

**COASTAL SILVICULTURE COMMITTEE  
SUMMER WORKSHOP**

**“SILVICULTURE PRACTICES:  
Getting The Best Value From Your Forest Land”**



**JUNE 23-24, 2009  
Port Alberni, BC**

**Coastal Silviculture Committee  
Summer Workshop**

## **Acknowledgments & Thanks**

**We wish to thank the volunteers and their employers for their time and dedication in putting this year's CSC Summer Workshop together.**

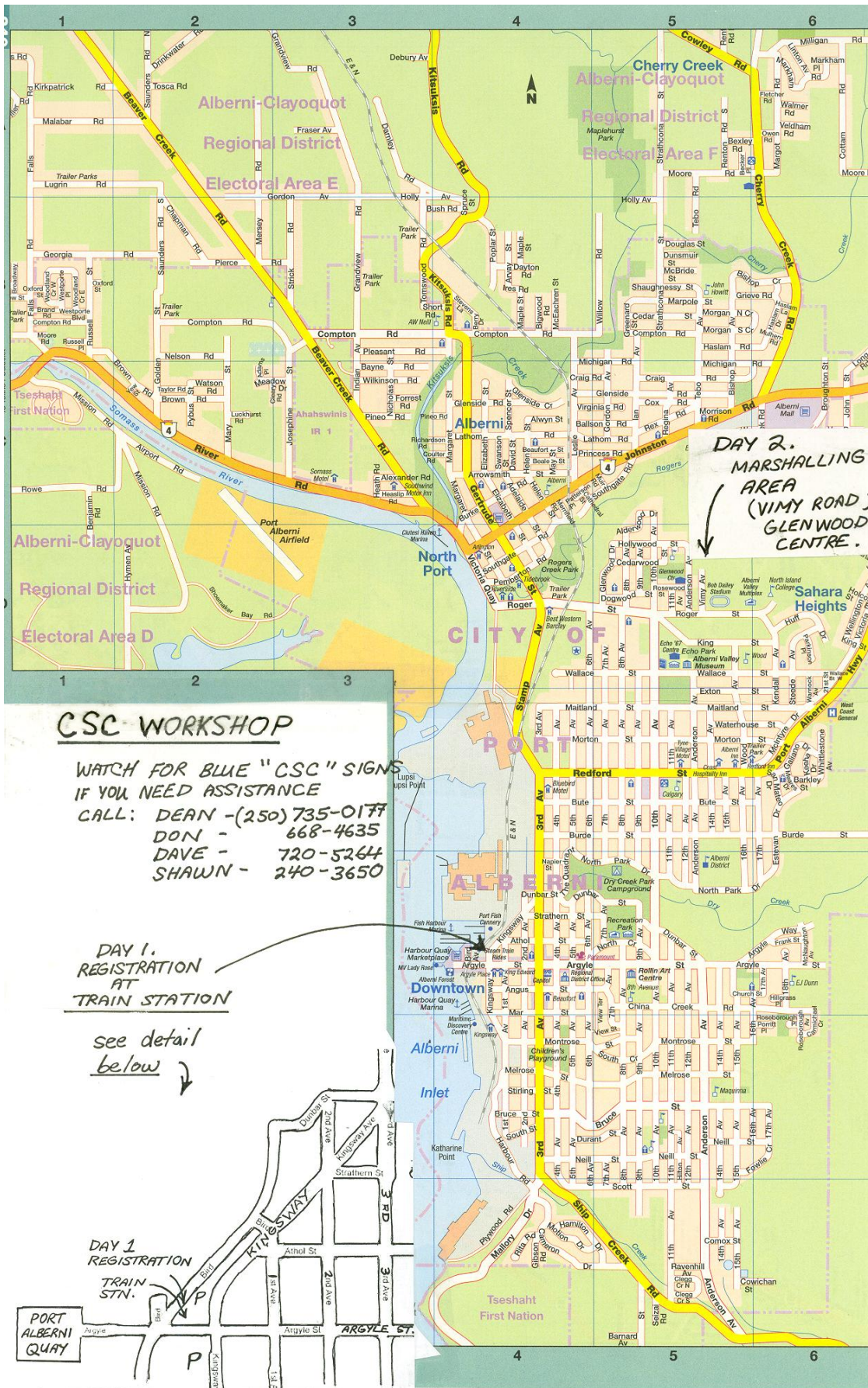
### **Host Organizing Committee and CSC Directors**

**Co-chair: Dave McBride, Greenmax Resources, Port Alberni, BC  
Co-chair: Dean Stewart, South Island Forest District, MFR, Port Alberni, BC  
Co-chair: Don Pigott, Yellow Point Propagation, Ladysmith, BC  
Paul Dagg, HUU-AY-AHT First Nations, Forestry  
Shawn Flynn, Greenmax Resources, Port Alberni, BC  
Mark Palmer, South Island Forest District, MFR, Port Alberni, BC  
Emma Neill, South Island Forest District, MFR, Port Alberni, BC  
Tracy Andrews, Resource Tenures and Engineering, MFR, Victoria, BC  
Ann Peter, Chilliwack Forest District, MFR, Chilliwack, BC  
Heather Dunn, TSG, BCTS, Port Alberni, BC  
Jack Sweeten, Chilliwack Forest District, MFR, Chilliwack, BC  
Lisa Meyer, Tree Improvement Branch, MFR, Saanichton, BC  
Ron Elder, RJF Elder Consulting, Black Creek, BC  
Lauchlan Glen, Coast Nursery Services, BCTS, Surrey, BC  
Craig Wickland, RCO, MFR, Nanaimo, BC  
Diane Douglas, Tree Improvement Branch, MFR, Victoria, BC  
David Weaver, Forest Practices, Branch, MFR, Victoria, BC  
Vancouver Island University**

**Thank you to the sponsors for their support!**

**Sinorefor Productions Inc.  
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**Special Thanks to all of our workshop speakers and presenters**



