



## AGENDA: Extension TAC Meeting

Date: Tuesday, November 9, 2004

Location: RSI, Board Room Kamloops

Tuesday, November 9, 2004

Time	Topic	Speaker
1000	<b>Welcome</b>	Chris Hawkins
	<b>Approve agenda. Approve minutes for 2003/4</b> Appendix 1	Chris Hawkins
1010	<b>Membership</b> - update membership list Appendix 2	Chris Hawkins
	<b>Budget Update</b> – Appendix 3	Diane Douglas
1020	Current years projects – status and discussion	Diane Douglas
	<b>Northwest Forest Genetics Tour – Oct 6</b>	
	<b>Extension Notes – April 4, 2004</b> Appendix 4 <a href="http://www.fgcouncil.bc.ca/framdocs.htm">http://www.fgcouncil.bc.ca/framdocs.htm</a>	
	#4 The Reproductive Biology of Western White Pine	
	#5 Environmental Effects of Yellow-cedar Pollen Quality	
	#6 Applications of DNA Markers in BC Tree Improvement Programs	
	<b>Extension Notes</b> – status	
	#3 Benefits of Using Improved Reforestation Materials – final editing	
	#4 – printing estimate	
	The Reproductive Biology of Lodgepole Pine	
	Edit and remove Seed Orchard and Seed Set Issues	
	<b>Extension Notes</b> – new proposals that will be coming	
	The Seed Orchard Study (editing former proposal) – Don Summers	
	Red Cedar Pollen – Oldrich Hak	
	Somatic Embryogenesis summary – Don Summers	
	DNA markers – Craig Newton	
	<b>Tictalk</b> Appendix 4	
	Editorial Committee – John Russell/Chris Walsh/Andreas Hamann/Peter Forsythe	
	Conference call June 2004 One issue this fiscal	
	<b>Tree Improvement in BC</b> brochure – Appendix 5	
	<b>Tree Improvement Client Survey</b>	Kathie Swift
	Edits	
	<b>Client Contact List</b>	All
	<b>Extension Planning Workshops</b>	Kathie Swift
	Other business	All
1200	Lunch break	
1300	<b>Extension Planning Workshop</b>	Kathie Swift
1600	Adjourn	



**Extension TAC annual meeting minutes Nov 8, 2004**

**RSI, Kamloops**

**Attending in person:**

Chris Hawkins	Keith Cox	Tim Lee	Tia Heeley
Kathie Swift	Diane Douglas	Peter Forsythe	Hilary Graham
Don Summers	Tim Crowder		

**Attending by phone:**

Dave Trotter	Jack Woods	Roger Painter	Doug Stables
Jill Peterson			

Action Items arising from the meeting

Assigned to	Action	Action	Resolution and Date
(1) Douglas	e-mail distribution of May 21, 2004 ETAC conference call minutes	e-mail	Appendix 3 November 10, 2004
(2) Woods	Contact Canadian Forest Services regarding ETAC membership	Contact Canadian Forest Service about membership on ETAC	e-mail sent to Gary Hogan, PFC November 12, 2004 requesting participation
(3) Douglas	Develop a list of proposals/projects for ETAC and distribute to ETAC for prioritization	e-mail	Appendix 4

Chris Hawkins, chair of ETAC welcomed members attending the meeting in person or by phone and called the meeting to order at 10:00 am.

**Agenda**

Chris Hawkins asked for approval of the agenda. Jack Woods and Tim Lee requested the addition of the following agenda items:

- Lilloet Advisory group
- Chief Forester’s Standards for Seed Use
- Tim Lee - summary of meeting at VSOC September 16, 2004 with industry and government.

Don Summers moved the acceptance of the amended minutes; seconded by Tim Lee. Motion carried.

**Minutes**

Tim Lee moved, seconded by Peter Forsythe that the 2003 ETAC annual meeting minutes be accepted. Motion carried.



The minutes from the ETAC conference call on May 21, 2004 had not been circulated and approved. Diane Douglas will circulate these minutes and request an e-mail motion for adoption, seconding and approval. **(Action Item 1 see Appendix 3)**

### **Membership**

Resignations have been received from Joe Webber and Tim Lee. Steve Jenvey from Canfor is no longer available as a member of ETAC. Mike Carlson moved, seconded by Hilary Graham that Tia Heeley replace Tim Lee as an ETAC member. Motion carried.

