

FRBC – Slocan Mixedwood Ecology and Management Chair  
2010 – 2011 Annual Plan  
Presented March 25, 2010

## **1.0 Introduction**

This year's focus will be on writing with a minimal amount of field work. The Forest Science Program (FSP) is in hibernation, we are waiting to hear on a Forest Genetics Council (FGC) aspen genecology proposal and a NRAS (natural resource and applied science endowment) mixedwood proposal, and there is a very small carry forward (<\$5,000) from the 09-10 FRBC – Slocan budget. If we receive the FGC money there will be an intensive but brief spring field season. I present several different options for the research program in the coming year. This work plan outlines the activities for the Year 2010 – 11 for the Forest Renewal BC – Slocan Mixedwood Ecology and Management Program at UNBC.

The strategic plan approved by the PAG (program advisory group) in March 2010 defines the strategic issues and the expected strategic outcomes of those issues being addressed by the mixedwood program. The annual plan identifies the actions being taken over the coming year to ensure the expected strategic outcomes are realized.

## **2.0 Administration/Service**

The administrative and service responsibilities of the Chair have no budget costs and are anticipated to include the following:

- ◆ annual update of the strategic plan for the mixedwood program
- ◆ annual plan for the mixedwood program
- ◆ annual report for the mixedwood program
- ◆ UNBC annual report
- ◆ Forestry Curriculum Committee
- ◆ Chair Prince George Community Forest Advisory Group
- ◆ Chair IUFRO working party 1.05.08 (Temperate Forest Regeneration)
- ◆ Member School of Business Appointment Selection Committee

## **3.0 Education/Teaching**

### **3.1 Undergraduate**

- ◆ I will co-teach FSTY 408 (Policy and Practices) in the September 2010 term

### **3.2 Summer Students and Research Assistants**

The hiring of summer students is dependent on outside funding and could range from zero to one (see section 5, research). I will supervise any students as Nicole Balliet moved to the Dean of Graduate Studies' Office in February of 2010.

### **3.3 Graduate**

- ◆ I will teach NRES 732 (Forest Systems and Management) in the fall 2010 or winter 2011 term

Currently, I am supervising the following graduate students:

- ◆ J. Pousette Ongoing (M.Sc.) expected to graduate in summer term
- ◆ S. Haga Ongoing (M.Sc.) expected to graduate in fall term
- ◆ Min Jun Lee Ongoing (Ph.D.), co supervise with Dr. Garcia
- ◆ E. Bittencourt Ongoing (Ph.D.)

Also on the committee of

- ◆ C. Johnson Ongoing (M.Sc.). supervisor Dr. S. Green
- ◆ B. Woodward Ongoing (M.Sc.), supervisor Dr. I Hartley
- ◆ M. Schulz Ongoing (MBA), supervisor Dr. H. Donker
- ◆ E Matsuka Ongoing (M.Sc.), supervisors Drs. Fredeen and Sanborn

The ongoing students have completed their field work so there is little need for funds to support their program.

### **3.4 External Commitments**

- ◆ None

### **3.5 Research Associates**

There will be a Post Doctoral Fellow from January to March, 2010 – longer if additional funds can be obtained. He is working on the outcomes from the FSP sponsored growth and yield workshop project.

### **3.6 Forestry Extension**

- ◆ With the departure of N. Balliet, extension activities will be carried out by the Chair.

### **4.0 Outreach/Extension**

The Chair will continue to meet with industry, government, and academic practitioners to enhance the exposure of the program and to keep up on mixedwood management issues.

### **5.0 Research**

Strategic issues and outcomes defined in the mixedwood program's strategic plan were used to provide the framework for this annual plan. As indicated above there is uncertainty with funding, as a result, several budget options will be presented:

1. no projects are funded,
2. FGC proposal funded,
3. NRAS proposal funded, and
4. both submitted proposals are funded.

If option 4 is funded, the dollar breakout among thematic areas is: 1) aspen genecology \$34,100, 2) mixedwood management \$98,000. If no projects are funded, the carry forward dollars will be used to measure an aspen trial near Manning, AB and do some crucial TSP and PSP measurements. All work is directly related to the mandate of the Chair.