## Agenda

### CSC Summer Workshop June 23 - Day 1 Itinerary

<b>A.M.</b>	
<b>7:00-8:00</b>	Marshall at Train Station Port Alberni, 3100 Kingsway Avenue Registration, coffee, and parking instructions. Parking may be limited and participants are encouraged to car pool. Ensure that you check the signs and park off of the street.
<b>8:00-8:20</b>	<b>Workshop Introduction Silviculture Discussion Paper- "Growing Opportunities, a New Vision for Silviculture in BC"</b> ➤ <i>Paul Rehler, Forest Practices Branch</i>
8:20-8:30	Board bus, travel to the end of Burde Street
8:30-8:45	<b>Introduction to Hupacasath First Nation Woodlot (1902)</b> ➤ <i>Warren Lauder, H.F.N. Forestry Manager and Councilor</i>
8:45-9:00	Walk to Stop #1
9:00-9:30	<b>Stop #1 Site index verification project- increased or decreased site productivity?</b> <b>Full length tree ripping</b> ➤ <i>Jerry Benner</i>
9:30-10:00	<b>Stop #2 Strategy for creating a windfirm forest</b> ➤ <i>Wolfram Wollenheit (Econ Consulting)</i> <b>Pole thinning to generate economic value and meet forest management objectives.</b> ➤ <i>Warren Lauder, H.F.N. Forestry Manager and Councilor</i>
<b>10:15</b>	Bus Leaves
10:45- 11:30	<b>Stop #3 Zero Net Deforestation- future challenges and opportunities?</b> ➤ <i>Brian Raymer</i> <b>Gravel pit restoration</b> ➤ <i>Dave McBride</i>
11:30-11:40	<b>Stop #4 1965 juvenile spacing treatment</b> ➤ <i>Dave McBride/Shawn Flynn</i>
11:40-11:45	Bus returns to Lunch Stop at WL1479
11:45	<b>Introduction to 1479 Woodlot License and lunch instructions</b> ➤ <i>Shawn Flynn</i>
<b>P.M.</b>	
<b>11:45-12:45</b>	Lunch presented by Hupacasath First Nation, Lunch speaker, John Rustad, Parliamentary Secretary for Silviculture
<b>12:45</b>	Bus leaves – 5 minute drive
12:50- 1:15	<b>Stop #4a Browse Resistant Western Red Cedar- take the taste test</b> ➤ <i>Jodie Krakowski</i>
1:15-1:45	<b>Stop #5 Spiral pruning/wind firming demonstration</b> ➤ <i>Sig Kemmler (Alternative Forest Operations)</i>
1:45-2:15	<b>Stop #6 68 year old farmer's field afforestation project, carbon credits and afforestation challenges</b> ➤ <i>Brian Raymer</i> ➤ <i>Dave McBride/Shawn Flynn/ Group Discussion</i>
2:15-2:45	<b>Stop #7 1998 juvenile spacing, pruning response and pruning demonstration</b> ➤ <i>Tim McGiffin (Silvifor)</i> ➤ <i>Ralph Winter/ Group Discussion</i>
2:45-2:50	Walk to Stop #8
2:50-3:15	<b>Stop #8 Bough Cutting Concerns and Opportunities- lost value or value lost?</b> ➤ <i>Mark Palmer</i>
3:15-3:30	<b>Stop #9 Western White Pine breeding update</b> ➤ <i>John King</i>
3:30	Wrap up and bus to town
<b>4:00</b>	Arrive train station
4:00-5:00	Off time
<b>5:00- 5:30</b>	<b>Train leaves and travel to McLean Mill</b>
5:30-6:30	<b>McLean Mill</b> ➤ No Host Bar and Mill Tour/Whistle stops
<b>6:30- 7:30</b>	Dinner- Presented by Bat Star Restaurants
7:30- 8:30	Dinner Speaker- Ron Elder
<b>9:00- 9:30</b>	Train leaves for Port Alberni station

## Agenda

### CSC Summer Workshop June 24 - Day 2 Itinerary

<b>A.M.</b>	
<b>7:30- 7:45</b>	Marshall at Glenwood Center 4255 Wallace St., Port Alberni, park down by the ball field, board the bus
8:30	Arrive at Thomas 100 cut block
8:30-9:30	<b>Stop #1 VR and Lessons Learned, Thomas 100 Wind firming Treatment Trial Site- Get the best bang for your wind throw pruning dollars</b> ➤ <i>Bill Beese</i>
9:30- 9:45	Travel to Bainbridge Lake
9:45-10:30	<b>Stop # 2 Bainbridge Lake, Island Timberlands Ltd. Watershed Assessment Procedure for Private lands</b> ➤ <i>Brian Saunders</i>
10:30- 11:00	Travel to Hybrid Poplar Plantation on Road to the old Sproat Lake Operation
11:00-12:00	<b>Stop # 3 Hybrid Poplar Plantation- Success or failures? History and results of trials on the coast</b> ➤ <i>Cees van Oosten</i> ➤ <i>Dan Carson</i>
<b>P.M.</b>	
12:00 -12:45	Bag Lunch at Paper Mill Dam Park
12:55- 1:00	Bus leaves – travel to Wild Crafters
1:00-1:45	<b>Stop #4 Wild Crafters- Botanical Forest Products- distilling of Cw boughs into Cw oil, walk to 1 ha forest site generating \$3600/year</b> ➤ <i>Keith Hunter</i>
1:45	Bus leaves for Thompson's Woodlot
2:10-2:45	<b>Stop # 5 &amp; #6 Mechanical stumping of maple vs. non stumped maple</b> ➤ <i>Nancy Pezel</i>
2:45-3:30	<b>Stop #7 Demonstration of roadside chipping of slash for hog fuel</b> ➤ <i>Brad Berry, Berry trucking</i> <b>Discussion of new bio energy tenures- take or pay?</b> ➤ <i>TBA</i>
3:30	Wrap up and Bus leaves for Glenwood Center
4:00	Bus arrives at Glenwood center and the summer workshop is adjourned

## June 23 Presenters

### **Workshop Introduction Silviculture Discussion Paper- “Growing Opportunities, a New Vision for Silviculture in BC”**

➤ *Paul Rehler, Forest Practices Branch*

The intent of this initiative is to solicit input and stimulate discussion on the future of silviculture in British Columbia. Silviculture is one of the primary means to enhance the social, environmental, and economic benefits from our forest resource. Silviculture investments can protect our resources by making our forest more resilient to climate change and insect infestations. They can improve the productivity of our forest lands and shorten the timeframe to harvest – helping to mitigate the impacts of natural disturbances such as the mountain pine beetle or land use decisions. Through silviculture treatments wildlife habitat and non-timber forest products can be enhanced. Silviculture can also help maximize the value of the fibre we grow, whether for traditional commodities like dimensional lumber or future products such as cellulose bio-chemicals or bio-energy.

If British Columbia wants to be recognized as a world leader in managing forests through out the rotation, we need to rethink how silviculture is delivered. We need to ask ourselves if the current allocation of basic and incremental silviculture responsibilities results in the best future forest conditions.

A new silviculture framework for British Columbia requires well-informed and thoughtful input. Forest professionals, along with all other interested parties, have the opportunity to provide their input into developing a new silviculture framework in this province up until September 30, 2009. We encourage you to visit [www.survey.gov.bc.ca/feedback.pl?TOPIC=silviculture](http://www.survey.gov.bc.ca/feedback.pl?TOPIC=silviculture) for an easy-to-complete web-based response form. All information gathered during the public review period will be considered to prepare recommendations for a new silviculture framework, which will be developed in fall 2009.

#### **Paul Rehler Bio**

Diploma	1997	University of British Columbia (SIBC)
RPF	1988	Association of British Columbia Professional Foresters
BSF	1986	University of British Columbia
Diploma	1978	British Columbia Institute of Technology
1992- present		Forest Practices (Silviculture) Branch, Ministry of Forests
1986-1992		Consultant, Silviculture Forester
1985		Finlay Forest Industries Ltd., Silviculture Assistant
1978-1984		Ministry of Forests, Resource Assistant Silviculture

Paul Rehler, BSF, RPF  
 Silviculture Policy Specialist  
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 Paul.Rehler@gov.bc.ca

**June 23**

### **Introduction to Hupacasath First Nation Woodlot (1902)**

➤ *Warren Lauder, H.F.N. Forestry Manager and Councilor*

Warren is a four-term councillor of the Hupacasath First Nation, as well as their forestry manager. His forestry duties include managing the HFN Woodlot (WL No. 1902) as well as salvage projects. Warren is also involved in attaining harvesting rights and greater control over lands within his First Nations traditional territory.



### **Stop #1 Site index verification project- increased or decreased site productivity?**

#### **Full length tree ripping**

➤ *Jerry Benner*

#### **Jerry Benner, RPF**

Jerry Benner is an active, hands-on forester working on his own woodlot licence as well as consulting for industry and government. Jerry is an experienced faller as well as logger. Jerry is the past president of the North Island Woodlot Association.



**June 23**

**Stop #2 Strategy for creating a windfirm forest**

➤ *Wolfram Wollenheit (Econ Consulting)*

**Wolfram Wollenheit, R.P.F.**

Wolfram has a master degree in forestry from Germany and is practicing professional forestry in coastal BC for more than 15 years. He is home to the Comox Valley on Vancouver Island and is married to his wife Sibylle. Wolfram and Sibylle manage their own woodlot licence W1641 west of Campbell River. His main interest lies in sustainable small scale forestry and the implementation of silviculture systems and harvest patterns in order to balance ecological, social and economic long-term requirements. He is a partner in Econ Consulting, which provides the full range of professional forestry and management services to government agencies, small forestry tenure holders, First Nations and private clients.

