

**Forest Resource Improvement Association of Alberta
Forest Resource Improvement Program**

Foothills Growth and Yield Association

Annual Report

April 1, 2009 – March 31, 2010

Prepared by:

Robert W. Udell, R.P.F.
Operations Director

With

W.R. Dempster, R.P.F.
Research & Development Associate



P.O. Box 6330
Hinton, Alberta
T7V 1X6

Table of Contents

1. INTRODUCTION	3
2. DEVELOPMENT AND MANAGEMENT OF THE ASSOCIATION.....	3
2.1. INCOME AND EXPENDITURES	3
2.2. ACHIEVEMENTS AND SHORTFALLS	4
3. LODGEPOLE PINE REGENERATION	5
3.1. INCOME AND EXPENDITURES	5
3.2. ACHIEVEMENTS AND SHORTFALLS.....	5
4. POST-HARVEST STAND DEVELOPMENT	7
5. COOPERATIVE MANAGEMENT OF HISTORIC RESEARCH TRIALS	7
5.1. INCOME AND EXPENDITURES	7
5.2. ACHIEVEMENTS AND SHORTFALLS.....	7
6. REGIONAL YIELD ESTIMATORS.....	8
6.1. INCOME AND EXPENDITURES	8
6.2. ACHIEVEMENTS AND SHORTFALLS.....	8
7. ENHANCED MANAGEMENT OF LODGEPOLE PINE.....	9
7.1. INCOME AND EXPENDITURES	9
7.2. ACHIEVEMENTS AND SHORTFALLS.....	9
8. REGENERATION MANAGEMENT IN A MOUNTAIN PINE BEETLE ENVIRONMENT	10
9. EXTENSION AND COMMUNICATION	11
9.1.1. <i>Background</i>	18
9.1.2. <i>Priority 1. Checks, Corrections and Maintenance</i>	19
9.1.3. <i>Priority 2. Continued Measurements</i>	19
9.1.4. <i>Priority 3. Treatments</i>	20

List of Tables -

Table 1. Annual Income and Expenditures - Project 1	4
Table 2. Achievements and Shortfalls - Project 1	4
Table 3. Achievements and Shortfalls – Project 2 – Data Management, Analysis and Reporting ..	5
Table 4. Achievements and Shortfalls – Project 2 – Field Program.....	6
Table 5. Annual Income and Expenditures – Project 4.....	7
Table 6. Achievements and Deliverables Project 4. Historical Research Trials	8
Table 7. Annual Income and Expenditures – Project 6.....	9
Table 8. Achievements and Shortfalls - Project 6.....	9
Table 9. Achievements and Shortfalls – Project 7	10
Table 10. Achievements and Shortfalls – Communications and Extension.....	11

List of Appendices

Appendix 1. FGYA Steering Committee Minutes, March 20, 2009	12
Appendix 2: RLP Trial Renewal Proposal March 2009.....	18
Appendix 3: RLP Task Force Report July 10 2009	21
Appendix 4: 2009/10 Mid Year Progress Report December 2009	25
Appendix 5: Contribution Agreement – Historic Research Trials 2009.....	28
Appendix 7: Detailed Expenses 2009-10 for Project 1 – Management of the Association.....	46

1. Introduction

The Foothills Growth and Yield Association (FGYA) Business and 2009 Work Plan was finalized in April 2009 to incorporate 2008/09 actual results and directives from the Steering Committee meeting held March 20, 2009 (See Appendix 1, Steering Committee Minutes). It identifies 6 active projects and one project with no further action proposed (Project 5):

1. Development and management of the Association (FRIAA¹ Project *Foothills Growth and Yield Association – Second Five-Year Program* # FOOMOD-01-03);
2. Lodgepole pine regeneration (also FRIAA Project # FOOMOD-01-03);
3. Post-harvest stand development;
4. Cooperative management of historic research trials (FRIAA Project *Measurement and Maintenance of Historic Research Trials*, # FOOMOD-01-02);
5. Regional yield estimators;
6. Enhanced management of lodgepole pine (FRIAA Project # OF-02-16);
7. Monitoring and Decision Support for Forest Management in a Mountain Pine Beetle Environment (FRIAA Project # OF-07-PO19)

Income and expenditures (where applicable), achievements and shortfalls for each project are described below for the period from April 1, 2009 to March 31, 2010.

2. Development and Management of the Association

2.1. Income and Expenditures

Table 1 shows income and expenditures for Project 1 for the 2009/10 fiscal year. The budgeted amount is that shown in the Business and Work Plan for 2009. The actual amounts are those spent to March 31, 2010 (year end).

Note in Table 1 that the under-expenditure relative to budget results primarily from lower than anticipated costs for most budget items. As well, the transfer of funds from FRIAA was lower than forecast, this was an error in the 2009 plan which is now corrected. FRIP authorizations signed in 2009/10 (\$129,500) will be transferred in 2010 (116,550) and 2011 (12,950). Higher than budgeted costs were authorized for the R&D Associate due to higher than expected time demands related to the database, the RLP Task Force (linked to database challenges) as well as the mountain pine beetle project. Detailed expenditures for Project 1 are listed in Appendix 5.