General consensus was that membership on ETAC from the Canadian Forest Services would be beneficial. Jack Woods will approach CFS with this request. **(Action Item 2)**

Membership list 2004/5 (see Appendix 1)

### **Budget**

(see Appendix 2)

Budget allocation for ETAC for 2004/5 is \$40000

Roger Painter strongly suggested that ETAC come in on budget as there will be no contingencies this year. With the commitments to the Client Survey, Northwest Forest Genetics tour, TICtalk and desk top publishing taken into account, there is still additional funding to be allocated.

There was considerable discussion about potential proposals and methods of handling new proposals.

Tim Crowder moved, seconded by Peter Forsythe that Diane Douglas develop a list of proposals to distribute to ETAC for funding prioritization. **(Action item 3 see Appendix 4)** Motion carried.

Budget for 2005/6 was discussed briefly and the group felt that consideration should be given for a budget of \$45,000 to \$50,000 so that projects could be completed and flow into next year as necessary.

### **ETAC Projects 2004/5**

#### **Client Survey**

FORREX has developed the Client Survey with considerable input from the Client Survey ETAC committee of Diane Douglas, Peter Forsythe, Lauchlan Glen, Hilary Graham, Steve Jenvey, Shwan Morford, Don Summers, Kathie Swift, and Jack Woods.

There was concern expressed over including the audience profiling segment in the Survey. Diane Douglas moved, seconded by Mike Carlson that the audience profiling/ demographics section be retained. There was considerable discussion about this motion. The general consensus was that this was key to define the population that will be surveyed. Motion carried.

Contact List - Diane Douglas will work with FORREX in developing a list. SPAR list will provide the basis of this list

#### **Extension Notes**

Desk top publishing of The Reproductive Biology of Lodgepole Pine and the Benefits of Using Selected Reforestation Material are being carried out.

The extension notes are available at: <http://www.fgcouncil.bc.ca/doc-extn.html>

#### **TICtalk newsletter**

Articles and editorial committee are in place to produce 1 newsletter this year.

#### **New proposals**

See Appendix 3



## **New Business**

### **Lilloet CSA Timber Supply Area. Jack Woods**

Jack informed ETAC that he spoke to the Lilloet TSA Public Advisory Group for CSA certification. The talk overviewed gene resource management in BC in general, with specific reference to work in the Lilloet TSA. Jack has the presentation which he will forward to Mike Carlson, Chris Hawkins & Tim Lee.

### **VSOC –Tim Lee**

Industry and Government meeting September 16, 2004 to address the disconnect that has developed relating to improved seed and TSAs. Discussion Paper will be released. Tim Lee can provide more details.

### **Extension Planning Workshop**

There was discussion about the timing and attendance at the future workshop. There was concern that key people attend and can contribute. 15 people is ideal for a workshop of this nature.

### **Future Field Tours**

Northern workshop discussed perhaps north of Prince George in conjunction with the northern species committee meeting. Consideration for a field tour in Prince George and Mackenzie.

### **Chief Forester's Standards for Seed Use**

Will come into effect April 1, 2005 and training will commence thereafter.

Motion to adjourn – Don Summers, second by Keith Cox.

Extension Planning Presentation.

Kathie Swift

Please see Appendix



## Appendix 1

### Extension Technical Advisory Committee 2004/5

1. Chris Hawkins (Chair)	UNBC
2. Mike Carlson	MoF
3. Charlie Cartwright	MoF
4. Keith Cox	MoF
5. Tim Crowder	TimberWest
6. Diane Douglas	MoF
7. Peter Forsythe	Winton Global
8. Lauchlan Glen	Glenviron Consulting
9. Hilary Graham	PRT
10. Tia Heeley	VSOC
11. Jill Peterson	MoF
12. Don Pigott	Yellow Point Propagation
13. Doug Stables	WFP
14. Don Summers	DWS&Co
15. Kathie Swift	FORREX
16. Dave Trotter	BCMAFF
17. Jack Woods	FGC



