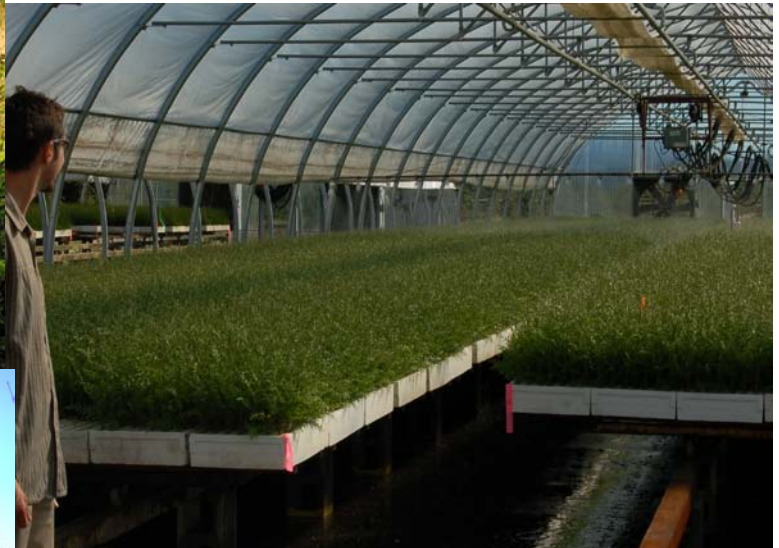




# BENEFITING FROM SILVICULTURE TODAY AND TOMORROW!

*2010 Winter workshop  
Vancouver Island University  
February 25<sup>th</sup> 2010*



## **Benefiting from Silviculture Today and Tomorrow**

Silviculturally, British Columbia has come of age. Over the past 30 years we have made tremendous strides; we have seen unparalleled improvements in reforestation through improved seedling production and planting stock quality. BC's tree improvement program has produced genetic material that has demonstrated gains in volume and growth exceeding 25% of material from natural stand seed. Improved cost effective silviculture practices have resulted in greatly reduced regeneration delay periods and our stands are achieving free-to-grow status earlier. Tree breeding has reduced losses to pest problems and has made diseases such as White pine blister rust, and White pine weevil in Sitka spruce manageable. Other silvicultural activities, such as improved site preparation techniques and late rotation fertilization, have demonstrated increased yields.

It is not time, however, to sit back on past achievements, uncertainty about product demand, markets, and climate change, can impact our species selection, stocking standards and silvicultural practices. Competition for fibre for pulp and bio-energy is not far down the road and may significantly influence how we manage, and harvest our forests – let's not wait until it's too late to react – now is the time!

Progressive and innovative techniques and approaches are out there to be brought to light and used to strengthen the future of our sector. This workshop is intended to look at some of the ongoing work in silviculture and forest management that could have further significant impacts on the future silviculture in coastal BC.

# Coastal Silviculture Committee Winter Workshop

## "BENEFITING FROM SILVICULTURE TODAY AND TOMORROW"

February 25, 2010

Vancouver Island University - Nanaimo Campus

<b><u>Registration</u></b>	7:30
Coffee and Refreshments	8:00
<b><u>Welcome and Introduction</u></b> - Jack Sweeten, R.P.F., MFR – CSC Chair	8:35
<ul style="list-style-type: none"><li>• Safety</li><li>• CSC committee thank-you</li><li>• Introduction of the four themes</li></ul>	
<b>Theme #1</b> <b><u>Regeneration- creating options</u></b>	8:50
<b>Don Pigott - Yellow Point Propagation</b>	
<u>Elk impacts on regeneration</u>	8:55
- <i>Graham Hues, R.P.F., Area Forester, WFP</i>	
<u>Multi-block stocking standards</u>	9:20
- <i>Allan Powelson R.P.F., MFR - Forest Establishment Initiatives Officer</i>	
<u>High genetic gain seedlots</u>	9:45
- <i>Brian Saunders, R.P.F., Operational Forester, Island Timberlands</i>	
<b>Coffee/Refreshment Break</b>	10:05
<b>Theme #2</b> <b><u>Increasing productivity through silviculture activities &amp; managing for diversity</u></b>	10:40
<b>Lauchlan Glen, R.P.F. – MFR, BCTS</b>	
<u>Fertilization</u>	10:45
- <i>Jeff McWilliams, R.P.F, B.A. Blackwell and Associates Ltd.</i>	
<u>Mount Benson woodlot site prep trials</u>	11:10
- <i>Brian D'Anjou, BSF, R.P.F., Research Silviculturalist, MFR</i>	
<u>Update on SIBEC research to improve site index estimates.</u>	11:35
- <i>Shirley Mah, BSF, M.Sc., MFR – Research Branch</i>	
<b>Lunch Break</b> <b>(Hot Lunch Provided – Building 300 – Administration/Cafeteria)</b>	12:10
<b>CSC Annual General Meeting – Lisa Meyer, MFR</b>	12:30