**Pole thinning to generate economic value and meet forest management objectives.**

➤ *Warren Lauder, H.F.N. Forestry Manager and Councilor*

June 23

**Stop #3 Zero Net Deforestation- future challenges and opportunities?**

➤ *Brian Raymer, RPF*

**2008 Throne Speech:** *Each year, new developments, urbanization, agricultural conversions, new power lines and other utility corridors contribute to deforestation. That releases greenhouse gases into the atmosphere and removes millions of trees that are absorbing and storing carbon. To reverse this problem, your government will pursue a goal of zero net deforestation. It will work with First Nations, industry and communities to put that goal into law by 2010 and establish a viable strategy for realizing that vision by 2015.*

**2009 Throne Speech:** *British Columbia will legally mandate Zero Net Deforestation.*

**ZND Policy Development**

Efforts to reduce deforestation, which occurs on both Crown land and private and, will have impacts on several industries, will affect service plans of several ministries, and will require new legislation.

Zero Net Deforestation policy development will require extensive cross government consultation and cooperation and active involvement of several ministries.

Three different approaches could be used with these options when determining what zero net deforestation means: area-based, GHG-based, or forest productivity-based. The area-based approach ensures achievement of ZND by area, as reported in the BC GHG inventory report, but provides only small short term GHG emission reductions and will be limited by the supply of land suitable for afforestation. The GHG approach achieves emission reductions in the short term, but does not achieve ZND by area. The productivity approach provides greater opportunities for compensating loss of forest productivity, but does not achieve ZND by area and provides only small short term GHG emission reductions.

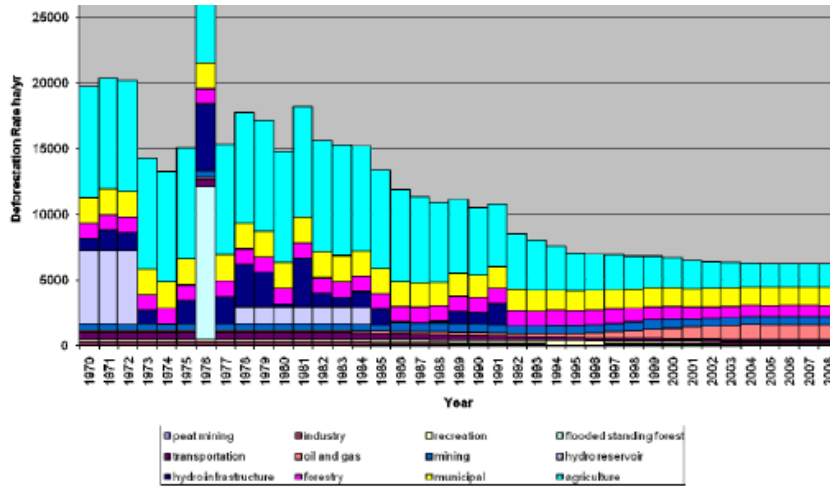
**Deforestation Estimates**

2006 Estimated Deforestation and Afforestation Area (ha)

Deforestation Category	Previous		New Revised	
	Area (ha)	Percent	Area (ha)	Percent
Agriculture	3,500	42%	1,777	29%
Forestry	1,400	17%	824	13%
Hydro infrastructure	0	0%	0	0%
Hydro reservoir	0	0%	0	0%
Industry	200	2%	174	3%
Mining	700	8%	615	10%
Municipal	1,800	21%	1,420	23%
Oil and Gas	400	5%	1,134	18%
Recreation	200	2%	108	2%
Transportation	200	2%	145	2%
<b>Total Deforestation</b>	<b>8,400</b>		<b>6,197</b>	
<b>Total Afforestation</b>	<b>-2,400</b>		<b>-2,400</b>	

Sources: National Inventory Report and Canadian Forest Service

Deforestation and related GHG estimates are developed by the Canadian Forest Service as part of the National Inventory Report process. The NIR is submitted annually as part of Canada's mandatory reporting under the UN Framework Convention on Climate Change.



Source: Canadian Forest Service, April 2009

Contact: Ian McLachlan, MAL/ILMB Climate Action Team  
(250) 356-0191

**Brian Raymer Bio:**

Forest Carbon Technical Advisor, Climate Change and Forest Carbon Strategic Unit Ministry of Forests and Range.

May 2008 to present Forest Carbon policy development.

2005 – May 2008 Monitoring of forest practices, development of policy, FRPA implementation and tree species guide update.

2003 – 2005 Involved with the implementation of legislation related to stocking standards and the transition from Silviculture Prescriptions to FDPs, FSPs and site plans.

1996 – 2005 Policy related to silviculture practices and operations.

1984 – 1995 Ministry of Forests and consulting. Silviculture operations. Various districts (coast and interior).

**June 23**

Stop #3 **Gravel pit restoration**

➤ *Dave McBride*

Stop #4 **1965 juvenile spacing treatment**

➤ *Dave McBride/Shawn Flynn*

**Introduction to 1479 Woodlot License and lunch instructions**

➤ *Shawn Flynn*

Woodlot 1479 is operated by Dave McBride and Shawn Flynn. There are several stops on the woodlot.

**Shawn Flynn Bio**

Shawn Flynn is a practicing professional forester working on Vancouver Island and throughout British Columbia. Shawn has worked for government, First Nation, industry, and has been self-employed for most of the past two decades. He continues to promote forest practices which respect our forest.

**Dave McBride Bio**

Dave McBride is a Professional Forester and partner in Greenmax Resources. He once worked in industry but has been self-employed since 1985. He is currently working for several First Nations as a forestry advisor. The rest of the time he tries to make a living managing the Greenmax Woodlot No. 1479 or tending his beloved Christmas trees.

**June 23**

**Stop #4a Browse Resistant Western Red Cedar- take the taste test**

➤ Jodie Krakowski (and John Russell, Research Scientists), Coastal Forests Genetics, MFR, CLRS  
The problem

Ungulate browse damage to redcedar seedlings costs approximately \$20-25 million in BC per year at a cost of \$5-6/tree for protective tubing. Damage causes in poor growth form and delays in free-to-grow in this high-value species.

The solution

Natural genetic variation in browse damage was observed in the field. Damage levels were found to be directly related to foliar monoterpene concentrations. These defence chemicals have been found in a wide range of plants and much is known about their biochemistry and genetics. Monoterpene level is a heritable trait, with concentrations increasing as seedlings age.

Based on this information, we can directly select western redcedar for foliar monoterpene concentrations and breed for improvement on this trait. Western redcedar is unique among conifers since it can have a generation time as short as 2 years, and also is easy to successfully root cuttings, which allows for clonal testing and deployment, as well as deployment of material from older plants that cuttings can be taken from. Therefore, a breeding program can quickly yield good results.

Research program

Western redcedar shows no trade-off between monoterpenes and growth: deer-resistant seedlings grow just as tall as susceptible seedlings. This means that directly selecting for one trait will have no effect on the other trait in the selected population.

Deer preference trials have been conducted using material of varying terpene levels with the USDA Forest Service in Washington and by the BC Ministry of Forests around coastal BC. The deer preference trials involve rotating blacktail deer in a series of replicated fenced-in seedling trials and assessing the browse intensity on various seedlings and families. Field trials in BC rely on natural deer populations to access a planted trial, and may be affected by adjacent stand composition and the design of the experiment in terms of the deer feeding behavior.