## Appendix 2

### Budget Update 2004/5

Projects	Budget	Expended	Remaining
Tictalk	\$5000		\$5000
Workshops	\$5000	\$1000	\$4000
Client Survey and Extension Planning Workshop	\$10000	\$10000 contract	
Extension notes - desk top publishing	\$5000	\$5000 contract	
ETAC meeting	\$500	\$400 will be cost	\$100
Admin & opportunities	\$14500		\$14500
Totals	\$40000	\$16400	\$23600



## Appendix 3

### ETAC Conference Call

Friday, May 21, 2004

#### Attending:

Mike Carlson	Kathie Swift	Doug Stables	Chris Hawkins
Jill Peterson	Roger Painter	Diane Douglas	Don Summers
Lauchlan Glen	Keith Cox	Jack Woods	

#### Review of 04-05 program, budget proposal and status of projects

Please see **ETAC Project Proposals and Status** in Appendix 1

Chris Hawkins chaired the meeting and thanks to everyone who participated in the conference call. The ETAC 2004 -05 budget was presented and discussed.

#### Comments on the proposals:

##### Workshops

Nass/Skeena transition forest genetics workshop in early September. There was a positive response to this proposal. There may be a possibility of a tree improvement workshop as well.

##### Extension Note

The Reproductive Biology of Lodgepole Pine

There was acceptance of the continuation of this project. This extension note is currently under review with Mike Carlson and Joe Webber.

##### ETAC Client Survey

A survey design is in draft form as a document, a pdf and Zoomerang. The development committee are Kathie Swift, Hilary Graham, Lauchlan Glen, Steve Jenvey, Peter Forsythe, Don Summers and Shawn Morford. Jodie Krakowski developed the survey with FORREX and the committee..

The plan is to have a few people view the survey now. Kathie suggested that the drafts could be forwarded to ETAC only, for this review. Kathie also recommended an official launch date to ensure data integrity in the actual client survey. This survey is a prototype and is composed of scientifically valid questions that have been blended for the target audience.

##### Key Issues:

##### Goals and Clients

- The project list includes a client survey to identify whether clients are able to find the tree improvement and forest genetics information they need to do their jobs
- Clarify audience(s) and develop client lists

##### Tictalk

Diane Douglas will co-ordinate this publication and the new editorial committee is:

John Russell - CTAC  
Peter Forsythe - ETAC  
Chris Walsh - ITAC



Andreas Hamman – GCTAC  
 Jack Woods and Roger Painter

This committee will discuss future format, content and publication details of this publication. Options are electronic and paper copy similar to LINK from FORREX. Please forward any comments or suggestions to Tictalk committee members.

**Miscellaneous Projects**

(funding amounts are for discussion purposes only since actual estimates have not been received)

- There were no objections to items 1, 2 and 4. Proposals may be forwarded by various proponents for development of Extension notes that will then be approved by ETAC.
- SE summary -to build a template for 1-2 sites. They were established as demonstration sites and it would be difficult to do any real analysis. There is considerable interest in having this extension note developed.
- New proposals – redo “Tree Improvement in British Columbia” handout as it is used extensively. Suggestion was that Roger & Diane try to locate the original documents and investigate updating.

*Motion*

Item 3 Production of brochures, signage and installation for SPU 0403 “Ten Year Field Performance of six Spruce Seed Orchard & wild seedlots Grown at Seven Nurseries” was passed forward from OTIP Interior Technical Advisory Program

It was moved by Mike Carlson, seconded by Kathie Swift that this proposal be sent back to ITAC to risk manage. The process for proposals coming to ETAC has been initiation of unique products and the OTIP proposals contain their own extension proponent. Acceptance of this proposal forwarded from ITAC would be precedent setting.

