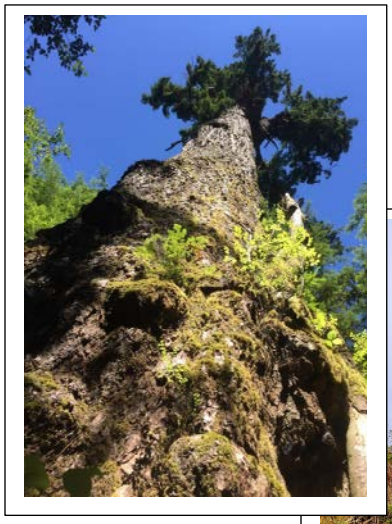
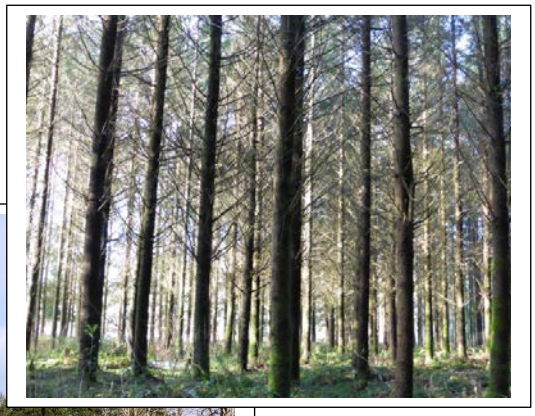
Coastal Silviculture Committee

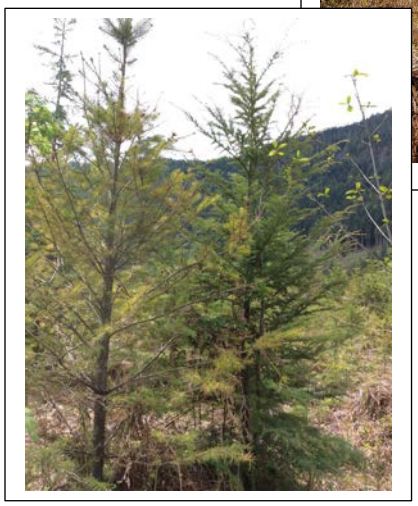
2020 Winter Workshop
Vancouver Island University
February 26th, 2020

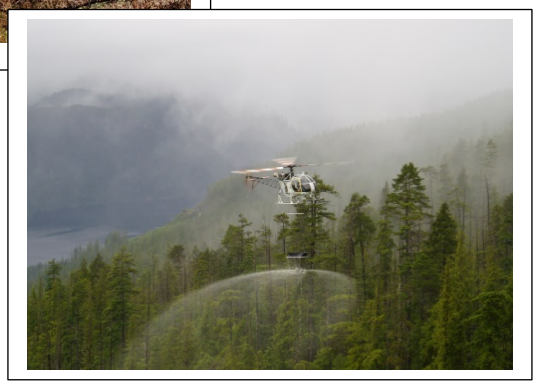
"Silviculture to the Rescue"

Our Coastal forest industry may be in danger of extinction unless we are able to increase merchantable volume from a declining land-base through improved silvicultural practices.









Acknowledgements

The Coastal Silviculture Committee (CSC) wishes to thank the following people for contributing their time and efforts in organizing the 2020 Winter Workshop:

- Doug Corrin (VIU org)
- Neil Hughes (workshop Chair)
- Craig Wickland (President)
- Laura Gilbert
- Natasha Boettcher
- Kai Sonnenberg
- Don Pigott
- Jack Sweeten (Vice President)
- Lauchlan Glen
- Margaret Symon (Secretary)
- Kwadwo, Omari

We would also like to thank Dave Weaver for his 12 years of service to the CSC as secretary. Dave worked diligently to manage the finances and created a work book for each Workshop.
Dave has moved on to other volunteer projects.
We would also like to thank Shaun Mason and Chelsey Toth for their contribution on the CSC board of directors.
And a special thanks to Jocelin Teron who has been on the board for several years and instrumental in developing the website, registration system, and getting us organized!
The CSC would like to thank Vancouver Island University for the venue and to Mosaic Forest Management for providing the morning coffee break.