Costs reported do not include the following in-kind contributions by members and collaborating agencies:

- Foothills Research Institute (FRI) GIS, administrative and financial services;
- Database storage by Sundre Forest Products
- Participation on technical, steering and project committees, meeting attendance;
- Participation on project teams, e.g. RLP Task Force 2009;
- Review of minutes, reports, proposals, experimental designs and scientific papers;
- Inspection and protection of experimental sites;
- Contracting and supervision of field crews measuring the Regenerated Lodgepole Pine project plots

¹ Forest Resource Improvement Association of Alberta

Table 1. Annual Income and Expenditures - Project 1

Income / Expenditure	2009-10 Forecast	2009-10 Actual²
Membership fee (per voting member)	18,500	18,500
Income		
Prior year balance forward	88,001	88,001
Membership fees - FRIP (FRIAA contract) – Current FOOMOD -01- 03	129,500	90,000
Membership fees - non-FRIP	37,000	37,000
Total income	254,501	215,001
Expenditures		
Director	40,000	25,462
Field Coordinator	30,000	24,075
Research and Development Associate	75,000	82,493
GIS, Database and misc. services	50,000	49,524
Office and field supplies	2,500	1,666
Meetings and tours	7,000	1,503
Contingency (5%)	9,300	400 ³
Total expenses	213,800	185,123
Ending Balance	40,701	29,878

2.2. Achievements and Shortfalls

Table 2 summarizes achievements and shortfalls in development and management of the Association relative to deliverables planned for the year.

Table 2. Achievements and Shortfalls - Project 1

Deliverable	Achievements / Shortfalls
<u>Meetings and tours</u> 1. Pre-season meeting of technical representatives 2. Steering Committee and Annual Meeting	- Technical committee and contractor meeting held June 25, 2009 in Hinton; - Technical Meeting Edmonton March 25, 2010 - FGYA Steering Committee Meeting Edmonton March 25, 2010 (See Appendix 1)
<u>Development and Management of Association</u> 1. Annual update of 5 year business plan, annual work plan 2. Project plans, designs, reports, publications 3. Maintain publicly accessible website 4. Mid-year and annual progress reports	- Complete - See summary by project number - ongoing under research institute website www.foothillsresearchinstitute.ca - Annual Report 2008-09 (FRIAA Project #FOOMOD-01-03, April 16, 2009 - Mid-year progress report December 2009 (Appendix 2) - Draft Annual Report 2009-10 FGYA (March 2010)

³\$400 from contingency funds transferred to cover 2008/09 shortfall in Project 7 – Enhanced Forest Management

3. Lodgepole Pine Regeneration

3.1. Income and Expenditures

Costs of treatments and field measurements were incurred directly by the member companies, and not reported to the FGYA Director. Inputs by the FGYA Director, Field Coordinator and Research and Development Associate are accounted for under Project 1 - *Development and Management of the Association* (see Table 1).

3.2. Achievements and Shortfalls

Table 3 summarizes achievements and shortfalls in fieldwork, data management, analysis and reporting for the Lodgepole Pine Regeneration Project. At year end 2008/09, the Research and Development Associate presented a proposal for a renewed five-year Regenerated Lodgepole Pine program (Appendix 2 – *Information Note: Regenerated Lodgepole Pine Trial – proposal and Priorities for Measurement and Treatment, March 2009*).

During a conference call of voting members in January 2010, the Research and Development Associate was also asked to bring forward a proposal to extend the work of the RLP program into a more comprehensive proposal to examine climate and pest impacts on regeneration, growth and yield.

In a major effort, the RLP Database was cleaned and stabilized through a contract with Timberline Natural Resource Group for the services of Carlos Pinillos. As recommended by the RLP Task Force and accepted by the FGYA Steering Committee, this contract was extended for the balance of 2009 for his services as Database Manager. See Appendix 3: RLP Task Force Report and Recommendations.

Table 3. Achievements and Shortfalls – Project 2 – Field Operations, Data Management, Analysis and Reporting

Deliverable	Progress	Reference
1. Fieldwork and Data Management		
Detailed fieldwork schedule and specifications	Updated Field Manual prepared Schedule Completed	- MeasurementSchedule2009.xls, June 26, 2009 - <i>Regenerated lodgepole pine trial – field manual for measurements and maintenance</i> , Version 3.0, July 2009
Data Cleaning and Management	Data has been cleaned up, errors resolved from previous years through external contract	Regenerated Lodgepole Pine RLP Data and Field Measures Task Force 2009 Report - July 10, 2009
Scheduled status checks (74 installations) and full measurements (28 installations)	Completed – data received November 2, 2009.	- FGYA_RLP_2009Nov01.mdb
Updated digital database December 31, 2009	Access database loaded and checked. Used for analyses. Not yet incorporated into master database?	- FGYA_RLP_2009Nov01.mdb (MS Access database) - 2008-2009 error report (C. Pinillos, November 18, 2009)
Audit and work verification reports	Completed and distributed by Director. Received December 2009.	Various