Keynote Speaker 12:45

**Introduction by Dave Weaver, R.P.F. - MFR**

***Diane Medves, R.P.F.*** Director, Forest Practices Branch, MFR - Victoria

Over the years, Diane worked in a variety of forestry positions on the coast such as a silviculture forester, manager of a nursery and tree improvement operation, and operational researcher. Diane has also been involved in a number of specialized forest management activities including First Nations consultation and Forest Certification; more recently, Diane spent one year with the Roundtable on Forestry Secretariat and, for the past two years, has worked as the Director of Forest Practices Branch with the Ministry of Forests & Range

Diane will give her perspective on issues related to the Minister's Silviculture Discussion Paper

**Theme #3 Reducing risk – forest health, climate change**

**Craig Wickland, R.P.F. - MFR**

Resistant White Pine / Sitka Spruce material 13:15

- *John King, PhD, R.P.F., Research Scientist, MFR – Research Branch*

Strategic Gypsy Moth control 13:40

- *Jennifer Burleigh, RPBio, R.P.F, MFR- Forest Practices Branch*

Silviculture and wildfire – Making the link 14:05

- *Ed Korpela, PhD, FIT, MFR – Fire Management Specialist*

**Coffee/Refreshment Break** 14:30

**Theme #4 Adding value – wood quality, & reduce waste**

**Michel Vallee, R.P.F. - VIU**

Using Acoustic Velocity to predict hemlock wood quality 14:55

- *Jeff Sandford, J.S. Sandford & Associates Ltd*

Modeling Bioenergy for the Clean Power Sector > 10 MW 15:20

- *Paul Liddy, President, Suncurrent Group Inc.*

**Conclusion, closing remarks and wrap-up** 15:50

**Jack Sweeten, R.P.F., MFR – CSC Chair**





## Coastal Silvicultural Committee Board of Directors – 2010

Bancroft, Bryce	<a href="mailto:BryceB@telus.net">BryceB@telus.net</a>
Dunn, Scott	<a href="mailto:Scott.Dunn@gov.bc.ca">Scott.Dunn@gov.bc.ca</a>
Elder, Ron	<a href="mailto:rjfe@telus.net">rjfe@telus.net</a>
Lasuta, Bill	<a href="mailto:blasuta@dccnet.com">blasuta@dccnet.com</a>
Lauchlan, Glen	<a href="mailto:Lauchlan.Glen@gov.bc.ca">Lauchlan.Glen@gov.bc.ca</a>
Meyer, Lisa FOR:EX	<a href="mailto:Lisa.Meyer@gov.bc.ca">Lisa.Meyer@gov.bc.ca</a>
Mitchell, Al	<a href="mailto:amitchel@pfc.cfs.nrcan.gc.ca">amitchel@pfc.cfs.nrcan.gc.ca</a>
Negrave, Roderick FOR:EX	<a href="mailto:Roderick.Negrave@gov.bc.ca">Roderick.Negrave@gov.bc.ca</a>
Pigott, Don	<a href="mailto:ypprop@shaw.ca">ypprop@shaw.ca</a>
Scott, Mel	<a href="mailto:melscott@shaw.ca">melscott@shaw.ca</a>
Stewart, Dean R FOR:EX	<a href="mailto:Dean.Stewart@gov.bc.ca">Dean.Stewart@gov.bc.ca</a>
Sweeten, Jack R FOR:EX	<a href="mailto:Jack.Sweeten@gov.bc.ca">Jack.Sweeten@gov.bc.ca</a>
Vallee, Michel	<a href="mailto:Michel.Vallee@viu.ca">Michel.Vallee@viu.ca</a>
Weaver, David W FOR:EX	<a href="mailto:David.Weaver@gov.bc.ca">David.Weaver@gov.bc.ca</a>
Wickland, Craig M FOR:EX	<a href="mailto:Craig.Wickland@gov.bc.ca">Craig.Wickland@gov.bc.ca</a>