Deployment issues

An important component of these ongoing studies is to determine how best to deploy resistant material. Planting 100% resistant redcedar stock would effectively force deer to forage on that, since no alternative food source is available, possibly applying selection pressure to the deer to overcome their aversion to high terpene concentrations. Ensuring a site-optimized mixture of susceptible and resistant material, in combination with other suitable species, is important to reduce the potential for this to occur. Deer make decisions based on a wide range of factors, from shelter to mate availability to terrain. Studies are currently underway to determine appropriate levels and spatial distribution for deploying resistant redcedar while meeting stocking standards and other key objectives.

➤ For additional information, contact John Russell: [John.Russell@gov.bc.ca](mailto:John.Russell@gov.bc.ca)

**Jodie Krakowski Bio**

Jodie is a forest geneticist with the Ministry of Forests and Range, focusing on genetic conservation and genetic resources management of coastal tree species and whitebark pine. Over the past 15 years, she has worked as a terrestrial ecologist, a consultant for sustainable energy firms, a research forester, and a research technician and scientist at the University of BC on projects throughout the Pacific Northwest on many environmental topics. She lives in the Cowichan Valley and makes everyone at the Cowichan Lake Research Station recycle and compost... or else!

**June 23**

**Stop #5 Spiral pruning/wind firming demonstration**

➤ *Sig Kemmler (Alternative Forest Operations)*

Sig is the owner of Alternative Forest Operations of Crofton. His company strives to operate at a very high standard of service, performance and safety. Sig and his crew work for industry, private land owners, and woodlots and specialize in tree climbing and wind firming.

Alternative Forest Operations (AFO) provides an exciting new concept in urban forestry called Visual Enhancement (VE).

Through tree crown modification property values can be substantially enhanced, stunning views uncovered and tress protected from wind damage!



Our client directs the pruning of tree limbs to enhance the visual aesthetics of the site, create views through the trees without compromising the experience of lush green forests! By retaining trees, thinning out dangerous or undesirable trees forest cover is retained. Your property is attractive to wildlife such as eagles, hawks, and owls and other smaller animals.

More light penetrates the thinning canopy giving you a brighter, lighter sense while at the same time being surrounded by your forest.

**Value Added**

What is a breath taking view worth, or a property with beautifully manicured trees, dead limbs, dead trees and brush removed? The removal of the 'fine fuels' reduces the risk of Forest Fires! The removal of dead branches, dangerous or dead trees enhances the safety of the site. You now have a lush park like atmosphere without compromising the natural essence of the property!

**Alternative Forest Operations (AFO)** is a dynamic group of men and women providing both conventional and highly specialized services to the Forest, Energy and Park sectors in British Columbia.

Our Mission;

*To bring innovation, inspiration, and transformation to the Forest Industry;*

*To think boldly, perform boldly, provide you with what you want.*

*That is who we are, that is what you can count on.*

Safety, quality, innovation and profitability are the foundation of our business. We are Safe Certified as a Safe Company by the BC Forest Safety Council (BCFSC). Training is on-going and may include Wildlife Danger Tree, WHMIS, First Aid, Forest Fire



**June 23**

Stop #6 **68 year old farm field afforestation project, carbon credits and afforestation challenges**

- *Brian Raymer*
- *Dave McBride/ Shawn Flynn/ Group Discussion*

Stop #7 **1998 juvenile spacing, pruning response and pruning demonstration**

- *Tim McGiffin (Silvifor)*

**Tim McGiffin Bio**

Tim McGiffin has been a silviculture contractor for over 30 years. Tim has provided all facets of silviculture work to government, industry, private landowners, community forests and woodlots. Tim's high quality standards and professional attitude are known throughout the industry.

**June 23**

**Stop #7 Strategic and Tactical Considerations for Spacing and Pruning**

➤ *Ralph Winter/Group Discussion*

We are anticipating the potential for new funding coming to do silviculture in key BC communities this year and next. Spacing and Pruning are likely to be fundable activities. So what are some considerations that you should have in place before spending any money?

Why would you do these treatments?

What are the biological considerations before doing the treatments?

What are the economic considerations?

What are the social considerations?

What are the consequences of well done treatments?

What happens if we do the treatments poorly?

What kind of strategic and tactical plans should be in place before doing the treatments?

**Ralph Winter Bio**

Ralph Winter is the Stand Management Officer with the Forest Practices Branch, Ministry of Forests. Ralph is responsible for managing the Stand Management Unit which is involved in the development of legislation, policy and guidelines related to silviculture. The unit is also involved in the development and training of silviculture survey procedures, RESULTS and PROGNOSIS. The unit is involved in the implementation of the *Incremental Silviculture Strategy for British Columbia*, and the development and training of GY decision aids and information for silviculture operations.

Address: 727 Fisgard Street, Victoria B.C.  
P.O. Box 9514, Victoria, B.C. V8W 9C2  
Internet: [Ralph.Winter@gov.bc.ca](mailto:Ralph.Winter@gov.bc.ca)

**June 23**

**Stop #8 Bough Harvesting Concerns and Opportunities- lost value or value lost?**

➤ *Mark Palmer*

The harvesting of tree boughs is just one of many products that falls into the realm of Non-Timber Forest Products (NTFPs). Harvesting of boughs by untrained harvesters is resulting in damage to forest plantations and to merchantable forest stands. The net result of uncontrolled and indiscriminate bough harvesting is growth and yield losses, insect and disease damage, sunscald and mortality. In addition research trials have been significantly damaged resulting in the loss of research investment, and variability in future data collected reducing the reliability of findings.

The current state of the forest sector has all of us looking for opportunities to reduce costs and create new sources of revenue. Are we missing the boat by not working with the NTFP Industry and creating mechanisms where tenure holders could realize the values of pruning for little or no cost and the NTFP Industry could realize a secure consistent source of product? With a little work, education and some tweaks to legislation all parties concerned could profit.

If you could have your stands pruned for free would you do it?

How much revenue can you generate from NTFPs? On a per hectare basis per year a local company known as First Nations Wildcrafters has made.....To Be Continued on Day Two.

**Mark Palmer Bio**

Mark Palmer graduated from the Faculty of Forestry at UBC in 1986 and again in 1995 with a diploma in Advanced Silviculture via the Silviculture Institute of BC. He has worked primarily in the realm of silviculture on Vancouver Island for better than 20 years. NTFPs and the concept of harvesting multiple crops from the land base has been an interest of his since 1995.

**June 23**

**Stop #9 Western White Pine breeding update – White pine Blister Rust Resistance**

➤ *John King*

Use of Blister Rust Resistant White Pine.

Blister rust has had a devastating impact on our white pine species: western white pine and now especially whitebark pine. We have though invested considerable time and resources in a programme to screen and breed for blister rust resistance. In the interior seedlots are now available that planting can resume quite safely. On the coast there are still some caveats but we believe we can now produce seedlots that will be quite acceptable. We don't expect to ever beat blister rust but we do believe we can reduce infection levels enough that it can now be considered a viable species especially for certain sites. White pine has many attractive features to keep in mind for coastal foresters and we believe it is now time to reconsider this species.