2. Technical Analysis and Reporting		
Crop performance report and Project (Phase 2) final report	Crop performance report completed.	- <i>Regenerated lodgepole pine trial – 2009 crop performance report</i> , March 1, 2010
Continue and expand analysis of the linkage of growth and mortality to climatic factors	RLP data re-analyzed to incorporate data enhancements and corrections made in 2008-2009; analysis extended to include data from Ives and Rentz study.	- Technical Note 2010-3 <i>Effects of Climate on Mortality of Immature Planted and Naturally Regenerated Lodgepole Pine</i> February 24, 2010 - Scientific paper in preparation
Regeneration model development	Models developed for planted and naturally regenerated lodgepole pine. Projected to performance survey age. Alpha versions completed but not yet distributed. Climate will be incorporated by June 2010 subject to satisfactory review of climate analysis. No progress on other species.	- Technical Note 2010-1 <i>RLPp: A Regeneration Model to Predict the Establishment and Performance of Planted Lodgepole Pine</i> - Technical Note 2010-2 <i>RLPn: A Model to Predict the Establishment and Performance of Natural Regeneration Following Harvest of Lodgepole Pine Stands</i>

Table 4 summarizes achievements and shortfalls in the field program of the Lodgepole Pine Regeneration Project relative to deliverables planned for the year.

Table 4. Achievements and Shortfalls – Project 2 – Field Program

1. Regenerated Lodgepole Pine Installations Measured and Audited						
FMA Code	Full Measure Scheduled	Full Measure Done	Status Check Scheduled	Status Check Done	Total Done	Formal Audit
ANC			24	24	24	1
BRL			24	24	24	1
CFP			24	24	24	1
MWFP			24	24	24	1
SDA			24	24	24	1
SLS			24	24	24	0
SPI	52	52	4	4	56	1
WEYDV			24	24	24	1
WEYED			24	24	24	1
WEYGP	8	8	64	64	72	1
WWC	48	48	40	40	88	1
TOTAL	108	108	300	300	408	10

4. Post-harvest Stand Development

In 2009, an analysis of the Gregg historic research trials was planned, examining growth and yield of regenerated versus fire origin Lodgepole pine stands. This did not transpire because the new GYPSY model was not yet available, and the consultant approached to do the analysis using TASS was not able to take on the contract. In 2010/11 this work will again be attempted, assuming models and resources become available.

5. Cooperative Management of Historic Research Trials

5.1. Income and Expenditures

Table 5 shows income and expenditures for *Measurement and Maintenance of Historic Research Trials* (FRIAA Project # FOOMOD-01-02) during the 2007-08 fiscal year. The project covers the FGYA inputs for the overall Project 4 – *Cooperative Management of Historic Research Trials*.

Table 5. Annual Income and Expenditures – Project 4

Income / Expenditures	Budget	Actual
Income		
Prior year balance forward	18,629	18,629
Member Contribution	0	0
FRIAA funding transfers	0	0
Other – CdnWoodFibre Centre	30,000	30,000
Total income	48,629	48,629
Expenditures		
Re-measurements	6,000	27,300 ⁴
Evaluation of G&Y Models		0
Gregg Trial Analysis	2,000	0
Other analysis	0	1,596
Equipment and Supplies	0	1,785
Quality Control	0	3,518
Contingency and signage	10,000	0
Total expenditure	18,000	34,199
Ending Balance	668	14,430

5.2. Achievements and Shortfalls

The Project involves four main tasks:

1. Maintenance and protection of the field installations including signage;
2. Analysis of historic data and synthesis of results;
3. Ongoing re-measurement of trials.
4. Collaboration with CFS in extra trial measurements and analysis (paid through CWFC 2 year, \$50,000 grant \$30,000/20,000)

⁴ Actual costs exceeded forecast as a result of extra measures paid by the CWFC grant, which also covered Quality Control and “other analysis” as shown on the table.

Table 6 summarizes achievements and shortfalls in the Historic Research Trials Project relative to deliverables planned for the year. Some of these deliverables are by agencies other than the FGYA, but are described under the Letter of Agreement between the FGYA, CFS and Alberta Sustainable Resource Development. These are shown to provide a complete picture of activities.

This is a cooperative effort shared between the FGYA, the Canadian Fibre Centre, Canadian Forest Service (CFS) and Alberta Sustainable Resource Development (ASRD). The FGYA's main role is re-measurement, maintenance and analysis of the trials as specified and provided for under the FRIAA project: *Measurement and Maintenance of Historic Research Trials* (April 2003, FRIAA Project # FOOMOD-01-02).