VANCOUVER ISLAND UNIVERSITY

MOSAIC FOREST MANAGEMENT

And finally, on behalf of the CSC, the organizing committee would like to thank all the presenters for taking the time out of their very demanding schedules and lives to share their experience and knowledge with the rest of us.

SILVICULTURE TO THE RESCUE!

What the hell does this mean? What are we rescuing?

Many may remember the theme of the CSC 2017 winter meeting "MITIGATING PROJECTED TIMBER SUPPLY DECLINES". We continue with this important theme as the allowable annual cut (AAC) for the Coast has declined 38 %, from 24 million m3 in 1990 to 15 million m3 in 2020, primarily due to exclusions from the Timber Harvesting Land Base (THLB) (e.g. establishment of conservancies, parks and ecological reserves). This trend in THLB exclusion may continue given increased public pressure for old growth protection, wildlife habitat preservation and general environmental concerns. Recent wildfires, climate change, insects and disease may also negatively affect our growing stock and the Coastal AAC. Spatial and/or temporal forest cover constraints also exert downward pressure on the harvest. Our Coastal forest industry may be in danger of extinction unless we are able to increase merchantable volume from a declining land-base through improved silvicultural practices.

Can our present silvicultural applications do this?

Speakers at the 2020 CSC workshop will discuss some silviculture basics, such as: such as

- adequate regeneration
- applicable stocking standards
- brushing
- pre commercial and commercial thinning
- tree improvement
- fertilization
- forest health and integrating silvicultural surveys into inventory modelling.

They will also discuss the possible effects of these practices on volume production, log quality and timber value, and how they may have the potential to revitalize our Industry.

2020 Coastal Silviculture Committee (CSC) Winter Workshop – Feb. 26, 2020
Vancouver Island University – Building 355 Room 203 (211 break room)

"Silviculture to the Rescue!"		
Times	**Topic Theme**	**Speakers**
8:00 – 9:00 *(1 hour)*	**Registration**	
9:00 *(15 min)*	**Welcome and Introduction** **2019 Silviculturalist of the Year Award**	**Neil Hughes** Chair **Natasha Boettcher**
9:15 *(45 min)*	Growth & Yield 101 An overview of Growth & Yield tools	**Steve Stearns-Smith** *(Intro Craig)*
10:00 *(30 min)*	Coffee Break	
10:30 *(45 min)*	Fertilization Why do we do it, and where and what should we think about to set stands up properly to benefit from treatments.	**Annette van Neijenhuis** *(Intro Neil)*
11:15 *(45 min)*	Quality Implications Introduction to Second Growth Log Specifications, Quality & Values and discussion about how Foresters can influence achieving desired future log and stand characteristics	**Tyler Field** *(Intro Neil)*
12:00 *(20 min)*	Business Meeting / Student Bursaries	**Jack Sweeten**
12:20 *(55 min)*	Lunch	
13:15 *(45 min)*	Stocking Standards Linkage to management objectives and timber supply assumption	**Eleanor McWilliams** *(Intro Craig)*
14:00 *(45 min)*	Forest health	**Tim Ebata** *(Intro Neil)*
14:45 *(15 min)*	Coffee Break	
15:00 *(45 min)*	Final Panel	**Everyone** *(Chair Neil)*
15:45 – 16:00 *(15 min)*	Intro to Summer CSC 2020 and wrap-up	**Neil Hughes** Chair

GY 101 for New (and Old) Silviculturists

Name: **Steve Stearns-Smith, RPF**
Affiliation: Stearns-Smith & Assoc
Position: consulting forester
Responsibilities: growth & yield extension and training
Academic training: B.Sc., M.Sc. forestry; M.Ag. extension
Previous employment:
Ministry GY program team member since 1993.
Managed gov't/industry co-operatives focused on growth & yield and forest fertilization.