**John King Bio**

PhD from U of A... worked at Research Branch for over 20 years with hemlock and latterly resistance breeding... the breeding for resistance to the tip weevil has been a great success story ... see

<http://www.for.gov.bc.ca/hfd/pubs/Docs/Tr/Tr050.htm>

## Dinner Speaker

### Changes in Silviculture

Ron Elder

Ron graduated from Washington State University with a degree in forestry in 1966. He worked for Crown Zellerbach for 6 years timber cruising and acquiring forest land in Washington, Oregon, California, Montana, and Idaho. He then began work for BC Forest Products at Crofton as an assistant environmental forester. After 6 months he went to Campbell River as the Divisional forester for 6 years. He then went to MacKenzie as the Divisional forester for two long winters. He returned to the Island and was the divisional forester at Port Renfrew for 8 years. He left that position to return to Crofton as the company silviculturist for several years, until he started his own company, R J F Elder Consulting as a seed and seedling coordinator, which he continues to this day, but at a more leisurely pace...

## June 24 Presenters

### Stop #1 VR and Lessons Learned, Thomas 100 Wind firming Treatment Trial Site- Get the best bang for your wind throw pruning dollars

#### Variable retention windthrow monitoring and effectiveness of edge treatments

W.J. (Bill) Beese

Windthrow monitoring of variable retention (VR) cutblocks has been done over the past 8 years, led by Terry Rollerson (Golder Associates) with field work by Colin Peters (CMP Biological). The windthrow database includes 4648 plots from 172 cutblocks distributed throughout WFP's BC coastal operations. Plots represent nearly 366 km of external cutblock boundaries, 26 km of large patch edges, 197 ha of small retention patches and 50 km of riparian and other strip edges.

We found definite regional differences in wind damage<sup>1</sup> for cutblocks that have experienced at least two winter wind seasons. The percentage of wind damage along *external cutblock edges* varied from an average of 11% on southeast Vancouver Island (SEVI, Island Timberlands private land) to 25% on northwest VI near Quatsino Sound (Jeune Landing), with an overall average of 16% across all areas. There were similar regional differences in wind damage for retained patches. The average wind damage along the edges of *large patches* was 16% in Stillwater (Powell R.) and SEVI and 45% in QCI/Haida Gwaii with an overall average of 24%. The average wind damage in *small patches* (i.e., ≤ 1 ha in area) ranged from 20% on SEVI and 21% in Gold R. to 45% in QCI and Mid Island (Campbell R.) with an overall average of 39%. For the edges of *strips* of retained timber, wind damage ranged from 15% on SEVI to 38% on northern VI (Jeune Landing and Port McNeill), with an overall average of 31%.

We found that wind damage increases with increasing boundary exposure, fetch distance, elevation (topographic exposure), tree height and rooting depth. Although strips and small patches have higher rates of wind damage over 3 to 5 years than external edges and large patch edges, a greater proportion of *total* windthrow is due to cutblock edges because of the greater length of edge. Windthrow also varies with boundary and patch geometry.

Among the major coastal conifers, western hemlock and amabilis fir are the most vulnerable to wind damage. Western redcedar and yellow-cedar are generally less susceptible to damage. Douglas-fir appears to be the most windfirm coastal conifer (with the possible exceptions of lodgepole pine and white pine). Red alder and bigleaf maple are also quite vulnerable to damage on external cutblock edges. There are greater differences among species and greater variation in wind damage for more exposed conditions (e.g. small patches, strips) than for large patches and external cutblock edges.

Management recommendations based on our findings are:

- In situations where the hazard of wind damage is high (i.e., considering geography, site and stand conditions) use large patches and wide retention strips rather than small patches, narrow strips or dispersed retention. Where the hazard of wind damage is very high, clearcut with reserves may be more appropriate than the retention system for maintaining stand-level retention.
- For gully edges and stream escarpments, set back boundaries 10 to 15 metres from the windward edges to reduce the potential for windthrow penetration into gullies and across streams. The data suggest that setbacks of even a few metres will experience lower wind damage rates than boundaries located directly along the edges of gullies and stream escarpments.
- When feasible, top and prune trees along edges where damage is likely to compromise management objectives. Although monitoring findings were inconclusive due to low sample size and high variability, data from some sites suggest that windthrow can be reduced along windward and windward diagonal boundaries with a treatment depth of at least 15 to 20 metres.
- Where possible avoid locating windward boundaries of VR patches or retention strips in tall timber.

This project was funded by the Forest Investment Account, LBIP. A final report of findings was completed in April 2009.

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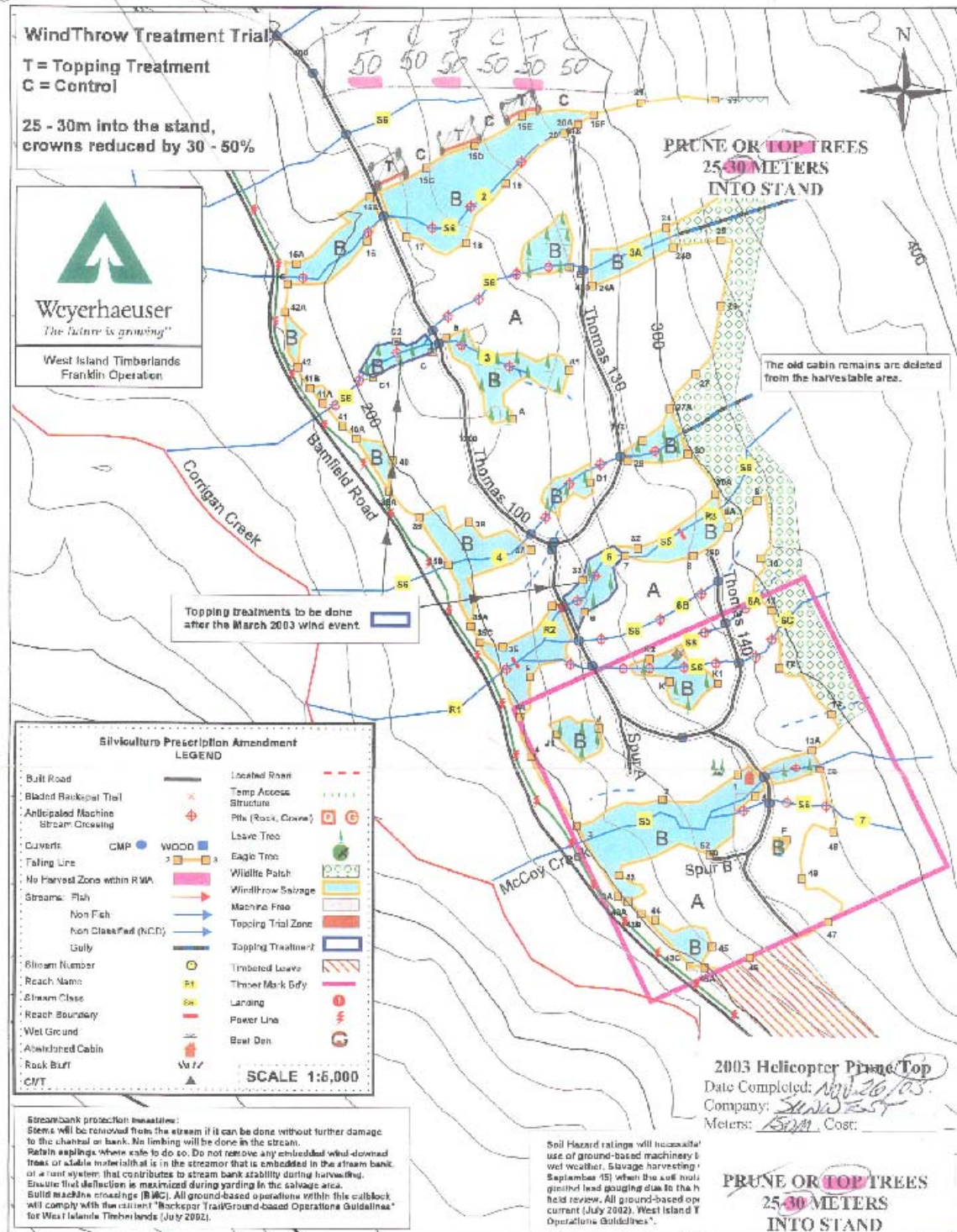
<sup>1</sup> Total wind damage % = % windthrow (trees uprooted) + % stem-break + % leaning  
"Silviculture Practices: Getting The Best Value from Your Forest Land"  
June 23-24, 2009 Port Alberni, BC