**ETAC Meeting**

**Late October, early November in Kamloops**

Agenda items:

Proposal updates

Extension planning for ETAC (Kathie Swift) – prioritize extension needs arising from client identification, and client survey results

Action Items arising from the meeting

<b>Assigned to</b>	<b>Action</b>
Diane Douglas	Forward motion to Mike Carlson, ITAC chair
Carlson, Webber	Review of The Reproductive Biology of Lodgepole Pine
Diane Douglas	Client survey – pdf and zoomerang sent to ETAC members for familiarity and feedback
Diane Douglas	Initiate projects supported through the conference call
Diane Douglas & Roger Painter	Tree Improvement in British Columbia – investigate updating this publication
Diane Douglas	ETAC meeting particulars developed

## Appendix 1 (May 21, 2004 conference call minutes)

2004-05 ETAC Project Proposals and Status	Budget
<p>Two Workshops Nass/Skeena transition – initial proposal - look at seed transfer installations as well as some blocks with past transfer violations. Other topics would be weevil resistant spruce in transition &amp; browse resistance in red cedar. (John King et al) Diversity/conservation topics Early September – indoor session and field tours Tree Improvement Workshops on seed production and use Cost of workshops</p>	<p>\$5000</p>
<p><b>Extension Note</b> The Reproductive Biology of Lodgepole Pine A draft is being reviewed, changes will need to be incorporated by the author and the extension note published. <b>Currently under review with Mike Carlson and Joe Webber.</b> Cost of production and publication</p>	<p>\$5000</p>
<p><b>ETAC Client Survey</b> Final draft (Zoomerang and pdf) to go to sub-committee for review: (Douglas/Forsythe/Glen/Graham/Jenvey/Krakowski/Morford/Swift/Woods) Select format for continuance Test Distribution ( known numbers) i.e. conduct survey Data analysis and reporting Total costs</p>	<p>\$10000</p>
<p><b>TicTalk</b> High priority – develop editorial committee and strategy  <b>Editorial committee</b> <b>Diane Douglas/Jack Woods/Chris Walsh/John Russell/Andreas Hamann/Peter Forsythe Add Roger Painter</b> Production of future issues</p>	<p>\$5000</p>
<p><b>Miscellaneous Funds</b></p> <ol style="list-style-type: none"> <li>1. Completion of Extension note by Chris Hawkins (final review incorporate and desktop publish) (\$400.00)</li> <li>2. Completion of Extension Note #3 Timber Supply (graphics and table) (\$400.00)</li> <li>3. SPU 0403 “Ten Year Field Performance of six Spruce Seed Orchard &amp; wild seedlots Grown at Seven Nurseries” passed forward from OTIP Interior program <ul style="list-style-type: none"> <li>• Production of brochures (\$1300.00) &amp;</li> <li>• Signage and installation (\$1800.00)</li> </ul> </li> <li>4. Extension note proposals which may be forthcoming:</li> </ol>	



<ul style="list-style-type: none"><li>• Redcedar Pollen Management (\$1500.00)</li><li>• DNA markers (\$1500.00)</li><li>• Seed Orchard – take previous information collected and put into a briefer/succinct format (\$2500.00)</li><li>• SE report summary (\$2500.00)</li><li>• Other extension note possibilities &amp; other opportunities (\$1100.00)</li></ul> Total miscellaneous	\$13000
<b>Meeting of ETAC</b>	
October in Kamloops	\$500
Administration	\$1500
ETAC funding 2004/5	<b>\$40000</b>

## TRACKING

e-mail distribution of May 21, 2004 conference call minutes – November 10, 2004

- Minutes approved by Dave Trotter, November 10, 2004
- Minutes seconded by Don Summers, November 10, 2004
- Minutes accepted by e-mail: Lauchlan Glen, Kathie Swift, Hilary Graham, Chris Hawkins, Mike Carlson.

## Appendix 4

### ETAC Operations Backgrounder

ETAC operates on a proposal system for projects, but does not have a spring Call for Proposals. Formal or informal project proposals are submitted during the year through the co-ordinator or a committee member.

Formal proposals are:

- Vetted for duplication, suitability and accuracy
- Circulated to an ETAC review committee for approval

Proponents are then advised to proceed or not, depending on the result of that review and the funding available.

Informal projects are:

- Clarified and developed further by the co-ordinator and other appropriate specialists
- Put through a review as above where cost is significant

When required, the co-ordinator then finds the resources needed to complete the project through various contracting options (RFP, ITQ, Direct Award).