Presentation Abstract:

The ministry's growth and yield (GY) program, currently within Forest Analysis and Inventory Branch, dates back to the early 1900's. On-going research and development efforts continue to improve and expand a suite of GY tools to support silviculture, inventory, and timber supply programs.
Our ability to practice sustainable forest management rests on our ability to predict the future forest under various silvicultural regimes. GY tools are key resources for that decision-making process. When selecting the best available GY tool for a particular situation, it helps to know what is currently available and a bit about their strengths and limitations.
There are two principle GY models in the ministry's current suite of GY tools: VDYP and TASS. The TASS derivative known as TIPSY is the primary operational tool providing access to yield tables generated by TASS. TIPSY is used extensively for post-harvest, managed stands in both silviculture and timber supply. TASS and TIPSY are designed to predict response to silviculture treatments, including density management, fertilization, genetic improvement, etc. In addition to cubic-meters, they also report lumber, biomass and carbon yields. Both are packaged with FAN$IER, silviculture investment analysis software currently used to evaluate FFT investments.
VDYP is designed as the inventory update tool used to "grow the inventory" between re-inventories. It is also used to project existing natural stands in timber supply. It is not sensitive to silviculture.
The ministry suite of GY tools also includes an extensive suite of site index models supporting site productivity estimates critical to numerous operational applications, including TASS, TIPSY, and VDYP. SITETOOLS software provides access to many of these models. In the absence of reliable site index estimates for post-harvest stands, SIBEC provides BEC-based site index estimates. Up-to-date SIBEC estimates are also incorporated in the provincial GIS site productivity tile.

NOTES

Fertilization

Name: Annette van Niejenhuis
Affiliation: Western Forest Products
Position: Tree Improvement Forester
Responsibilities: Seed orchard development, sowing requests, Silviculture research, Silviculture investment and fertilization.
Academic training: MScFor, HMScFor (lLakehead U)

Presentation Abstract:

Aerial fertilization has been implemented in coastal forests for a few decades now. Why do we continue – and expand - this forest management practice? What sorts of stands do we select for these treatments? Should you implement changes to your silviculture strategies to set up stands that will make the fertilization priority list? I'll explore these questions and lead a discussion of aerial fertilization.

NOTES

Quality Implications

Name: Tyler Field **Affiliation:** Western Forest Products **Position:** Contract Manager **Responsibilities:** Manage all harvesting and road construction contract services, negotiate rates and contracts **Academic training: RPF** **Previous employment:** Quality Control Manger, Managed program for 1.0 million cubic m cut. Timber cruising and cutblock layout. Managed Forestry and Silviculture program	

Presentation Abstract:

Introduction to Second Growth Log Specifications, Quality & Values and discussion about how Foresters can influence achieving desired future log and stand characteristics

Introduction to Second Growth Log Specifications, Quality & Values and discussion about how Foresters can influence achieving desired future log and stand characteristics

1. Basic Introduction to 2G Ministry Log Grades and Specifications
2. Summary and comparison of 2G different Log Products and relative values– lumber, veneer, poles, export, pulp, niche
    a. Basic intro into how 2G logs get broken down in the mill into lumber and what log specifications are key to maximizing recovery and value. Brief explanation of difference between chip and saw, gang, quad, sawlog and mill configurations that manufacture these logs. Breif description & comparison of the different 2G lumber products – dimensional lumber (2X4) vs squares versus timbers versus 'niche' such as cross arm product.
    b. Discussion about veneer and engineered wood products
    c. Poles – general specs and what pole buyers are looking for. Currently highest value 2G product
    d. Export – general export quality and value and why we export. (Try and keep non-political…)
    e. Pulp and mill byproducts.
3. Personal observations and anecdotal evidence from career split between forestry growing trees, and in Quality Control/Production
    a. Piece size matters
        i. Value and end product … show pics of different end products and short videos of different mill configurations in action
        ii. Logging productivity and costs
    b. Species selection is most important decision for future value.
        i. Show difference in relative values between commercial species. (Potentially discuss this above with some general wood properties info – wood densities, issues with hemlock drying, etc)
        ii. Species diversity is also important
            1. Don't know what future holds
            2. important not to species mix in stands if plan is short rotation and growth indices of species don't match. Example growing cedar mixed with fir on certain sites. Often see harvest of these stands with fir nice size but all the value in the cedar is lost because not yet big enough.
    c. Believe important for companies and land managers to have a higher level 'reforestation plan' to guide SP and silviculture foresters in making planting prescriptions and silv decisions
        i. Decision at time of SP and sowing trees is most often the most important decision silv forester makes in the life of a stand – species selection and density
        ii. Content and detail of this 'plan' will be different depending on the tenure type – private versus crown, small woodlots versus large scale private holdings
        iii. Plan should detail for example what species to target on what sites, where ok to use natural regen or plant at lower densities and where $ should be spent to