## 2010 Winter Workshop Planning Committee

**Jack Sweeten - Chair**

**Craig Wickland**

**Lauchlan Glen**

**Don Pigott**

**Lisa Meyer**

**Dave Weaver**

**Al Mitchell**

**Michel Vallee**

# BUSINESS MEETING AGENDA

## FEBRUARY 25, 2010

### Coastal Silviculture Committee

- Call to order
- Additions to the agenda
- Adoption of the agenda
  1. Discussion on Distribution of Bursaries
    - UBC                    2@\$ 500.00
    - VIU                    2@\$ 500.00
    - Total                    \$2000.00
  2. Bursary Presentation to Vancouver Island University recipients
  3. Financial Statement – January 2009 – December 2009
  4. Confirmation of Status of Current Directors, and Election of New Directors
  5. Discussion on Summer workshop – fees, location, ideas
  6. Adjourn

**Financial Report January 1 to December 31 2009  
Coastal Silviculture Committee**

**January 1 2009 BALANCE** **12,476.57**

**CSC BUSINESS COSTS**

post office box	131.25		
Society annual fee	25.00		
		(156.25)	(156.25)

**BURSARIES**

	2,000.00		
		(2,000.00)	(2,000.00)

**WINTER WORKSHOP**

**Income**

Registrations	10,242.00		
cash gift	2,000.00		
		12,242.00	

**Expenses**

catering, A/V rental, gratuities	2,290.00		
Printing Costs	451.00		
Extension Services/ MC VISA charges	975.00		
presenters gifts			
		(3,716.00)	8,526.00

**SUMMER WORKSHOP**

**Income**

Registrations	9,760.00		
		9,760.00	

**Expenses**

Buses/vans	1,890.00		
McLean mill train	877.50		
bartender/entertainment	467.55		
lunches, coffee breaks, dinner	3,066.66		
snacks for bus	215.79		
Extension Services, MC/Visa charges	1,500.00		
Speakers fees/ gifts	550.08		
Souvenirs	925.53		
		(9,493.11)	266.89

**OTHER**

**Income**

bank interest	104.27		
		104.27	104.27

**Expenses**

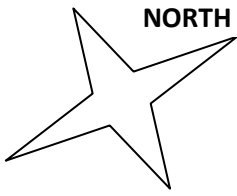
setting up website	262.50		
Silviculturist of the year award	85.55		
USB storage card	39.19		
water pumps	79.90		
		(467.14)	(467.14)

**DECEMBER 31, 2009 BALANCE**

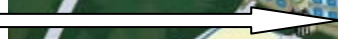
**18,750.34**

**SUMMARY**

Bank accounts			
chequing		10146.49	
high interest/no fee		3802.45	
short term GIC		4801.40	
<b>TOTAL</b>		18,750.34	



You are here



Lunch is here!  
Building 300  
Upstairs in the  
Royal Arbutus Room





## **Presenter Biography and Abstract**

### **Biography:**

<b>Name:</b>	<b><u>Graham J. Hues RPF.</u></b>
<b>Affiliation:</b>	Western Forest Products Inc – Mid Island Forest Operations
<b>Position:</b>	Area Forester
<b>Responsibilities:</b>	Most aspects of basic forest management.
<b>Academic training:</b>	BCIT Grad. 1975 – RPF 1994– Pupil Program.
<b>Previous employment:</b>	1999 –Present, WFP - various positions in Gold River and Campbell River; pre 1991-1999 – IFP Campbell River, 1975-1990 - FC/BCFP – various operations.

