazard abatement for roadside and landing residual fibre automatically transfers to holder of recovery tenure upon issuance
- No impact on free-growing obligations
- Forest Planning and Practices Regulation speaks to road maintenance requirements outside license area
- Can use clauses in tenure to deal with road deactivation within license area
- Manage soil disturbance limits along roadside

Coast Fibre Recovery Zone

Goal: Improve utilization of fibre and increase fibre availability

Model based on estimated incremental cost to deliver volume

Coast Fibre Recovery Zone

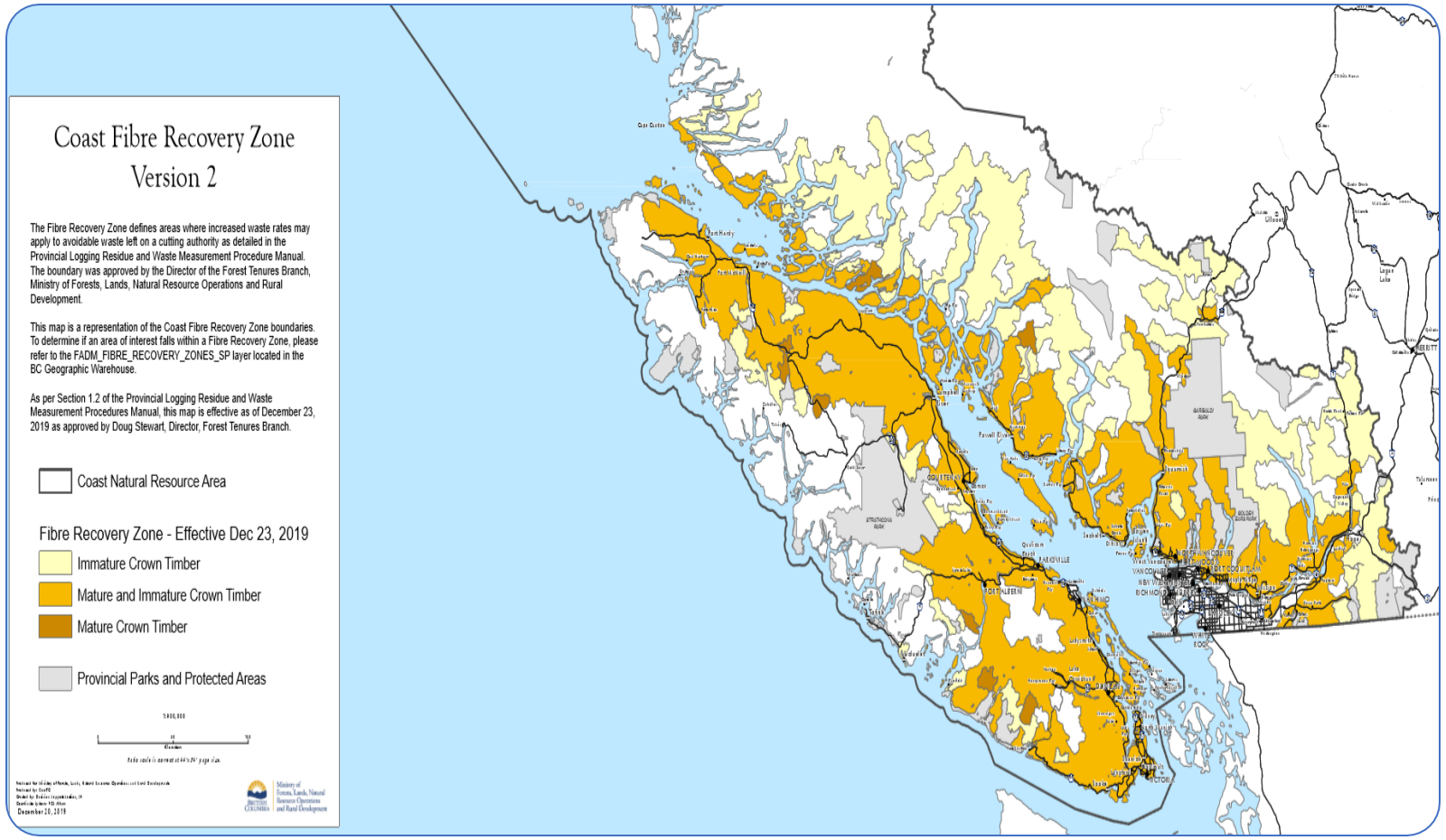
- Established

  April 1, 2019

- Revised

  December 23, 2019

- 3X Waste rate (minimum $2.00/m3)