#	Proposals 2004/05	Amount
1	<b>Desktop Publishing and updating Tree Improvement in BC brochure</b>	\$2400.00
2	<b>Printing Tree Improvement in BC brochure</b>	2000 - \$2632.00 + 368.48 = \$3000.48 plus any delivery charges
3	<b>Printing Extension Note – The Reproductive Biology of Western White Pine</b>  100 copies (average \$13.40 each)	\$1339.50
4	<b>Printing Extension Note – The Reproductive Biology of Western White Pine</b> 200 copies	\$2679.00
5	<b>Extension Note</b> <b>Pollen management and cone induction in western red-cedar seed orchards - Oldrich Hak</b>  The proposal is to write an extension note based on recent trials dealing with improving operational efficiency and genetic quality of seed production in seed orchards. The paper will also include a summary of previous work and additional observations in pollen management and cone induction in red-cedar. There is a need to concisely document the results and the techniques used in the trials and thus make them available to those working in the seed production and genetic improvement of western red-cedar. The topics covered will include: pollen collection and forcing; pollen viability testing; pollen storage; concentration, frequency of application, and timing of GA3 treatments; effectiveness of late summer cone induction treatments; female to male cone ratio; effects of treatment periods on cone and seed quality; seed production implications. Revisions and edits included in estimate.	\$2800.00

<p><b>6</b></p>	<p><b>Extension Note – Don Summers</b></p> <p><b>Project:</b>        Re-write/edit the existing ETAC article: One year in the life of a seed orchard.</p> <p><b>Background</b>        The initial article was written by M. Albricht under an ETAC project to provide an overview of seed orchard activities during the year. A shorter more succinct extension note was requested by reviewers</p> <p><b>Proposal</b>        To provide a substantive edit for organization, logic, repetition, style, and verbose explanations, and to provide additional material to illustrate content as required.</p> <p>Work to be done:</p> <ul style="list-style-type: none"> <li>• Develop an appropriate outline of material</li> <li>• Move/organize information to improve logic and flow</li> <li>• Edit/re-write to reduce verbose explanations and passive construction</li> <li>• Re-work introduction and body to clarify article's purpose</li> <li>• Proofread and edit</li> <li>• Locate and incorporate some illustrations as appropriate (MOF to supply)</li> <li>• Provide a brief list of resources and references as appropriate</li> <li>• Provide one revision after review</li> <li>• Project editorial meeting(s) and correspondence</li> </ul>	<p>\$1850.00</p>
<p><b>7</b></p>	<p><b>Extension Note – Don Summers</b></p> <p><b>Project:</b>        Extension materials for the Prince George SE Clonal Block project.</p> <p><b>Background</b>        The Ministry of Forests and UNBC established the Prince George Embling (SE) Clonal Block project between 1995 and 2002 to provide clear, visual, demonstration areas illustrating somatic seedling performance in pure blocks. These plantings were made to complement the more rigorous testing provided by SE candidacy tests done by Chris Hawkins (UNBC).</p> <p>There were 33 sites in total and each site included individual plots of somatic seedlings, cuttings, seed orchard seed, or wild stand seed. Growth measurements are complete for years 1, 3, and 5 for all plantings, and records are available for access, site layout, and growth data.</p> <p>The demonstration sites are now in the hands of local field foresters and will be managed according to normal operational protocols. As time goes on, some foresters will want to view the sites as part of an assessment of SE growth performance, or when conducting silvicultural tours. While they have access to the individual project files and data, it would be useful for them to have a summary document to refer to that outlines the project as a whole, and provides a status report or 'snapshot' of their sites when the project ended in 2002.</p> <p><b>Proposal</b>        To develop a template for written, summary extension materials about each site and complete one or two examples for review by local foresters.</p> <p>Work to be done</p> <ul style="list-style-type: none"> <li>• Gather existing information, reports, and data</li> <li>• Conduct an audience analysis to determine preferred format and content</li> <li>• Design an example presentation template</li> <li>• Summarize data and information as required</li> </ul>	<p>\$3900.00</p>