### **Presentation Abstract:**

**Topic and/or Title: Forest Management Issues with Elk.**

**Many parts of the Coast Region have experienced an increase in Elk populations, either through the introduction of Elk herds into new areas or through favorable local habitat conditions.**

**This presentation will review the reforestation issues with Elk and some of the mitigation strategies that WFP MIFO (TFL 39) has experienced. Also it will review the overall costs and question the need to implement a reduced stocking standard for Heavy Elk use areas.**



## **Presenter Biography and Abstract**

### **Biography:**

<b>Name:</b>	<b><u>Allan Powelson, R.P.F.</u></b>
<b>Affiliation:</b>	Ministry of Forests and Range
<b>Position:</b>	Forest Establishment Initiatives Officer
<b>Responsibilities:</b>	Reforestation policy and legislation
<b>Academic training:</b>	M.Sc. (Forest Science), SIBC
<b>Previous employment:</b>	Forest Industry Consulting

### **Presentation Abstract:**

#### **Topic and/or Title:**

**Landscape level Reforestation Strategies (Multi-block stocking standards)**

**A description of the opportunities and challenges of utilizing landscape level reforestation strategies and multi-block stocking standards in BC. Examples of multi-block stocking standards in BC will be presented focusing on commonalities and innovative approaches.**



## Presenter Biography and Abstract

### Biography:

<b>Name:</b>	<b><u>Brian Saunders</u></b>
<b>Affiliation:</b>	Island Timberlands
<b>Position:</b>	Area Forester
<b>Responsibilities:</b>	Planting, Brushing, Seed Supply, Contract Administration
<b>Academic training:</b>	Bachelor of Science in Forestry – UBC 1985 Graduation
<b>Previous employment:</b>	MacMillan Bloedel/Weyerhaeuser
<b>Biography:</b>	Brian has worked in the Forest Industry for a little over 20 years. Six of those years were spent in a sawmill. The remainder of his career has been spent working as a Silvicultural Forester; first for MacMillan Bloedel in the Queen Charlottes and later for Weyerhaeuser’s South Island Operation. He currently works for Island Timberlands.

### Presentation Abstract:

**Topic and/or Title: Deployment of Improved Seed**

The Chief Forester’s Standards requires the use of improved seed on crown land. There is no such requirement on private lands in BC. However, the two major private land owners in BC deploy higher genetic gain seed than what is typically deployed on crown land. This disparity exists mainly because the benefits of deploying improved seed accrue primarily to the land owner when the trees are harvested. However, there are benefits that can be realized early in the rotation – shorter time to achieve “Free Growing”, lower brushing costs, and disease resistance. In order to make the best use of this improved seed it is important to match the seed to the site. After ensuring that the transfer limits are not exceeded the next most important consideration is to ensure the highest genetic gain seed is deployed on the best growing sites. This will maximize the improvement in Net Present Value (NPV) for the forest estate. Further improvement in NPV can be realized through the deployment of Single Families instead of mixed lots of seed. Realizing the benefits of single family deployment is very challenging. The deployment of single families site can make the management of planting projects exceptionally challenging as it is necessary to maintain sufficient genetic diversity across the landscape and match the family to the site.





## Presenter Biography and Abstract

### Biography:

<b>Name:</b>	<b><u>Jeff McWilliams, RPF</u></b>
<b>Affiliation:</b>	<b>B.A. Blackwell and Associates Ltd.</b>
<b>Position:</b>	<b>Senior Associate</b>
<b>Responsibilities:</b>	<b>Strategic Forest Management</b>
<b>Academic training:</b>	<b>BSF, 1985 UBC</b>
<b>Previous employment:</b>	<b>Interfor (1985 to 1993)</b>

### Presentation Abstract:

#### Topic and/or Title:

#### Fertilization Opportunities and Challenges

- Research Results; what we know and don't know
- Key Issues for Fertilization Planning
- Opportunities for Manual Treatments
- Opportunities for Cw on non-SCHIRP sites
- Fertilization and Carbon Sequestration; is there a business case?
- Recommendations



## Presenter Biography and Abstract

### Biography:

<b>Name:</b>	<u>Brian D'Anjou</u>
<b>Affiliation:</b>	Ministry of Forest, Coast Forest Region - Nanaimo
<b>Position:</b>	Research Silviculturist
<b>Responsibilities:</b>	Research
<b>Academic training:</b>	BSF, UBC (1979)
<b>Previous employment:</b>	Joined the Research Section in the Vancouver Forest Region of the B.C. Ministry of Forests in 1979 and began conducting independent and co-operative reforestation research, shifting to vegetation management research in the mid to late 1980's. In the 1990's collaborated in Silviculture Systems Research in Boston Bar, Roberts Creek (Sunshine Coast), Queen Charlotte Islands and west coast of Vancouver Island.