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**W.J. (Bill) Beese Bio**

Bill is a Registered Professional Forester with a BS in Forest Management (SIU) and MF in Forest Ecology (UBC). His career includes 30 years on the BC coast in research, environmental consulting and policy development for several forest companies. His research includes silvicultural systems (co-leader of the MASS study), prescribed burning, forest regeneration and biodiversity. His leadership helped accomplish phase-in of variable retention harvesting as part of the “Coast Forest Strategy”—a team effort that received the Ecological Society of America’s Corporate Award for 2001. Bill contributed to two chapters of the new book *Forestry and Biodiversity* (Bunnell and Dunsworth, editors). He has served on numerous research advisory committees, and working groups on old growth forests and ecosystem-based management. He is a member of an international panel advising Forestry Tasmania on implementation of variable retention in old-growth eucalyptus forests. Bill was the CSC Silviculturist of the year in 2000.



**SILVICULTURE PRESCRIPTION AMENDMENT#2 MAP**

License No.: TFL 44  
 Region: Vancouver  
 District: U7  
 Photo Line Nn (s): MB94009 330/331  
 DEC Zone: CWH  
 CP No.: 253  
 Latitude: 49 05 27  
 Longitude: 124 45 19  
 Mapsheet No.: 92F007  
 FORKS No.: 07 33 07  
 Map Prep Date: 06/04/2003 0:00  
 Forest Development Plan Number: 0767 WF  
 Cutblock Name: Thomas 100-2

SU	Stratum	Subzone	Variant	Site Series		Area (ha)
				Dominant (SS)	Related (SS-%)	
A		xm	2	05	01 (20)	35.7
B		xm	2	05	01 (20)	11.2
Net Area to be Reforested						46.9
Timbered Leave Areas						2.7
Wildlife Tree Patch						5.8
Permanent Access Structures (Roads)						2.6
Total Area Under Prescription:						58.0

CMA  
 11/27/03  
 [Signature]  
 Genes  
 11/27/03

**June 24**

**Stop # 2 Bainbridge Lake, Island Timberlands Ltd.**

**Watershed Assessment Procedure for Private lands**

➤ *Brian Saunders*

Island Timberlands' Watershed Assessment Procedure address the management of water quality and quantity, fish habitat, and soil stability. This procedure was designed from a synthesis of concepts from Washington, Oregon and British Columbia watershed analysis methodologies after an examination of the numerous approaches used to conduct watershed assessments on private and public forestlands in the Pacific Northwest region. This procedure was collaboratively produced as the most practical procedure to meet Island Timberlands GP LTD.'s resource strategy objectives.

This assessment procedure is voluntary and designed to produce and implement scientifically sound and defensible management plans tailored to the specific watersheds. This watershed assessment follows four main steps:

1. Technical assessment process
2. Prescription Development
3. Development and Implementation of Watershed Management Plan (WMP)
4. Effectiveness and compliance monitoring

The Island Timberlands GP Ltd. Watershed Assessment Procedure (WAP) aims to ensure environmental stewardship and to facilitate constructive stakeholder involvement in private land management. This initiative reflects the need for operational flexibility with respect to Island Timberlands GP LTD.'s extensive private land holdings in Coastal BC while improving forest management practices. The assessment is conducted on individual watersheds, where the Watershed Management Plan and prescriptions address individual watershed issues, generally on a resource-specific basis, as described above. The watershed assessment does not assess wildlife habitat, cultural resources, or the effects of pesticides or fertilizers.

Voluntary cooperative resource restoration or enhancement projects, initiated by Island Timberlands GP LTD. or other landowners, are encouraged. Such voluntary actions may provide the foundation for cooperative planning and cost sharing with other stakeholders in the watershed, particularly those involved in the prescription process.

Watershed analysis and the prescription process are based on the concept of adaptive management. Operational experience and effectiveness monitoring will improve the assessment methodologies and strengthen the prescriptions. As a result, prescriptions from previous assessments may be used or modified as needed.

**Brian Saunders Bio**

has worked in the forest industry for more than 20 years. Early on in his career he worked for six years in a sawmill. However, the majority of his career has been spent in the role of a silvicultural forester with MacMillan Bloedel, Weyerhaeuser and now Island Timberlands.

June 24

### Stop # 3 **Hybrid Poplar Plantation- Success or failures? History and results of trials on the coast – site information and overview of the crop situation in North America.**

➤ *Cees van Oosten*

#### 1. Hybrid poplar in North America

- SRIC – short-rotation-intensive-culture (Canada) and SRWC – short-rotation-woody-crops (US) – poplar and/or willow.
  - Farm crop with farmland tax status
    - i. BC – 12 years
    - ii. Saskatchewan – no regulations; when grown on farmland, falls under farmland rules
    - iii. Washington – 15 years
    - iv. Oregon – 12 years
  - Regulations – farmland regulations; “Right-to-farm” legislation in BC
  - Pest Management Regulatory Agency (PMRA) of Health Canada recognizes SRIC poplar and willow as an agronomic crop (not forestry)
- Large acreages of hybrid poplar in Minnesota (pulp), Washington State and Oregon (pulp, veneer and sawlog), Alberta (pulp) and BC (pulp, mostly Kruger Products); large acreages of eastern cottonwood (*P. deltoides*) in the south and southeast US (mostly pulp).
- Most hybrid poplars in BC and the PNW are *P. trichocarpa* x *P. deltoides*, *P. trichocarpa* x *P. maximowiczii*, *P. nigra* x *P. maximowiczii*, *P. deltoides* x *P. nigra*, *P. deltoides* x *P. maximowiczii*.
- Conversions from pulp crops to veneer and sawlog crops in Oregon and Washington with change in ownership from integrated companies to real estate holdings (pension funds etc.). Requiring change in crop density.
- Increased interest to establish SRIC biomass crops with both hybrid poplar and willow. Note: Quebec recently recognized SRIC willow biomass crops as agronomic use (major breakthrough).

#### 2. Site requirements

- Well-drained sandy loam soils with access to ground water are the very best.
- Typical alluvial soils work best.
- Very sandy soils (S and LS) not suitable, unless imperfectly drained or irrigated.
- Does poorly on heavy soils (clay) that are poorly-drained.
- Glacial till soils usually do not offer good conditions.
- For SRIC to work best, weed control is a must and must be intensive for SRIC farm crops (IPM weed control). Issue: Too few labelled herbicides.

#### 3. Somass Flats site

- Site prep in 1998 (glyphosate to control grass, followed by disking/tilling)
- Plantrow marking, followed by planting unrooted cuttings 40 cm long, with 30 cm in the soil.
- Replanted portions due to mortality – salinity is an issue on this site. Re-plants also high mortality.
- Weed control intensive in 1<sup>st</sup> year; thereafter not carried out as well due to MB Poplar Farms abandoning farming operations.

#### **Cees (“Case”) van Oosten Bio**

Cees (“Case”) is a B.C. Registered Professional Forester with 34 years experience in coastal B.C. and Washington State.

- Since 1987 he has specialized in the technology development, planning, crop establishment and management of ‘short-rotation-intensive-culture’ (‘SRIC’) hybrid poplar and in 1988 initiated formal hybrid poplar trials at MacMillan Bloedel in B.C.