	<ul style="list-style-type: none"> <li>• Complete the template for one or two sites as examples for review</li> <li>• Project meetings (1Victoria; 1 PG)</li> </ul> <p>If this project is successful, additional sites could be completed in a separate project next fiscal year.</p>	
8	<p>Extension Note – Craig Newton</p> <p>Use of DNA markers to evaluate SMP efficacy in Lodgepole pine.</p> <p>By Craig, Rita and Carole (initial paragraphs – will include figures, etc.)        Supplemental mass pollination (SMP) is a simple and effective method to enhance the genetic worth of seedlots. By collecting pollen from the male clones with the highest genetic gains and artificially fertilising receptive females the overall genetic worth of the seedlot can be raised and while at the same time reducing factors that detract from seedlot quality eg. pollen contamination, selfing and uneven parental contribution (apanmixis). This is especially valuable for young, high gain seed orchards that are located in the vicinity of abundant pollen sources of lower genetic gain, such as older orchards or wild stands, where pollen contamination could be significant.</p> <p>A difficulty in assessing the genetic impact of SMP has been the inability to distinguish seed fertilised by SMP applied pollen from seed fertilised by background or non SMP pollen. As a result the SMP contribution is operationally pegged at 20%, which is assumed to cover the range of possible outcomes based on pollen viability, pollen competition from natural sources, and variation in female clone receptivity. This relatively low efficacy limits the rationale for more widespread use of SMP as a tool to enhance seedling genetic worth.</p> <p>A recent study of SMP efficiency in a lodgepole pine (Pli) seed orchard using chloroplast (cp) DNA markers allows unambiguous determination of SMP efficacy.</p>	\$2400
	Total costs	\$19029.48

## TRACKING

- e-mail with above proposals send to ETAC November 24, 2004
- Evaluations carried out by Keith Cox, Hilary Graham, Jill Peterson, Charlie Cartwright, Tia Heeley, Chris Hawkins, Peter Forsythe and Dave Trotter for evaluating the proposals.
- e-mail with summary of evaluation for proposals sent to ETAC December 9, 2004
- Accepted proposals:
  - Extension notes: DNA Markers by Craig Newton; Pollen Management in Western Red Cedar by Oldrich Hak, SE project report by Don Summers
  - Print 100 copies of The Reproductive Biology of Western White Pine
  - Tree Improvement in BC brochure – commence revision and printing

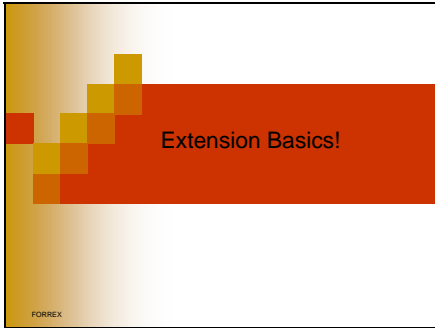
Amendment to Oldrich Hak extension note title to: “Cone induction in western red-cedar seed orchards”  
 December 9, 2004 Approval sought and received through e-mail.

Contracts were set for the various projects as directed by ETAC.



## Appendix 5

### Extension Planning Presentation – Kathie Swift



**FORREX- Forest Research  
Extension Partnership**

- Non-profit partnership
- 50+ member organizations
- 27 staff around province
- Members represent:

- Industry
- First Nations
- Federal and provincial government
- Learning and research institutions
- Environmental and community organizations
- Resource - dependent communities

**Extension Basics**

In this session:

- Extension Basics Introduction
- Identifying Trends
- Clients
- Capacity for Extension
- Dynamics of Change
- Introduction to Planning and Implementation

**Extension Basics Introduction**

- Definitions
- Characteristics of Extension
- Adult education principles
- A little history lesson

**Definitions – What’s the difference  
between.....**

- Extension
- Technology transfer
- Public relations
- Training
- Communications

**What is Extension?**

Two-way exchange:

It is not enough to have knowledge, one must also apply it.  
Johann Wolfgang von Goethe

**What is ‘Technology transfer?’**

One-way flow of information

- ❖ From keepers of knowledge to
- ❖ Users of knowledge

**What is ‘Public Relations?’**

One-or two way flow of information

- ❖ Between organization and
- ❖ Desired audience

The goal is to affect awareness and attitude ....  
About the organization and its work