plant at higher densities. Plan should consider future weather, potential pests and whether willing to spend $ on protection, etc

iv. Spend $ where it makes sense and don't waste it on silv projects that don't work or aren't proven
    1. Protection at mid to high elevation for cedar/cypress – does not work
    2. fertilization

d. Stocking standards should be flexible and Silv foresters should also be open minded and 'flexible'
    i. Account for small mico sites
    ii. Allow for natural mixed alder in certain situations where stocking is potentially issue; especially is small scale on landscape level if cost and effectiveness of killing alder and reforesting other species does not make sense
    iii. Spacing at time of plant and when surveying should not be so rigid. We want nicely spaced stands but often trees at time of harvest in younger stands are growing less than 2m apart and have great volume and form due to the good microsite.

e. Don't delay planting.
    i. On a 40-60 year rotation delay planting by even 1 growing season is significant
    ii. Delay planting could result in unnecessary future brushing or access issues

f. Observation that generally all young stands 60 years or less that I have been involved with harvesting were at one point were spaced. If these stands had not been spaced we would not have harvested them due to average piece size. If we want to move to 2G normalized harvest across the province without any significant falldown we would need to initiate a substantially large pre commercial and commercial thinning program to get stands to merchantable and economical size. Just observation and will not get into economics of spacing (or pruning)…

4. Stand Types and log specifications that we want to avoid
    a. Hemlock everywhere or low value species on sites where there are better options
    b. Wide spacing especially on richer sites – resulting in heavy/large limbs
    c. Growing species on sites that will be at risk from biotic or abiotic factors resulting in poor form or rot
        i. Mid to high elevation fir in snow zones resulting in stem damage
        ii. Balsam in areas where evidence from previous stand of frost cracks
        iii. Cedar and cypress on areas of heavy elk use
        iv. Cedar and cypress mixed with faster growing species resulting in never reaching minimum utilization spec and time of harvest
        v. Drought susceptible species anywhere but wet sites
    d. Generally offsite species resulting in poor growth and form
5. Stand and Log specifications we want to achieve
    a. Fast growing and correct density to maximize site capacity at rotation – seed selection, fertilization, correct microsite selection, early plant all key
    b. Correct species – for value as well as survival. Plant cedar, fir (cypress) wherever possible. But don't count out Alder or White Pine (Noble fir) on certain sites.

c. Continue to work on rust resistant Pw, weevil resistant Ss, browse resistant cedar as these all have good wood properties
d. Straight, defect free, with knots <1”
e. Generally bigger the better. Should be looking to get minimum 2 log solution on most of the stand at time of harvest.

6. Summary
    a. With generally high harvest cost structure we have on the coast compared to rest of the province and the rest of the world we need to capitalize on the ‘niche’ markets we have. This will become more and more difficult as we move away from all OG harvesting and into 100% managed stands. We need to focus on growing species that others don’t have, and we need to grown it as big and fast as we can while maintaining wood properties/quality that are desired….

NOTES

Stocking Standards

Name: Eleanor McWilliams, RPF
Affiliation: J&E McWilliams & Associates Ltd.
Position: Partner
Responsibilities: Analyst, Project Manager
Academic training: BSF, UBC Forestry, MSc Forest Biometrics, U of Minnesota
Previous employment:
Canfor, Forestry Canada, JS Thrower and Associates Ltd

Presentation Abstract:

Stocking Standards – Links to management objectives and timber supply assumptions.
Stocking standards have a significant impact on reforestation practices and data collection in regenerated stands. Our current stocking standards have been in place, largely unchanged, for over 30 years. The first objective of this presentation is to challenge the status quo by pointing out weakness in the current system that have been considered acceptable in the past but are increasingly becoming unacceptable and detrimental to stewardship. The second is to provide examples of alternative approaches that will improve both reforestation practices and data collection in our regenerated stands.