In September, 2009 a two year, \$50,000 non-repayable contribution grant was negotiated and signed with the Canadian Wood Fibre Council of the Canadian Forest Services for extra historic trial measurements beyond those already scheduled, and for extra quality control and analytical support. See Appendix 4.

Table 6. Achievements and Deliverables Project 4. Historical Research Trials

Deliverable	Progress	Reference
Field data collection Gregg84, McCardell, TeePee Pole Creek	Data and report submitted by contractor October 27.	<i>Final report</i> Westsky Resource Consultants
Testing of trial data against GYPSY and TASS	Not done. TASS consultant not available. Excel version of GYPSY scheduled for May 2010.	
Complete 4 papers (CFS)	Not Done	
Other	R&D Associate assisted CWFC in locating and summarizing data from earlier wood quality trials	

6. Regional Yield Estimators

6.1. Income and Expenditures

No expenditures were incurred by the Association on this Project during 2009.

6.2. Achievements and Shortfalls

An Interim Report on the Development of Yield Estimators for Pure Lodgepole Pine Stands in Alberta prepared by Yuqing Yang and Shongming Huang of the Forest Management Branch, ASRD, and edited and amended with input from the FGYA Director has been posted on the FGYA website as a technical information report.

No further work is envisioned under the auspices of the FGYA (SRD will solicit support directly from FMA holders in the event it undertakes further work and requires further inputs).

7. Enhanced Management of Lodgepole Pine

7.1. Income and Expenditures

Table 7 shows budgeted and actual income and expenditures for Project 6 during the 2009/10 fiscal year.

Table 7. Annual Income and Expenditures – Project 6

Income / Expenditures	Budget	Actual
Income		
Prior year balance forward	(5,410)	(5,410)
FRIAA Open Funds Extension		
Total income	(5,410)	(5,410)
Expenditures		
Sub-project 1: lodgepole pine nutrition	0	0
Sub-project 2: pine-aspen density management	0	0
Analysis	0	0
Total expenditures	0	0
Balance	(5,410)	(5,410)

No further expenditures are planned in 2010. Reports are overdue from U of A collaborators, and shortfall in funding represents final payment from FRIAA following submission of two outstanding reports by U of A scientists.

7.2. Achievements and Shortfalls

Achievements, shortfalls and problems encountered with this project are summarized in Table 8.

Table 8. Achievements and Shortfalls - Project 6

Deliverable	Progress	Reference
Scientific papers, technical report and final project report scheduled for June 30, 2010.	Work undertaken by RDA: - database updated with winter 2008/9 measurements and foliar analyses; - exploratory analyses of foliar nutrient status, growth increment, and tree mortality.	Documents and database sent to University of Alberta collaborators September 28, 2009.

8. Regeneration Management in a Mountain Pine Beetle Environment

This is a new project that began late in 2007/08 with work continuing into 2008/09 and 2009/10 to provide tools and guidance for members and others faced with the challenge of managing stands and landscapes in a post-beetle environment.

Funding has been provided to the program from the Foothills Research Institute's Mountain Pine Beetle Ecology Program, as well as FRIAA Open Funds (Project #OF-07-P019), and the project is being managed by the Program Lead of the MPBEP of the Foothills Research Institute, with technical direction from the FGYA's Research and Development Associate.

A successful proposal was submitted to the FRIAA Forest Health and Fire Hazard Reduction Program to expand data collection and analysis in a second phase of this project.

7.1 Income and Expenditures Project 7

The FGYA Research and Development Associate provides technical direction and oversight of this project, while project management and budget control and reporting is under the direction of the Program Lead of the MPBEP at the Foothills Research Institute.

7.2 Achievements and Shortfalls

Achievements, shortfalls against proposed deliverables are summarized in Table 9.

Table 9. Achievements and Shortfalls – Project 7

Deliverable	Progress	Reference
Expert-systems workshop to design the decision-support system	MPB-Silviculture Decision Tools workshop held June 25-26 2009.	- <i>Workshop report</i> July 2009 - <i>Terms of reference for development of a preliminary decision support tool</i> August 21, 2009
Revised work plan	Data collected in 2008 plus over-wintering and summer MPB survey results, analyzed and incorporated into revised work plan, together with workshop recommendations	- <i>Updated work plan and phase 2 proposal for the period September 1, 2009 – March 31, 2012</i> September 3, 2009
Phase 2 funding	Proposal submitted and approved for funding under the FRIAA Forest Health and Fire Hazard Reduction program	- <i>Monitoring and decision support for forest management in a MPB environment - Phase 2 proposal</i> September 29, 2009
Field data collection and compilation	Monitoring of 89 plots planned; 75 completed to date. Data compiled for completed plots.	- <i>Technical Note 2010-4 Project overview and update</i> March 5, 2010
Decision support tool development	Work proceeding under contract. Completion re-scheduled to June 30, 2010; with interim prototype demonstration scheduled for March 26	

9. Extension and Communication

Most deliverables for extension and communications are generally listed against the projects to which they relate, however Table 10 summarizes deliverables against the proposed activities for 209. The cost for activities conducted under Extension and Communications are funded under Project 1 and not reported separately here.