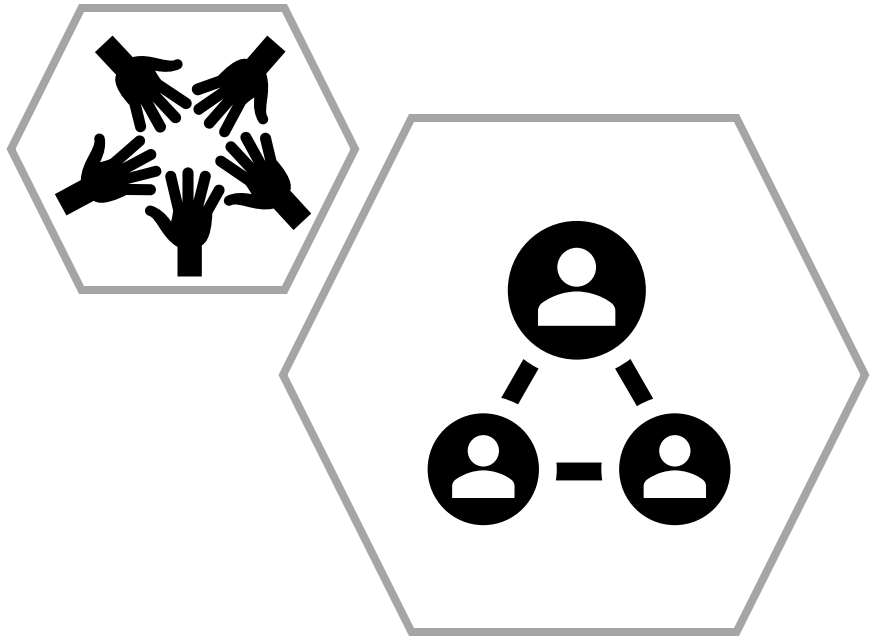


Coast FRZ – How the zone works

- Applies to blocks within the zone at time of waste assessment submission
- Waste rates apply to merchantable volume
- Government committed to regular review of the FRZ boundary
- The FRZ does not apply to:
  - Helicopter harvested blocks
  - Red cedar, or
  - certain licences to cut
- April 1, 2021 and April 2022 changes in applicability

Coast FRZ– Best Practices

- Build relationships
- Make use of the alternate methods of scaling
- Familiarize yourself with the waste measurement rules and understand the different waste benchmarks