### Presentation Abstract:

**Topic and/or Title:** Enhancing Early Douglas-fir Seedling Growth on a Dry, Salal-dominated Site

Douglas-fir seedling growth response to disc trenching site preparation and fertilization at planting (FAP), applied separately and combined, was monitored on a site in the CWHxm. A control prescribed seedling planting only. A skidder pulled a TTS Disc trencher. FAP prescribed one Gromax teabag (21-6-2, 1.9 g N) placed in the planting hole. Biosolids were broadcast applied operationally in year 7, growth of seedlings receiving biosolid was compared to earlier treatments.

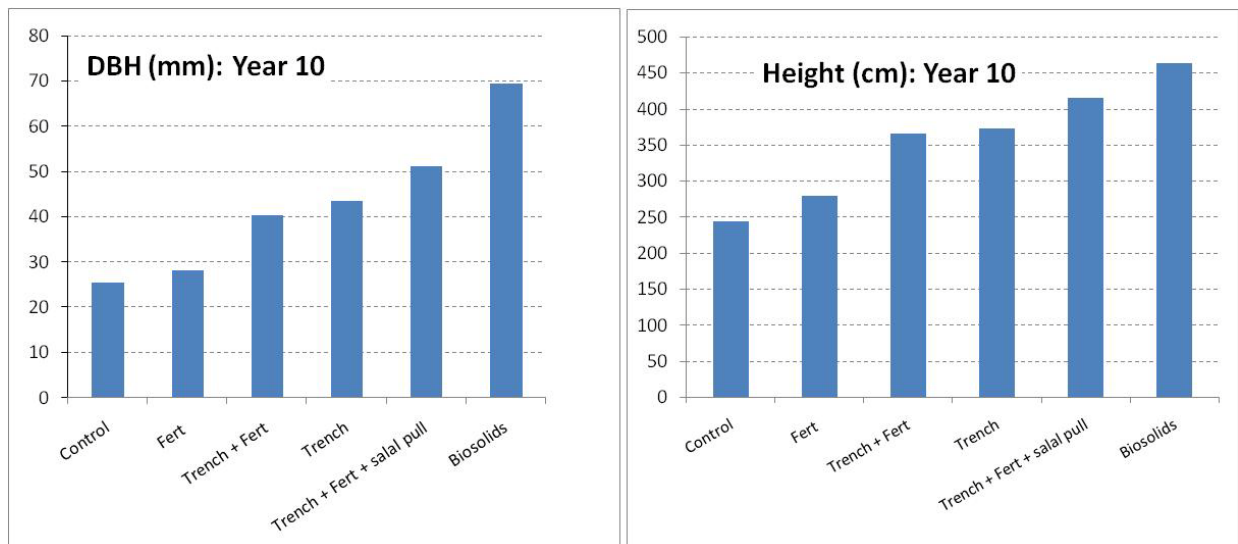
- 1st year seedling survival lagged in the FAP treatment (77%); mortality was attributed to premature nutrient release. Survival in other treatment (between 95 and 100%) changed little during the measurement period (up year 12); fertilized seedlings in trenches (Trench +FAP) did not show negative effect of fertilizer.
- The FAP treatment provided a single year of growth benefit. Subsequent growth paralleled the control seedlings.
- Height and stem calliper growth was initially highest in the Trench+FAP treatment (reaching free-growing height two years sooner than control) but stem calliper growth in the trenched-only treatment increased and is now similar to the combined Trench+FAP treatment. 5th year foliar N and K were below adequate levels in all treatments.
- Biosolid application (700-800 kg N / ha) enhanced both height and stem caliper growth over the earlier treatments. By year 12 stem height in biosolid treatment averaged 650 cm, more than twice the height of control seedlings (312cm). Site index estimates (Douglas-fir meters @50 yr) based on 12<sup>th</sup> measurements include: Control: 21.8 m , Trench+FAP: 22.8 m and biosolid: 31.4 m. Results suggest a type 2 growth response where the benefits of treatment are sustained and differences between treatments are increasing.