NOTES

Forest Health

Name: Tim Ebata
Affiliation: FLNRORD
Position: Forest Health Officer
Responsibilities: Developed and implemented the provincial gypsy moth eradication program. Supervise the provincial forest pathologists and entomologist. Study the true impacts of young stand pest damage deemed uinacceptable during the free-growing survey.
Academic training: MSc in Forest Entomology
Previous employment: Regional Forest Entomologist for Prince Rupert Forest Region

Presentation Abstract:

ABSTRACT for presentation "Forest Health Impacts in Young Stands"
Presented by Tim Ebata, MSc, RPF, Forest Health Officer, Resource Practices Branch, Victoria
Concern for improving our understanding of the impacts of forest health agents on our regenerating forests has been a long-standing topic in forest health, silviculture and timber supply review. Estimating the impacts of young stand damaging agents is not straightforward for many reasons. This presentation examines some of the complexities in estimating pest damage impacts from observations made well-before rotation.

NOTES

Coastal Silviculture Committee
Business Meeting Agenda
February 26, 2020

Agenda

1. Financial Statement – January 2019 – December 2019
   (next page – Dave Weaver).

2. Student Award Presentations - TBA
   VIU recipients:

   BCIT recipients:

   UBC recipients

3. Nominations for Silviculturalist of the Year Award (to be awarded in the summer of 2020
4. Post Workshop Evaluation – Email Survey -

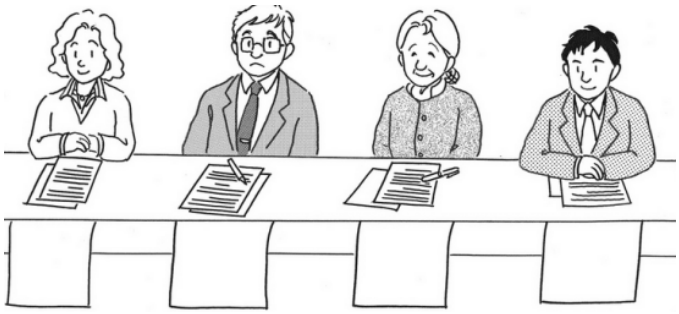
5. Adjourn.

FINANCIAL REPORT JANUARY 1 - DECEMBER 31, 2019
COASTAL SILVICULTURE COMMITTEE

JANUARY 1, 2019 BALANCE							
	Coast capital savings						28365.09
				Income	Expense	Totals	BALANCE
WINTER WORKSHOP 2019							
	Income						
		Registration		12870			
		Donation Mosaic		500.00			
		Refund			-125		
						13245.00	
	Expenses						
		catering/A/V rental			-4891.58		
		printing costs			-512.96		
		VIU staff gifts			-65.86		
		presenters gifts			-383.50		
						-5853.90	
							7391.10
SUMMER WORKSHOP 2019				Income	Expense	Totals	BALANCE
	Income						
		Registration	online	11925.00			
			cheque	175.00			
						12100.00	
	Expenses						
		Big Sky dinner			-3500.00		
		Snacks			-165.57		
		(Snacks donations)	value worth $500 Khowutzun FS				
		Glacier bus charter			-4505.36		
		lunch	Day 1		-1119.30		
			Day 2		-632.42		
		Presenter gifts	pens		-214.50		
			mugs		-123.20		
		Booklet printing 49th			-838.66		
		Speaker Expenses			-394.98		
						-11493.99	
							606.01
BURSARIES/FINANCIAL SUPPORT							
	Expenses						
		UBC (Jan 5/19)			-2000.00		
		BCIT (Mar 13/19)			-2000.00		
		NFW (Jun 8/19)			-300.00		
							-4300.00
CSC BUSINESS COSTS							
	Expenses						
		Mobile Speaker			-98.36		
		Updating Directors Society Act			-15.00		
		Minister of Finance - Society Act Fee			-40.00		
		Admin supplies			-143.03		
		Admin supplies			-52.08		
							-348.47
OTHER							
	Expenses						
		Deposit for Summer 2020 Hotel Banquet hall Sooke			-991.00		
	Income						
	bank interest		chequing	7.23			
			GIC	12.22			
							-971.55
				25489.45	-23112.4		30742.18
DECEMBER 31, 2019 BALANCE							30742.18

Panel Discussion:

All presenters will answer questions from the audience.



NOTES