Table 10. Achievements and Shortfalls – Communications and Extension

Deliverable	Achievements / Shortfalls
Technical Session on MPB	MPB DSS workshop held June 25 and 26, 2009 at Hinton Training Centre
Website Updates	Website is current with all reports excepting most recent reports by RDA. These will be added pending approval by the Steering and Technical Committees
Technical Information Reports/ Papers for Projects 2 (RLP) ,3 (PHSD) ,4 (HRT) , 7 (MPB DSS)	Project 2: <ol style="list-style-type: none"> 1. <i>Regenerated lodgepole pine trial – 2009 crop performance report</i>, March 1, 2010 – Final Report 2. Technical Note 2010-3 <i>Effects of Climate on Mortality of Immature Planted and Naturally Regenerated Lodgepole Pine</i> 3. Technical Note 2010-1 <i>RLPp: A Regeneration Model to Predict the Establishment and Performance of Planted Lodgepole Pine</i> 4. - Technical Note 2010-2 <i>RLPn: A Model to Predict the Establishment and Performance of Natural Regeneration Following Harvest of Lodgepole Pine Stands</i> Project 7: <ol style="list-style-type: none"> 1. Technical Note 2010-4 <i>Project overview and update</i> March 5, 2010
Bulletins – two Quicknotes	No Quicknotes

Appendix 1. FGYA Steering Committee Minutes, March 20, 2009

Foothills Growth and Yield Association Annual Meeting

Steering Committee

March 20, 2009 1:00 – 4:30 p.m.

AFPA Boardroom

Suite 500, 10709 Jasper Avenue, Edmonton

Attendees

Company Reps

Dwight Weeks – Canfor
Richard Briand – Hinton Wood Products
John Huey – Sundance Forest Industries
Tim Burns – Blue Ridge Lumber
Murray Summers – Blue Ridge Lumber/ FRI
Tim McReady – Millar Western
Greg Branton – Alberta Newsprint
Greg Behuniak – Weyerhaeuser
Bob Held – Sundre Forest Products

Government/ Other

Bob Udell – FGYA
Dick Dempster – FGYA
Hugh Lougheed – FGYA (scribe)
Robert Stokes – SRD
Tom Archibald – Foothills Research Inst.

Regrets: Ed Kulscar – Spray Lakes

Dwight Weeks called the meeting to order 1:05

1. Review of Minutes and Action Items of March 6, 2008

Committee adopted minutes as recorded (moved by Huey, seconded by Branton, carried)

Dwight reviewed action item status arising from the March 6, 2008 Steering Committee Meeting. See table following:

Item	Reference
Protection of historic trials with verbenone	R&D Report, March 20, 2009. Further action noted in Tech Meeting 20 Mar 09 ⁵
Members review net pine area, notify changes if any.	No changes identified.
Involvement of academic institutions in RLP analysis	R&D Report, March 20, 2009. Ongoing.
Assistance from SRD experts in forest health assessment of protocols	Done
Members to advise protective notation status of FGYA plots on their FMA	Not done. Status report to be sent with minutes
UofA study proposal	Done, agreement modified.
Udell to be notified of Steering Committee and Technical Committee representatives	Ongoing.

⁵ Trials are eligible for funding from FRIAA for MPB protection – phone calls Erica Lee/ Bob Udell April 1st, 4th 2009

Update workplan for priorities from Technical Committee review, schedule discussion at technical committee meeting	Done, work plan updated.
Members to submit dues forms	Done.
Dwight to check if FRIP funds are allocated for five years	Done – annual allocation.

2. New Business

a. Review of 2008 Program (preliminary annual report)

i. Director & Field Coordinator

Bob Udell reviewed the Operations Director Report for 2008/09. Time allocation was amended, but forecast is expected to be within a day of the originally approved time for the year.

Highlights included:

- MPB Project participating in the FRI MPBEP Project Team
- Renewed Historic Research Trials Agreement
- UofA Cooperative Research Agreement
- Communications and presentations
- Planning and Reporting

Highlighted Sharon's efforts as field coordinator, attention and thoughtfulness (plot selection). Timeliness was good. Contractors were sent back to correct errors identified.

Dwight extended his appreciation to Bob for timely communication and effort through the year.

ii. R&D Associate

Dick referenced his report from the morning Technical Committee meeting, and doesn't have anything additional to add. Dick omitted to provide a breakdown of time in the report.

Action: Dick to provide a breakdown of time by project.