## Enhancing Early Douglas-fir Seedling Growth on Dry, Salal-dominated Sites

On drier and nutrient poor sites, salal typically has little effect on Douglas-fir survival but may reduce growth, a result of competition for moisture and/or nutrients. Site preparation aimed at reducing salal abundance and fertilization at planting have potential to improve Douglas-fir short and long-term growth rates. Malaspina College (Paul Lucas and David Smith) and MoF researchers collaborated to establish a demonstration block in the CWHxm (very dry maritime), site series 03 (FdHw – Salal) to quantify Douglas-fir seedling development following disc trenching (Trench) and fertilization at planting (FAP) applied separately and combined. A fourth treatment prescribed repeated manual pulling all salal around the seedling after the Trench + FAP to document Douglas-fir growth with a minimum of salal influence. A planting only treatment, the fifth treatment in the original design acted as the Control. A John Deere 748E skidder pulling a TTS Disc trencher to create trenches while FAP prescribed one Gromax teabag (Gromax Starter Paks: Forestry Dry Site with polymer gel 21-6-2 supplying 1.9 g N) placed in the planting hole.

First year seedling survival was lowest in the FAP treatment (77%) with mortality attributed to premature release of nutrients, burning seedling roots. First-year survival in other treatment ranged between 95 and 100%; fertilized seedlings in trenches (Trench +FAP) did not demonstrate negative effects of the fertilizer. By year 7, ranking of treatments by from highest to lowest stem calliper and total height were identical: 1) Trench + FAP + repeated salal pulling, 2) Trench + FAP, 3) Trench, 4) FAP and 5) Control. Biosolids applied operationally in year 7 surrounding the trial increased both height and stem calliper growth over the Trench+ FAP + repeated salal pulling. Initial review of 12<sup>th</sup> year height and stem calliper growth trends suggest the most successful treatments demonstrate a type 2 growth response where the benefits of treatment are sustained and differences between treatments are increasing. Enhanced Douglas-fir growth may hasten crown closure and the shading out of remaining salal.

Figure 1. Tenth-year average dbh (mm) and total stem height (cm); treatments ranked by increasing dbh and height.







## **Presenter Biography and Abstract**

### **Biography:**

<b>Name:</b>	<b><u>Shirley Mah</u></b>
<b>Affiliation:</b>	MFR Research Branch
<b>Position:</b>	A/Team leader Ecology program and Interpretations Ecologist
<b>Responsibilities:</b>	BEC/Ecology unit, research and development of ecologically-based management interpretations; current areas include climate-based tree species selection, ecosystem-site productivity relationships, and ethno-ecology
<b>Academic training:</b>	BSF, M.Sc.
<b>Previous employment:</b>	Has worked for the Forest Service for over 17 years, involved with ecological classification and interpretations research, FREP, First Nations and TSR

### **Presentation Abstract:**

<b>Topic and/or Title:</b>
“Update on SIBEC research to improve site index estimates”.
<ul style="list-style-type: none"><li>• Overview of the SIBEC project (EP1215)</li><li>• Methodology for first and second generation SIBEC site index estimates</li><li>• Use of SIBEC estimates, examples of application – strategic and operational</li><li>• Where to find info on SIBEC and the latest set of estimates: <a href="http://www.for.gov.bc.ca/hre/sibec">www.for.gov.bc.ca/hre/sibec</a></li></ul>



## **Presenter Biography and Abstract**

### **Biography:**

<b>Name:</b>	<b><u>John N. King</u></b>
<b>Affiliation:</b>	BC Forest Service, Research Branch
<b>Position:</b>	Research Scientist / Tree Breeder
<b>Responsibilities:</b>	Research into Genetic Resistance for Sitka spruce against tip weevil and white pine against blister rust
<b>Academic training:</b>	PhD
<b>Previous employment:</b>	Over 30 years in the field of tree breeding and forest genetics research