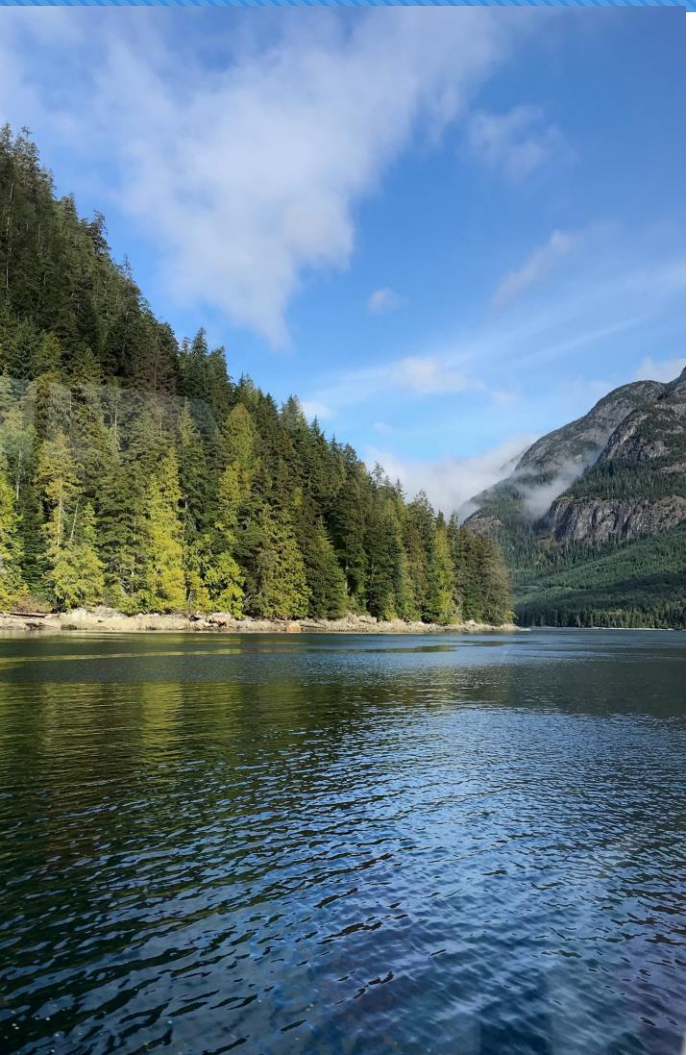


Remember: waste rates only apply to fibre left on the block and measured as waste

Coast FRZ- Mapping

- Timber Pricing Branch Website – Forest Residue & Waste
  https://www2.gov.bc.ca/gov/content/industry/forestry/competitive-forest-industry/timber-pricing/forest-residue-waste
- iMapBC – for a zoomable version
  https://maps.gov.bc.ca/ess/hm/imap4m/
- BC Data Warehouse – to import into your company GIS
  https://catalogue.data.gov.bc.ca/dataset/fibre-recovery-zones

Alternative Methods of Scale



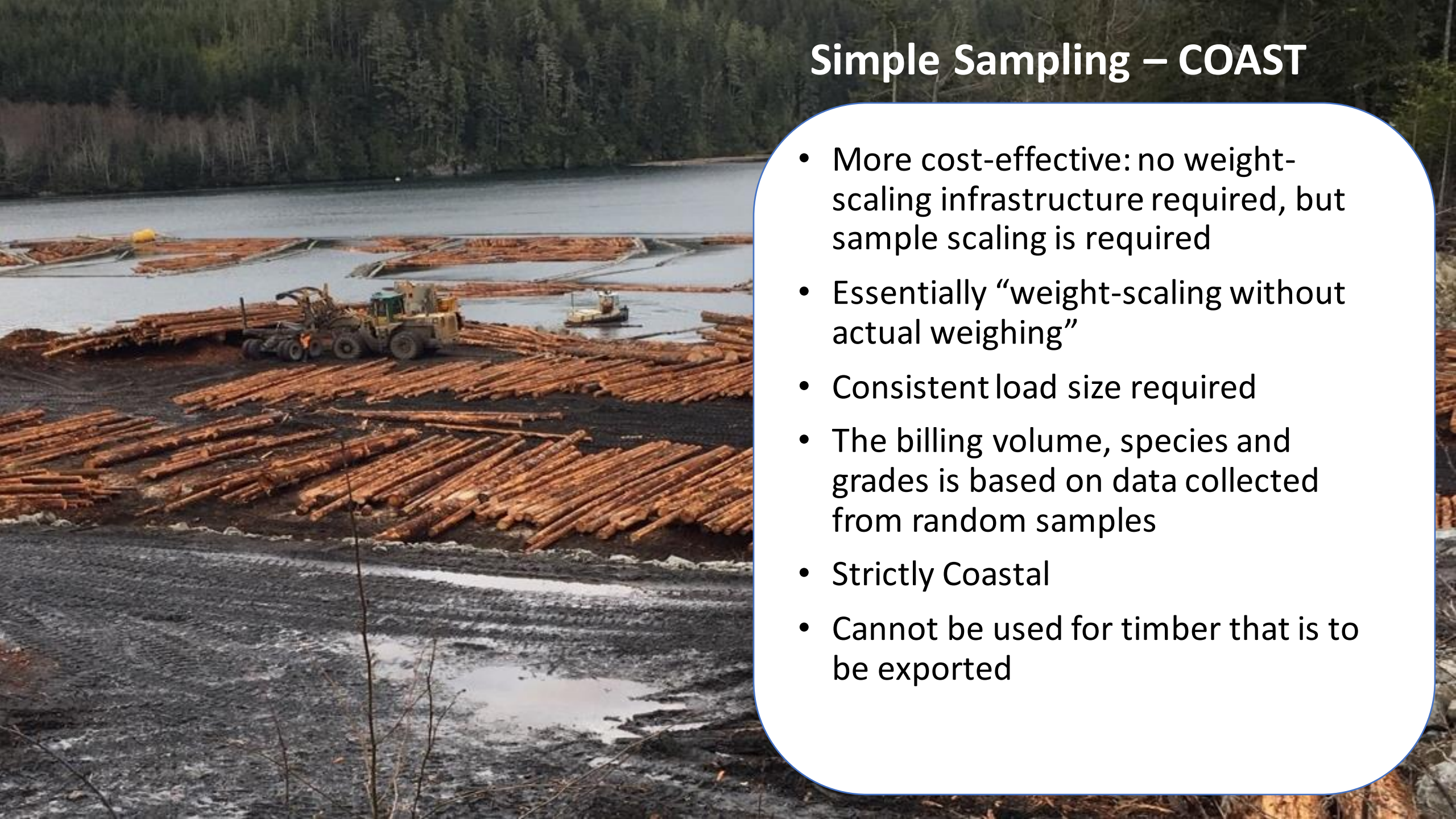
- 3 methods
  - Concurrent Residual Harvest System (CRHS)
  - Simple Sampling
  - Woodchip Volume Measurement System
- Tools for Low Value Timber
- Increase scaling efficiency and reduce costs
- Improve utilization of fibre and increase fibre availability