	Goals
<b>Extension</b>	-Knowledge -Attitude -Skills -Aspirations -Behaviours
<b>Technology transfer</b>	-Knowledge -Attitude -Skills -Aspirations -Behaviours
<b>Public relations</b>	-Awareness -Attitude

	Where learning initiates
<b>Extension</b>	With user ("here is what I need to know to accomplish my goals")
<b>Technology Transfer</b>	With knowledge keeper ("we have good information that people need to know")
<b>Public relations</b>	With knowledge organization ("we do important things- support us")

	Other factors
<b>Extension</b>	Needs assessments are very important component-budget devoted to this ("listening to clients")
<b>Technology transfer</b>	Organization determines what is important to teach people
<b>Public relations</b>	Goal is to affect people’s attitude about the organization and its work

**Extension is .....**

“A non-formal education process – to help people develop new knowledge, skills, and attitudes to help them solve their problems and improve their lives .....

### Training is .....

“A formal educational process – to help people develop new knowledge, skills and attitudes in a specific subject area....”

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### Characteristics of Extension Professionals

- Most work for government or universities (B.C. is exception)
- In many developing countries, extension agents are also “regulators” – an acknowledged problem
- “Change agents” – risk takers
- Trained adult educators and technical fields
- Linkers/networkers/matchmakers

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### Where the word “Extension” comes from

- Term coined in US agriculture in early 1900s.
- “extension” of research-based information from research stations to farmers and back
- Each state established Land Grant colleges for teaching, research, and extension
- Now – agriculture, fisheries, forestry, home economics/family and nutrition, youth development, community development

FORREX

### Contrasting Extension and Training

	Content	Goals	Learner Motivation	Delivery Styles
<b>Extension</b>	Knowledge and attitude based	Awareness Understanding Voluntary adoption	More internal than external	Learner centred, wide range of methods
<b>Training</b>	Well defined skills, tools, procedures	Improved performance, compliance	More external than internal	Canned, long shelf life, courses step-by-step methods

FORREX

### Adult Education Principles

People retain:

- 10% if what they read
- 20% of what they hear
- 30% of what they see
- 50% of what they see and hear
- 70% of what they verbalize
- 90% of what they do (involvement)

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### Some Concepts...

Thomas Jefferson philosophy: Economic progress occurred through empowerment of individual farmers (agrarian economy).  
 Government’s role: was to provide information and get out of the way.

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### Characteristics of Extension

- Non-formal education in people’s own context
- Knowledge and skills to solve problems and accomplish their goals
- Timely, relevant, and deemed essential by users

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I hear: I forget  
 I see: I remember  
 I do: I understand

I eat: I quit bitching

(Chinese proverbs)

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### Differences: US and Canada - Extension

- U.S. – more individual land owners and families
- Canada – more public land. Focus is bridging research and management.
- Clientele is more resource management and decision makers

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**Formal Education**

- School
- Professional certification
- Instructor-centred

**Informal Education**

- Life skills - family/friends
- On the job learning
- Non-structured

**Non-formal Education**

- Scouts
- Extension
- Structured, but not formal

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### Understanding the adult learner

We connect with learning that is:

- Self-directed
- Problem-oriented
- Personally relevant
- Grounded in experience

Respect and anticipate a diversity of learning styles.

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### Extension Basics

- Extension Basics Introduction
- Identifying Trends
- Clients
- Capacity for Extension
- Dynamics of Change
- Introduction to Planning and Implementation

FORREX

### Why Extension in B.C.?

- Most researchers not typically paid to extend their research results
- Lack of communication between the world of research and practice. Culture gaps.
- Need for neutral, process-oriented body with expertise in adult education, facilitation, communications, and technical

FORREX

### Technology-enhanced learning environments

- Doing goes hand-in hand with learning; learn what they do.
- Look for opportunities for interaction, however too many can lead to confusion and disorientation.
- Cognitive engagement with the subject material is vital for learning
- Opportunities for reflection generally promote learning
- Informative feedback is a necessary part of meaningful cognitive engagement.