### **5.1 No project funding**

A considerable volume of data has been archived over the past several years for Northern Stands and Sub Boreal mixedwood projects. If no funding is received, the focus in the coming year will be to analyze and report (submit to peer reviewed journals) on these findings. A small amount of money remains from other projects that can be used to defray costs associated with this plan.

## **5.2 New projects funded**

We have two proposals under review: aspen genecology in northern British Columbia proposal was submitted to the Forest Genetics Council; and NRAS mixedwood management in the SBS. Potential funding for this option is \$132,100 in the fiscal year.

- ◆ Forest Innovation Account - FGC Genecology of Aspen in Northern British Columbia (\$34,100) Year 1 of 4 (total \$139,000)
  - ◆ Address strategic themes of Growth and Yield, Inventory, Education, and Outreach
- ◆ NRAS Sustainable mixedwood management in the sub Boreal spruce zone of British Columbia (\$98,000) Year 1 of 3 (total \$266,000)
  - ◆ Address strategic themes of Growth and Yield, Inventory, Markets, Education, and Outreach

## **5.3 Collaborative work**

I will complete my collaborative work with the US Forest Service in MN. Funding for this travel will come from my professional development funds.

- ◆ Collaborate with Drs. Brian Palik and John Zasada of the US Forest Service, Grand Rapids Minnesota on reporting of three mixedwood trials in the northern hardwood and boreal forests of Minnesota that were established in 1960, 1970, and 1980 and re-measured after the 2005 growing season. We plan to do 5 year measurements in the fall of 2010. One manuscript is nearing completion and almost ready for submission (effect of silviculture treatments (fire) on herb and shrub dynamics) while another is in early draft (effect of silviculture treatments on growth and yield).

Collaborate with Craig DeLong and others on a two year, \$200,000 FFESC project – Climate risk assessment tool.

- ◆ I will develop the economic matrix for the risk assessment tool. Time contribution is about one – two weeks in each year.

## **5.4 Proposed articles for journal submission**

Dhar, A. and Hawkins, CDB. Regeneration and growth following mountain pine beetle attack: A synthesis of knowledge. Submit to BC Journal of Ecosystem Management.

Rogers, BJ and Hawkins, CBD. Variable mortality and acclimation of mature interior Douglas-fir residual trees in relation to post harvest changes in microenvironment in central British Columbia. Submit to CJFR.

Baker, CD, Massicotte, H, Palik, B and Hawkins, CDB. Response of understory vegetation to fire site preparation in aspen stands in north – central Minnesota. Submit to Forest Ecology and Management.

Hawkins, CDB and Bittencourt, E. Potential pine and spruce plantation site index enhancements for the Sub boreal Spruce Biogeoclimatic Zone in the central BC interior. Submit to BC Journal of Ecosystem Management.

Hawkins, CDB. Birch (*Betula papyrifera*) spruce (*Picea glauca*) interactions in complex stands near Fort Nelson, British Columbia. Submit to Forest Ecology and Management.

Hawkins, CBD and Carlson, MR. Dormancy release in 18 populations of paper birch growing in common gardens. Submit to Botany.

Hawkins, CDB, Palik, B and Baker, CD. Aspen growth after different fire origin disturbance events in north – central Minnesota: 45 years post treatment. Submit to CJFR.

## 6.0 Meetings

It is anticipated that the Mixedwood Chair and some graduate students will attend the following major research meetings:

- ◆ IUFRO Mixed forest conference, Vila Real, Portugal
  - ◆ Hawkins, ‘Development of complex forests after mountain pine beetle attack in the central BC interior’
    - ◆ Registration and travel paid by PD Fund
- ◆ IUFRO Douglas fir workshop, Freiberg, Germany
  - ◆ Rogers and Hawkins, ‘Factors influencing Douglas-fir mortality in leave tree silviculture systems in central British Columbia’
    - ◆ Registration already paid by residual funds, travel paid by Portugal conference (PD Fund)
- ◆ Northern Silviculture Committee (Vanderhoof, BC)
  - ◆ Invited presentation: “Life after pine, management and utilization of broadleaf species”
    - ◆ Registration paid by organizers, and mileage paid by Professional Development Fund

Other research meetings, as they are relevant to the mixedwood program, may be attended by the Chair and/or graduate students if funds are available.

## 7.0 Budget