Dick provided a summary of primary activities through the year:

- Regenerated Lodgepole Pine
- Mountain Pine Beetle
- Historic Research Trial analysis

Dwight expressed appreciation for Dick's review at the morning's Technical Committee meeting. Dick acknowledged the group's efforts over 9 years.

iii. Quality Control/ Database Discussion: R&D Associate Recommendations

Referenced discussion from this morning, and deferred to the actions recommended at the Technical Committee meeting. Question arose about timing

of the sub-group's work. The process needs to be settled in time to take to the contractors by mid-June for the pre-season meeting. Dick indicated the actual cleanup of the RLP data would have to be done in advance of the June meeting as well. Bob Udell was asked to lead the group's efforts. Once the funding requirement is known it will be vetted by the Steering Committee.

Action: Bob Udell to chair Quality Control/ RLP Database subcommittee of Dick Dempster, Bob Held, Glenn Buckmaster, and Field Coordinator with reports, recommendations and approval requests as required.

b. Five-year Business Plan / 2009 Work Plan Review and Approval

Based on the outcome of the Steering Committee meeting, as well as final financial reports from the Foothills Research Institute, the Business Plan will be modified and a final version prepared in April. Bob outlined the format of the Business Plan, where additions and deletions are noted.

Action: Business Plan Table 2 budget to be reviewed and Updated

Review of financials by project:

- i. Project 1 – Program Development and Management
Change will be required for 2009/10 because the cost of database cleanup and enhancements are not reflected. Question regarding need for the ending balance. Question about possible reductions to time commitment by Director and Field Coordinator, with comment that new projects may take up time made available as existing projects wind down.
- ii. Project 2 – Lodgepole Pine Regeneration
FGYA funding covered under project 1. Member costs are for the measurements. Dwight queried about member companies willingness and ability to conduct measurements for this year – all members indicated their commitment to proceed with the work.

Dick reviewed the proposed five-year extension of the RLP project. He was questioned about the need to do full measurement every second year. He indicated stands are so dynamic during this period, changes are not necessarily linear, and the need is to project performance through to year 14. Longer period between measurements would be reasonable after year 14.

Question about need to do Status Checks every other year. Dick noted a continuing utility for this check during such rapid development and changed, for example the absence of annual visits (measure/check) means having to average climate effects over 2 years of mortality. However, he admitted it may not be as useful in some plots as others.

Action: Dick will revisit necessity for annual status checks, and the possibility of doing them on a 2-year basis for at least some of the plots.

iii. Project 3 – Comparison of Pre-harvest and Post-harvest Stand Development
No funding allocation.

iv. Project 4 – Historic Research Trials
Question arose about the necessity of proceeding with measurements given the lack of deliverables, and in light of questions about having adequate funding for RLP Status Checks. Dick indicated the Gregg (1963) and MacKay trials are very important, and should be carried through culmination.

Dick's recommendation was to do the Gregg spacing remeasurement and signage, and defer the McCardle remeasurement pending further review.

Given balance forward, this would mean no additional funds would be required for 2008/09.

Action: Dick to review priority algorithm for Historic Trial Remeasurements.

v. Project 5 – Regional Yield Estimators
No funding allocation.

vi. Project 6 – Enhanced Management of Lodgepole Pine
No discussion.

vii. Project 7 – Regeneration Management in a MPB Environment
Dick is looking for some acknowledgement that the FGYA is comfortable with what is proposed in the Work Plan, as well as the financials.

viii. June Field Tour/ Technical Session – Joint with MPBEP

Moved: Greg Branton moved the business and work plan approved subject to changes, Greg Behuniak seconded. Carried.

Note: changes to show McCardle plots not remeasured, with no funding contribution required; correct carry-forward in Table 13)

c. Staff and Assignments 2009/10

Hugh provided an overview of Timberline's proposal to provide Director and Field Coordinator management services, as well as database services. Greg asked about Dick's plans for retirement. Dick identified that he has no near term plans for retirement but is also concerned about succession planning for his position as well. Bob responded that he is prepared to continue in his role with Hugh Lougheed backing him up as needed, and that he is comfortable with Hugh's abilities in this service provision.

Bob Udell, Dick Dempster and Hugh Loughheed were excused from discussion of staff and assignments.

On return to meeting, the committee advised it had agreed to continue with Timberline management services (\$760/day for Director and support, \$640/day for Field Coordinator⁶), and with Dick Dempster as R&D Associate (rolling 2-year). Dick was asked to provide assistance with succession planning.

Moved: Greg Branton moved the Timberline proposal be accepted for Director, Field Coordinator and database services, Tim McCready seconded. Carried.

Moved: Richard Briand moved that Dick Dempster's appointment be extended as the Technical Director, John Huey seconded. Carried.

Question arose about the Director budget in the Business Plan (Table 2). Appears the budget has not been adjusted for the reduction in days from 2007 (75 to 42). Bob said he would make adjustments following the year end financials and updated business plan.