## June 24

- From 1988 to 1998 Cees developed the hybrid poplar program at the company and last served as farm superintendent for the company's poplar farms in Washington State.
- Since 1998 Cees has owned and operated his own consulting company, SilviConsult Woody Crops Technology Inc., based in Nanaimo, B.C. and specializes in short-rotation-intensive-culture (SRIC) hybrid poplar and willow crops.
- He is the Vice-Chair West for the Poplar Council of Canada and chairs the Poplar Council's 'Pesticide Working Group'.

M.Sc.F. at Wageningen University, the Netherlands - 1975

Silviculture Institute at University of Washington and Oregon State University -1986 & 1987.

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### Stop # 3 Options for Hybrid Poplar Management

➤ Dan Carson

#### 1. Coppice Management

- Allow existing stumps to coppice (sprout) and manage resulting stand.
- Several advantages: high initial growth rate because of existing root structure, low costs (no planting and mechanical brushing), and large number of stems
- Most useful in a bio energy, carbon sequestration context. Large number of small diameter stems equals large volume of biomass. Limited yield of other products.
- Have to be careful not all varieties of hybrid poplar coppice.
- Limited to existing hybrid poplar varieties.

#### 2. Short Rotation Intensive Management

- Clear the land to farm field state. Remove stumps and windrow. Alternatively the stumps can be ground for biomass or spread back on site. Cost for this treatment ranges from \$2500 to \$6000 per ha.
- Allows planting at optimum density. In Kruger products case 4.2mx4.2m.(550 sph) of desired clonal material (45-90 cm unrooted hybrid poplar cuttings).
- Intensively manage (mechanical tilling, fertilization and pruning for access).
- Rotation lengths are determined by spacing. For each 30 cm of spacing is one year of rotation.
- No coppice or natural regeneration to deal with.
- More expensive than the other management options but the most productive.

#### 3. Extensive Management

- Involves spot scarification or mounding depending on site conditions. Spot Scarification on mid to high bench sites and mounding on high water table or low bench sites. The debris stirred up acts as a deterrent to deer, resulting in little browse damage. No need for seedling protectors or fencing.
- Plant 1.8 unrooted hybrid poplar (Ax) whips.
- On private land chemical brushing and spacing (coppice and naturals) with a broad cast (backpack) application of round up in the first year. Followed by a spot treatment in the second year of each mound or scarified planting spot. Chemical treatment is not necessary on traditional forest land, because grass is seldom a problem.
- Manually fertilize with a high P fertilizer at time of planting. Early mid rotation applications also beneficial.
- Kruger Products current spacing is 4.2 (550sph) to 4.8 (420 sph).
- Rotation lengths on flood plain sites are 22-25 years to a 35 cm stump diameter.
- Has lower productivity than other options, but is the most economical and mimics natural forest stands. Productivity still up to twice that of a natural stand.
- Has the possibility to be applied to mixed wood management. Natural regenerated sitka spruce (ss) in our plantations shows minimal infection by weevils (less than 1%). Naturally regenerated cedar (cw) shows minimal browse damage as well.
- Most economical option for managing hybrid poplar.

#### Dan Carson Bio

Dan is a RPF with 18 years experience of which 15 have been in on the Coast and 12 have been managing hardwoods.

- Since 1997 he has been the Silviculture Operations Forester for Scott Paper Ltd/Kruger Products Limited managing the hybrid poplar reforestation program. This includes in house production of planting material, tree breeding and research.
- He is the provincial representative for British Columbia for the Poplar Council of Canada

B.S.F, University of British Columbia, 1991

**June 24**

## **Lunch Stop Paper Mill Park**

### **Forestry in Port Alberni The beginning...**

In 1857 Captain Edward Stamp sailed the coast of Vancouver Island and was impressed by glimpses of one of the greatest softwood forests in the world, 12,000 square miles of square miles of mountain slope, valley and coastal plain thick with Douglas fir, and cedar.

Stamp returned to England where he convinced backers from two shipping companies, James Thomson and Co. and Thomas Bilbe and Co. to build the first major sawmill on Vancouver Island in 1861 at the head of Alberni Inlet. By the end of 1861 the mill was initially cutting 14,000 board feet of lumber per day. In 1862 he left the company and Gibert Sproat was appointed manager. The mill worked day and night to meet demand and business boomed until 1864, when the mill closed having produced 35 million board feet of lumber. The mill was an early casualty of high tariffs in the United States, poorly organized markets, and inaccessibility of good timber because of primitive transportation, - problems that were to plague the industry for decades. In a letter to the colonial secretary Sproat complained that "there is no wood in the district to supply the wants of a large mill."

In the 1890's an attempt to operate a paper mill near Port Alberni was led by Herbert Carmichael who organized the British Columbia Pulp and Paper Company. The mill was built where the Paper Mill Park now stands. With equipment imported from England, in 1893 it began producing wrapping paper, toilet paper, blotting paper and building paper at the rate of 50 tons per day when operating to capacity. Most of the raw material was rags, sails rope, discarded uniforms and overalls. After these were exhausted the mill used bracken ferns, but steam pressure was so low that that the ferns were insufficiently cooked and it was not unusual for customers to receive paper with recognizable fronds embedded in it. Located in the midst of a forest, the mill was starved for raw materials.

In 1894 the first attempts to use wood to make paper when Carmichael's company imported a chipper and crusher. The mill worked sporadically for a few year, but eventually closed do to production problems and engineers deemed the Somass River site unsuitable, while Powell River was considered ideal and plans to build a mill there began.

Source: **Empire of Wood** -The MacMillan Bloedel Story. By Don McKay

**June 24**

**Stop #4 Wild Crafters- Botanical Forest Products- distilling of Cw boughs into Cw oil, walk to 1 ha forest site generating \$3600/year**

➤ *Keith Hunter*

The tour presentation will include a forest site visit that has demonstrated economic value chain diversification for non timber forest product management and discussions as to how this type of value chain management integrates into developing silviculture best practices that is inclusive of non timber forest resource management objectives. We'll fire up a steam distillery and produce some products for you to sample as well.

First Nations Wildcrafters, BC is a family owned and operated business by Tseshaht First Nations Tribal member C. Anne Robinson and her husband, Keith Hunter. Keith Hunter is a specialist in non timber forest resources and products. The business specializes in non timber and other value added forest products and services. The business focuses on best practices development that incorporates traditional ecological knowledge with contemporary innovative best practices.

**June 24**

**Stop # 5 & #6 Mechanical stumping of maple vs. non stumped maple**

➤ *Nancy Pezel*

Nancy Pezel, RPF, has been working as a consulting forester specializing in silviculture and forest management on the coast for 24 years. She has been assisting woodlot licensees and private forest landowners with managing their forests for the past 18 years.

Farm Woodlot #5 was granted to Art Thompson in 1952 and consisted of 70 acres (28 ha) of Crown land and 75 acres (30 ha) of private land. With a farm woodlot, farmers were able to supplement their income, especially in winter, while committing to growing trees forever. Farm woodlot #5 was converted to Woodlot Licence W0011 in 1980. At that time Art requested an expansion to help compensate for the increasing paperwork required as part of the operation of the license. After a decade the expansion was granted. A second expansion occurred approximately eight years ago. Today Woodlot Licence W0011 is comprised of 33 ha of private land and 388 ha of Crown land at the base of the Beaufort Mountain range in the Beaver Creek valley. The allowable annual cut is 2678 m<sup>3</sup>/ha and the average MAI is 6.64 m<sup>3</sup>/ha/yr. The woodlot is managed jointly by Art and his son Todd. Todd carries out all the road building, falling, yarding, site preparation and some of the brushing.