FORREX

### Identifying Trends

- Types of trends: social/economic and technical/scientific
- Scales of change: spatial and temporal
- Adaptive Management and extension

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### Examples of trends causing social/economic changes

- International trade (NAFTA, EU)
- Federal deficit and annual debt
- Changes to social programs
- Tourism as an economic driver
- Unemployment levels
- Jobs – quantity, quality, and types

FORREX

### Who is a Client

- Extension begins with people
- The term *client* defines a person or organization that purchases or uses the products, services, or information developed by another individual, team, or organization
- You must identify your client and the extension method best suited to meet their need!

FORREX

### Individual capacity

- Is it within your job description?
- What value do you place on solving problems that are not your own?
- Do you have special techniques that you have found successful?
- Do you even enjoy it- if not perhaps others can help?

FORREX

### Examples of trends causing scientific/technical change

- Technology at work and home
- Internet
- Certification of forest products and practices
- Forestry Regulations and planning processes
- Variable Retention

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### Characteristics of your Client

- All client groups are different
- Each will value and use information in different ways
- Each client group may have a variety of audiences (e.g., Forest Industry – strategic/policy, operations, field)
- Each audience will have their most effective method to receive and use information – one method does not work for everyone!

FORREX

### Organizational Capacity

- What is the responsibility of your organization for extension and to whom?
- Are there other agencies that can provide a complementary role?

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### Adaptive Management and Extension

Adaptive Management:

- Typically a six step process used to test various solutions to a problem.
- AM should incorporate extension – without it we omit the potential for other to learn from the experience and the information generated.

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### Information Needs of Clients

- Biggest challenges in extension is truly understanding what the client needs
- A needs assessment may be required determine client needs (a situational analysis may be necessary at a higher level)
- A needs assessment can be formal (survey) or informal (key informant interviews, focus groups)
- Beware – needs assessments don't guarantee the whole picture

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### Ethics and the communication of scientific information

Teamwork is a foundation for successful extension! However, conflict can sometime exist between clients and scientists over different expectations in the use of scientific information.

- It is important for scientists and technical specialists to determine their personal ethics in communicating scientific information to practitioners.

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### Extension Basics

- Extension Basics Introduction
- Identifying Trends
- Clients
- Capacity for Extension
- Dynamics of Change
- Introduction to Planning and Implementation

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### Clients

- Who is a client?
- Characteristics of your Clients
- Information needs of your Clients

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### Capacity for Extension

- Individual capacity
- Organizational capacity
- Ethics and the communication of scientific information

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### Dynamics of Change

- Driving forces in extension
- Restraining forces in extension
- Personal barriers in extension
- Organizational barriers in extension

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### Driving forces in extension

- To achieve change in management practices, your extension effort needs to address various forces that will help or hinder your achieving a particular objective.
- Driving forces increase the willingness of the client group to make the desired or necessary change.

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### Organizational barriers in extension

- Does the organization you work for have any barriers that limit innovation?
- Does the organization your clients work for have any barriers that limit innovation?
- What can be done to eliminate those barriers?

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### Examples of driving forces

- Dissatisfaction with status quo
- Market competition
- Edict from the organization
- Positive public relations
- Employer incentive program
- Encouragement from clients

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### Restraining forces in extension

- Restraining forces will reduce the willingness and create obstacles to successful change.
- For extension to succeed, these forces must be neutralized or managed.

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### Introduction to Extension Planning and Implementation

- Needs/Opportunities
- Niche Identification/Priorities
- Strategy
- Indicators
- The extension program
- Results

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### Examples of restraining forces

- Fear of failure
- Judgment that the change is undesirable or irrelevant
- Lack of perceived need to change
- Poor relationship with the client
- Lack of time/money resources
- Unclear organizational commitment
- Poor morale or attitude

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### Program Development Model



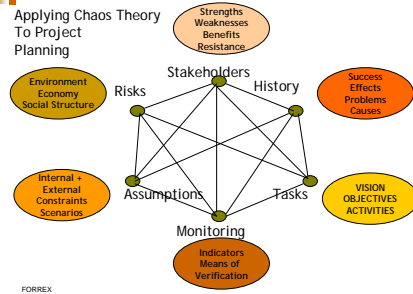
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### Personal barriers to extension

- Extension is all about creating change
- Do you have any personal barriers to change?
  - What can you do to eliminate those barriers?

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### Applying Chaos Theory To Project Planning



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