A discussion arose about the Database services with the question whether the committee should be going outside for proposals. Dick responded that he knows the technical expert proposed and that time is of the essence in moving forward on this database cleanup stage at the minimum. The Steering Committee agreed to approve sole source funding for stage one (database cleanup) of the Database services proposal in Table 3 of the management services proposal. Further actions would await recommendations from the Quality Control/ RLP Database subcommittee.

d. Authorizations for Project Administration and Funding

All members present signed the form agreeing to FGYA membership fees (Project 1) for 2009/10. No extra funding requested for Project 4 Historic Research Trials based on decision to postpone McCardle remeasurements pending review.

e. Other Business

i. Alberta Growth Institute (Richard Briand)

Richard described the history, formation, funding and purpose of the Alberta Forest Growth Institute. Immediate activities include appointing an executive director (possibly housed at FRI). Clarified the intent of the Institute is not to change what the G&Y Associations are doing, but more to influence direction to address perceived gaps. Meant to be a way of raising the profile of information we have, issues, and securing funding. Nothing is being requested of the Association at this point. Role of executive director will be to find additional sources of funding.

⁶ Timberline subsequently revised the Field Coordinator rate to \$560/day (this was Harry Ullrich's rate in 2007, as opposed to Sharon Meredith's rate in 2008).

- ii. Contingency Planning re potential Member Curtailments
Discussion regarding the eventuality of member curtailments. General consensus that it is not possible to cover every eventuality, but would address implications on a case-specific basis, likely resulting in reopening the MoA (contribution, data, plot measurements). At that time there would be the opportunity to approach the government for support.

Meeting adjourned: 3:54

Appendix 2: RLP Trial Renewal Proposal March 2009

Foothills Growth and Yield Association

Information Note

Regenerated Lodgepole Pine Trial

Proposal and Priorities for Measurement and Treatment

March 2009

9.1.1. *Background*

The long-term trial was designed to forecast and monitor the growth and yield of harvest-origin lodgepole pine in relation to site, initial spacing of planted stock, natural regeneration, mortality, vegetation control (weeding), density regulation (pre-commercial thinning). In the shorter-term, including during the current term of FRIAA Project FOOMOD-01-03 ending in 2010, the main value of the project and focus of data collection and analysis are to provide an improved basis for forecasting achievement of establishment and performance targets associated with regeneration standards being developed or adopted by the FGYA members.

The trial was established between the summer of 2000 and the spring of 2002, and results for the first 5 growing seasons were reported in detail in April, 2008.⁷ Table 1 shows the age of the installations as of the end of 2008. (Each group within each eco-class consists of 5 installations planted at different densities, and one non-planted installation.)

Table 11. Current installation ages (from harvest and planting)

Eco-class	Group	Block age (years)	Growing seasons since planting
1	1	9	7-8
	2	9	7
	3	9	8
2	1	9	8
	2	8	7
	3	8	7
3	1	9	7
	2	8	8
	3	8	7
	4	8	7-8
	5	8	7
4	1	8	8
	2	8	7
	3	8	7
5	1	8	7
	2	7	7
	3	7-9	7-8

⁷ *Regenerated lodgepole pine trial, analysis of crop performance 5 growing seasons after planting*, 4 April 2008. FGYA Technical Report.

9.1.2. *Priority 1. Checks, Corrections and Maintenance*

The 4 highest priorities for 2009 are listed below.

- **Insufficiently sampled natural regeneration.** Ensure sampling of natural regeneration in non-planted installations conforms to the project design as specified in the field manual. As documented in the 2008 Error Report, there are 16 treatment plots with less than 50 sample trees (the number specified in the manual), but in which counts indicated more than 50 trees present. In at least some of these plots, failure to follow the tagging procedure is suspected. They should all be checked in 2009, and more trees tagged and tallied where applicable.
- **Missing trees.** Installations where the % of missing trees is very high (approaching or exceeding 4%) should be checked to ascertain whether the trees can be assumed dead.
- **Selective mortality assessments.** Analysis of mortality data highlighted trends with climate that have important implications and have not previously been reported elsewhere. Visits by experts in silviculture and forest health to a small number of selected plots on different site types (*Ledum* and non-*Ledum*) showing high or anomalous mortality rates may shed important light on the observed results.
- **Plot maintenance.** Ensure installation demarcation and tree tags are in good order.

9.1.3. *Priority 2. Continued Measurements*

Continuation of essentially the same data collection protocol as applied over the last 2 years is desirable for a further 5-7 years. Table 2 shows the schedule for the next 5 years.