Blocks 6 and 3 were harvested in the fall of 1998 and spring of 1999 respectively. Although the blocks are ecologically similar, significant differences in vegetation competition and crop tree growth are evident. At this field stop we will discuss the results of the two types of maple treatment that the licensees have carried out.



**June 24**

**Stop #7 Demonstration of roadside chipping of slash for hog fuel**

➤ *Brad Berry, Berry trucking*

*The Bandit Beast model 4680 is a grinding machine with 860 horse power. Depending on the type of material it is capable of chipping 200- 700 cubic yards (152 m<sup>3</sup>- 535 m<sup>3</sup>) per hour. This tour stop will give the participants an opportunity to see this machine in action grinding Big leaf Maple and Douglas- fir waste material for hog fuel, and discuss the process with Darcy Berry.*

*J W Berry Trucking has been working in the Port Alberni Valley and Vancouver Island for over 40 years. Darcy Berry graduated from the local high school in 1989, and went onto to get his license as a heavy duty mechanic. He joined the family business in 1994, and in 2001 the company diversified into the grinding business.*

## POSTER Presentation

### Effects of prescribed burning on tree growth and understory vegetation: 20-year results from Sroat Lake research sites (poster display)

W.J. (Bill) Beese, Forest Ecologist, Western Forest Products, Campbell River

This study was established in 1985 to investigate the impact of prescribed burns of different intensity on soils, tree growth, vegetation response and nutrition. Twenty-year post-fire measurements of tree growth, foliar nutrition, vegetation and erosion were completed in 2005. Several publications are underway. A summary of the direct fire impacts was published in 2006. (Available on-line from the Pacific Forestry Centre at: <http://bookstore.cfs.nrcan.gc.ca/pdf.php?CatalogNumber=26210> )

Prescribed burning is a useful silvicultural tool where regeneration and seedling growth are impeded by competition from ericaceous shrubs after harvesting. The long-term impacts of prescribed fire on vegetation growth and succession in coastal ecosystems are not well documented. The table below shows the 20-year response of dominant shrubs on clearcut harvested sites to prescribed burning of three different severities (low, high and very high) compared with unburned controls. Growth of salal was significantly lower in the higher severity (fall) burn treatments than in the low severity (spring) treatment for 15 years following burning. Growth and recovery of *Vaccinium* spp. followed a similar pattern to salal, but differences between burn treatments were not significant.

Tree growth has responded to reduced competition. Height and stem volume growth of Douglas-fir, western redcedar and yellow-cedar remains greatest on the high severity (fall) and re-burned (spring + fall) treatments. This study demonstrates the potential utility of prescribed burning as a means to reduce shrub competition and increase tree growth following harvesting in coastal forests.

#### Average cover of major shrubs over 20 years in response to prescribed burning treatments.

Species	Period	Control (unburned)		Low Severity (spring)		High Severity (fall)		Re-burned (spring+fall)	
Salal	<i>Pre-treatment</i>	5.02	a	19.57	ab	26.13	b	10.45	ab
	<i>1 yr Post</i>	9.11	a	8.80	ab	0.30	b	0.02	ab
	<i>5 yr Post</i>	20.32	ab	40.10	a	5.54	b	3.41	b
	<i>10 yr Post</i>	26.28	ab	50.98	a	14.48	b	10.36	b
	<i>15 yr Post</i>	25.62	ab	45.45	a	20.94	b	19.95	ab
	<i>20 yr Post</i>	37.20	a	59.43	a	30.42	a	35.75	a
<i>Vaccinium</i> spp.*	<i>Pre-treatment</i>	5.69	a	6.63	a	7.38	a	11.87	a
	<i>1 yr Post</i>	7.02	a	0.63	b	0.07	b	0.01	b
	<i>5 yr Post</i>	14.13	a	3.83	b	0.74	b	0.92	b
	<i>10 yr Post</i>	19.65	a	6.13	b	2.29	b	3.46	b
	<i>15 yr Post</i>	30.23	a	15.62	b	6.97	b	8.08	b
	<i>20 yr Post</i>	28.80	a	18.38	ab	7.77	b	11.11	b

\* *Vaccinium* species include: red huckleberry, Alaska blueberry and oval-leaved blueberry.

Different lower case letters within rows denote significant differences between treatments at  $p < 0.05$ .

## Participant's List CSC Summer Workshop 2009

Last Name	First Name	Company Name	City
Bancroft	Bryce	Symmetree	Victoria
Barber	Brian	MFR Tree Improvement Branch	Victoria
Bavis	Paul	Western Forest Products	Campbell River
Beese	William (Bill)	Western Forest Products	Campbell River
Benner	Jerry	Benner Forestry Ltd.	Heriot Bay
Bennett	Scott	BCTS	Squamish
Buck	Nick	Vancouver Island University - Student	Nanaimo
Chambers	Steve	Western Forest Products	Port Alberni
Chrimes	Dillon	University of Victoria	Victoria
Curtis	Marilyn	PRT	Cobble Hill
Dagg	Paul	Huu-ay-aht First Nation Forestry	Port Alberni
de Geus	Ernie	BC Timber Sales	Port Alberni
Douglas	Diane	MFR Tree Improvement Branch	Victoria
Dunn	Heather	BC Timber Sales	Port Alberni
Elder	Ron	RJF Elder Forestry Consulting	Black Creek
Elder	Iola	Sylvan Vale Nirsery Ltd.	Black Creek
Ennis	Cassandra	BCTS - Strait of Georgia	Campbell River
Errico	Claire	Vancouver Island University - Student	Nanaimo
Francis	Emily	Vancouver Island University - Student	Nanaimo
Gall	Dezso	Vancouver Island University - Student	Nanaimo
Girard	Michael	Vancouver Island University	Nanaimo
Goodmanson	Graeme	Canadian Wood Fibre Centre	Victoria
Harrison	Kylie	BCTS - Chinook (Haida Gwaii)	Queen Charlotte
Hunt	Jim	N & R Forest Management	Squamish
King	John	MFR Research Branch	Victoria
Koszman	Colin	BC Timber Sales	Port Alberni
Larsen	Stacey	ZIMMFOR Management Services Ltd.	Campbell River
Lasuta	Bill	Bill Lasuta & Associates Ltd.	Sechelt
LeRoy	Matthew	MFR Tree Improvement Branch	Victoria
Marcus	Brian	Western Forest Products	Port Alberni
Marquis	David	A & A Trading Ltd.	Vancouver
Meyer	Lisa	MFR Tree Improvement Branch	Saanichton
Palmer	Mark	MFR - South Island Forest District	Port Alberni
Peter	Ann	Ministry of Forests & Range	Chilliwack
Pezel	Nancy	Islands West Forestry Ltd.	Qualicum Beach
Phillips	Eric	FP Innovations - Feric	Vancouver
Pigott	Don	Yellow Point Propagation	Ladysmith
Proteau	Ed	FORREX / FPInnovations	Port Alberni
Runnals	Chris	BCTS - Chinook	Squamish
Saunders	Brian	Island Timberlands	Nanoose Bay

Schroeder	Ralph	MFR	Chilliwack
Stewart	Dean	MFR - South Island Forest District	Port Alberni
Stoffelsma	Nathaniel	Arbutus Grove Nursery	Sidney
Sweeten	Jack	Ministry of Forests & Range	Chilliwack
Telfer	Kevin	BC Ministry of Environment	Nanaimo
Vallee	Michel	Vancouver Island University	Nanaimo
Weaver	David	MFR - FPB	Victoria
Wickland	Craig	MFR - RCO	Nanaimo
Wollenheit	Wolfram	ECON Consulting	Merville
Zielke	Ken	Symmetree Consulting Group	West Vancouver