### **Presentation Abstract: (Please limit your abstract to this box size)**

#### **Topic and/or Title: Resistant White Pine / Sitka Spruce: Results, Where We Are and Missing Opportunities.**

Over 30 years of Research in both these programs (by the BCFS Research Branch, CFS, Forest Industry and Universities): one with a serious insect pest and another with an imported pathogen produced some pleasing results. We have used natural resistance found in both these host species to aggressively pursue a program of selective breeding to restore these species. This has not at all eliminated pest and pathogen but we have learnt a lot about them and now can deliver seed that at a conservative estimate can reduce damage by one half. With knowledge of sites and suitability foresters can now safely plant both Sitka spruce and white pine with confidence. The bad news is that local foresters are still staying away from these species. This is not the case with U.S. foresters on both public and private land in Oregon and Washington. Why this is the case is open to speculation. But but it is a shame that we are not reaping the benefit ourselves of this important research and are missing valuable opportunities.





## **Presenter Biography and Abstract**

### **Biography:**

<b>Name:</b>	<b><u>Jennifer Burleigh, RPF, RPBio</u></b>
<b>Affiliation:</b>	BC Ministry of Forests and Range, Forest Practices Branch
<b>Position:</b>	Provincial Forest Entomologist
<b>Responsibilities:</b>	All things related to tree-impacting bugs
<b>Academic training:</b>	BSc, (Biology), Masters (Forest Entomology)
<b>Previous employment:</b>	Research Branch – MPB Research Coordinator Consulting companies throughout western Canada (SK, AB, BC)

### **Presentation Abstract:**

**Topic and/or Title:**

British Columbia's Gypsy Moth Eradication Program.



## **Presenter Biography and Abstract**

### **Biography:**

<b>Name:</b>	<b><u>Ed Korpela</u></b>
<b>Affiliation:</b>	Ministry of Forests & Range
<b>Position:</b>	Fire Management Specialist
<b>Responsibilities:</b>	Various aspects surrounding Fire management – planning, research, policy, etc for the Coast Forest Region
<b>Academic training:</b>	BSc Deg Humboldt State University – Forest Management and Range Management; MSc Deg Humboldt State University – Natural Resources; PhD Oregon State University – Rangeland Resources
<b>Previous employment:</b>	Bureau of Land Management in the US, Forestry Intensified Research Program at Oregon State University, Alberta Research Council as a Research Scientist and some Consulting before joining the Ministry of Forests and Range

### **Presentation Abstract:**

#### **Topic and/or Title: Silviculture and Wildfire - Making the Link**

**Linkages between silviculture and wildfire are based upon an understanding of the effect of stand structure upon wildfire behavior. This presentation provides a brief review of fire behavior and principles of forest fuel reduction linked with silviculture and subsequent impacts upon wildfire behavior. Related fire and silviculture concerns in the coast forest region environment are also addressed**



## **Presenter Biography and Abstract**

### **Biography:**

<b>Name:</b>	<b><u>Jeff Sandford</u></b>
<b>Affiliation:</b>	J.S. Sandford & Associates Ltd
<b>Position:</b>	Principle
<b>Responsibilities:</b>	Project Manager, Software Development, Research
<b>Academic training:</b>	College diploma in Arboriculture, continuing studies
<b>Previous employment:</b>	1987 – 2009 MacMillan Bloedel Limited – Land Use Planning Advisory Team (LUPAT), Weyerhaeuser, Cascadia Forest Products, Western Forest Products as researcher, technical coordinator, contract manager, and FIA Land Base Investment Program coordinator.

### **Presentation Abstract:**

#### **Topic and/or Title: Using Acoustic Velocity to Predict Hemlock Wood Quality**

**Two acoustic velocity (AV) devices are currently available to assist foresters and forest land managers in predicting characteristics of wood quality of standing trees and cut logs. One of these devices can be used to sample standing trees, the other can be used to sample cut logs. The latter can be built into mill processes and machinery to help sort and direct logs towards different mill processes and final products. The devices are relatively inexpensive and easy to use and provide information by using sound waves and resonance data. Predicting wood quality has the potential to increase the profit margin of raw logs and wood products.**

**Acoustic velocity data was collected from standing western hemlock trees at sites near Jordan River, Port Alberni, and Campbell River in the fall and winter of 2009/10. Additional information was recorded at each sample site including stand density, age, site index, height, BEC variant, slope, aspect, and elevation. It is hoped that this data will contribute towards a better understanding of the variability and range of acoustic velocity readings within western hemlock and how site factors effect differences in AV values.**