Concurrent Residual Harvest System (CRHS) – COAST

- Allows low-quality fibre to move with sawlog
- Default Vol/Wt ratios & grade profiles in place by stratum type
- Licensee applies to District and must fit requirements
- Available for active permits and some salvage tenures
- Living document

Volume/Weight Ratio and Grade Profile Table

Stratum Description	Vol/Wt Ratio	Grade H %	Grade I %	Grade J %	Grade U %	Grade X %	Grade Y %	Grade Z %
Wet HemBal Pulp(>50% HemBal Pulp & >10% X, Y, Z Grade)	1.06	2.0	2.0	21.0	53.0	8.0	13.0	1.0
Dry HemBal Pulp(>50% HemBal Pulp & >10% X, Y, Z Grade)	1.12	2.0	2.0	21.0	53.0	8.0	13.0	1.0



Simple Sampling – COAST

- More cost-effective: no weight-scaling infrastructure required, but sample scaling is required
- Essentially “weight-scaling without actual weighing”
- Consistent load size required
- The billing volume, species and grades is based on data collected from random samples
- Strictly Coastal
- Cannot be used for timber that is to be exported

Woodchip Volume Measurement System – COAST

- Still early in implementation
- Chips are measured in a volumetric state, then converted into solid log volume
- Conversion based on historic woodchip out-turn data from various Coastal chipping facilities

Methods of Scale Comparative

Method	Overview	All loads are weighed?	Individual/ Sample logs are measured?
Traditional			
Weight scale	Billed by converting weight (tonne) to volume(m3) based on load samples	Y	Y
Piece scale	All loads are 100% measured (m3)	N	Y
Alternate methods for low value logs			
CRHS	Billed by converting weight (tonne) to volume (m3) based on a predetermined ratio	Y	N
Simple Sampling	Billed by converting number (#) of loads to volume(m3) based on load samples	N	Y
WVMS a.k.a Chip Outturn	Loads are billed by converting the volume of woodchips (VU) into log volume (m3)	N	N

Successes and Trends

- Early days in improving utilization on the Coast
  - Monitoring changes in waste volume m3/ha
- Alternate Methods of Scale
  - CHRS – 94,199 m3
  - Simple Sampling 14,511 in 2020
- Coast B2B Pulp Fibre initiative

Available Resources

- Additional information on Resource Tenures Branch website
  https://www2.gov.bc.ca/gov/content/industry/forestry/forest-tenures/forest-tenure-administration/residual-fibre-recovery
  - Fibre Recovery Process
  - Biomass Handling Guidelines
    FPInnovations Biomass Inventories
- Information about residual fibre policies:
- ForestTenuresBranch@gov.bc.ca
- For opportunities to access residual fibre contact your local Natural Resource District or Front Counter BC

Upcoming Tools

- Additional Biomass Inventories – Remaining Timber Supply Areas and potentially some Tree Farm Licenses
- Heat maps of Biomass Inventories
- BC Forest BioGIS tool
- BIOS App


Questions?
British Columbia
Forests, Lands and Natural Resource Operations