## **Presenter Biography and Abstract**

### **Biography:**

<b>Name:</b>	<b><u>Paul Liddy</u></b>
<b>Affiliation:</b>	Cedar Road LGF Inc
<b>Position:</b>	Managing Director
<b>Responsibilities:</b>	Strategic planning, administration, leadership
<b>Academic training:</b>	C.E.T,
<b>Previous employment:</b>	None, Started Suncurrent Group of Companies in 1981

### **Presentation Abstract:**

**Topic and/or Title:**

**Modeling Bioenergy for the Clean Power Sector > 10 MW**

**Present the key components and challenges to economic viability for small wood fiber producers. Outline the steps to apply and reach an energy purchase agreement with BC Hydro Standing Offer Program.**



## Participants

First Name	Last Name	Organization
Geoff	Annandale	
Kevin	Astridge	Ministry of Forests and Range - FPB
Bryce	Bancroft	Symmetree Consultants
Bill	Beese	Western Forest Products
Jerry	Benner	Benner Forestry Ltd.
Tom	Bown	Canadian Wood Fibre Centre
Russell	Brewer	B.C. Timber Sales
Jennifer	Burleigh	Ministry of Forests and Range - FPB
Trevor	Campbell	Student
Charlie	Cartwright	MFR - Research Branch
Ryan	Clark	Capacity Forest Management
Tim	Crowder	TimberWest
Marilyn	Curtis	PRT
Brian	Danjou	MFR
Louise	de Montigny	Research Branch
Bill	Dumont	Dumont and Associates Forestry Consultants
Heather	Dunn	MFR- South Island District
Iola	Elder	Sylvan Vale Nursery
Ron	Elder	Sylvan Vale Nursery
Claire	Errico	Student
Peter	Fielder	MFR
Bryan	Gander	Student - VIU, Forestry
Laura	Gilbert	Pro For Consulting Ltd
Lauchlan	Glen	B.C. Timber Sales – HQ, Nursery Services
Graeme	Goodmanson	Canadian Wood Fibre Centre
Lisa	Hayton	Ministry of Forests and Range
Don	Herriott	Capital Regional District - Watershed Protection
Rolf	Kellerhals	Discovery Forestry
John	King	BCFS, Research Branch
Dan	Kohlen	Student
Jodie	Krakowski	BC MFR research branch
Marty	Kranabetter	British Columbia Ministry of Forests and Range
Paul	Kutz	Western Forest Products

Megan	Laing	BCTS
Chris	Laing	Results Based Forest Management
Matthew	LeRoy	MFR-Victoria
Cameron	Linklater	Pro For Consulting Ltd.
Shirley	Mah	MoFR Research Branch
Jeff	McWilliams	B.A.Blackwell and Associates Ltd.
Lisa	Meyer	MOFR- TIB
Alan	Mitchell	CFS/CWFC
Eric	Phillips	FPIinnovations - Feric Div.
Loni	Pierce	Student - VIU, Forestry
Don	Pigott	YELLOW POINT PROPAGATION
Allan	Powelson	Ministry of Forests and Range - FPB
Paul	Rehler	Ministry of Forests & Range/FPB
Marie	Robertson	Capital Regional District
John	Russell	BC MFR research branch
Jeff	Sandford	J.S. Sandford and associates
Brian	Saunders	Island Timberlands
Beverley	Schulte	Island Pacific Research and Technical Services
Dean	Stewart	Ministry of Forests and Range
Nathanial	Stoffelsma	Arbutus Grove Nursery
Vladimir	Strimbu	fp innovations
Jack	Sweeten	MFR - Chilliwack Forest District
Michel	Vallee	Vancouver Island University
Rob	Van Buskirk	Student
Bodo	von Schilling	von Schilling Forest Management Ltd
George	von Westarp	Retired
Dave	Weaver	Ministry of Forests and Range - FPB
Craig	Wickland	Silviculture Forester - MFR, Coast Region
Marise	Wickman	Vancouver Island University
Bevin	Wigmore	TimberWest
Susan	Zedel	MFR-Victoria
Stefan	Zeglen	MFR-Coast Region