Table 12. Elapsed Growing Seasons and Scheduled Measurement Type by Year and FMA

FMA	# of installations	2009	2010	2011	2012	2013
ANC Timber	6	8 (SC)	9(FM)	10(SC)	11(FM)	12(SC)
Blue Ridge Lumber	6	8 (SC)	9 (FM)	10(SC)	11(FM)	12(SC)
Canfor	6	8 (SC)	9 (FM)	10(SC)	11(FM)	12(SC)
Hinton Wood Products	12	9 (FM)	10 (SC)	11(FM)	12(SC)	13(FM)
	10	8 (SC)	9 (FM)	10(SC)	11(FM)	12(SC)
Millar Western	6	8 (SC)	9 (FM)	10(SC)	11(FM)	12(SC)
Spray Lakes	6	8 (SC)	9 (FM)	10(SC)	11(FM)	12(SC)
Sundance	6	8 (SC)	9 (FM)	10(SC)	11(FM)	12(SC)
Sundre	14	9 (FM)	10 (SC)	11(FM)	12(SC)	13(FM)
Weyerhaeuser D.V.	6	8 (SC)	9 (FM)	10(SC)	11(FM)	12(SC)
Weyerhaeuser Edson	6	8 (SC)	9 (FM)	10(SC)	11(FM)	12(SC)
Weyerhaeuser G.P.	2	9 (FM)	10 (SC)	11(FM)	12(SC)	13(FM)
	16	8 (SC)	9 (FM)	10(SC)	11(FM)	12(SC)
Total Full Measurements		28	74	28	74	28
Total Status Checks		74	28	74	28	74
Total	102	102	102	102	102	102

FM = full measurement, SC = status (mortality) check

The scheduled work would provide data for modeling the entire regeneration phase, as well as a link to growth-phase models like GYPSY. Annual measurements are desirable. (The main value of checking the plots every year would be better and earlier mortality prediction and climate

linkage.) Failure to measure the plots at least every 2 years would result in a substantial loss in predictive information, de-valuation of the investment already made in the trial, and delay in development of prediction tools. After the next 5-7 years, i.e. once the trial has passed through the dynamic regeneration phase, the installations can be monitored on a less intensive basis during the growth phase of the rotation.

9.1.4. *Priority 3. Treatments*

No further fill-planting or weeding treatments are required. The project design calls for pre-commercial thinning of the designated treatment plots where natural regeneration has resulted in the target density being exceeded. While it is desirable to thin before significant crown-competition occurs, this operation should not be undertaken until ingress of natural regeneration is complete or at least declining, and irregular mortality has stabilized. Neither of these conditions has yet occurred. The trial appears to be generally conforming to ingress trends earlier reported by Crossley,⁸ which would suggest that ingress may continue up to 14 years after peaking at about 7 years. On many installations mortality of planted stock shows no sign of declining, and trends of mortality in natural regeneration have not yet been confirmed. It is proposed to delay thinning until 2013, subject to assessments of mortality, ingress and growth in 2010 and 2012.

⁸ Crossley, D.I. 1976. *The ingress of regeneration following harvest and scarification of lodgepole pine stands*. Forestry Chronicle.

Appendix 3: RLP Task Force Report July 10 2009

Regenerated Lodgepole Pine Trials RLP Data and Field Measures Task Force 2009 Report July 10, 2009

Background

Continuing and escalating challenges with RLP field measurement programs as well as data loading and quality were reviewed by the Research and Development Associate at the March 20 2009 Technical Committee annual meeting.

The Technical Committee directed the formation of a task force to review and address these issues before the June 2009 field contractor meeting. The committee, as subsequently directed by the Steering Committee, includes:

Bob Udell – Operations Director, FGYA – Chair

Dick Dempster – Research and Development Associate, FGYA

Bob Held – Sundre Forest Products

Glenn Buckmaster – Hinton Wood Products

The committee met several times by conference call and between calls worked on assignments.

Committee Responsibilities and Recommendations

1. Review RLP data load issues and recommend action to correct and streamline the process. Initial data cleaning by Timberline's database specialist will be part of this activity.

Lead: Dick Dempster

Other: Bob Held; Database Technician

Report

- a. Many of the issues surrounding data load challenges could have been identified with more timely submission of data and with the appropriate error checks
- b. Some elements of the manual were outdated and this led to some problems, these have been corrected
- c. The RLP database has been cleaned and some adjustments have been made to the Contractor Loading Database to both streamline the process and flag errors early on when they can be queried and corrected. This work was done by Carlos Pinilos of Timberline, in collaboration with Bob Held and Dick Dempster
- d. An updated CLDB is being sent to Company reps and contractors by Bob Held, along with the following instructions:
 - i. Technical reps and contractors are asked to populate the CLDB and run the error checks in batches.
 - ii. We ask that contractors notify the Database Manager and the appropriate company technical representative as soon as each batch of data has successfully passed the QC checks.

- iii. We also ask those contractors that are doing measurements on multiple groups of installations to submit the data in batches, and advise us in advance on how they will group installations for this purpose.
 - iv. When Rand McPherson (Field Coordinator) requests data for specific plots for auditing purposes, please provide it to him directly, promptly and in either Excel or paper format. To avoid unnecessary re-work, ensure that the data has passed the QC checks in the CLDB before sending it to Rand.
 - v. The FGYA will require sign-off by both the Database Manager and the Field Coordinator before verifying to the company representative that any work has been completed
- e. Key to flagging issues early and dealing with them in the current field season will be a rapid (two week) turnaround between data submission by the field contractor/company representative and the report back from the database manager that the data has passed quality control checks at his end – or what measures are required if remediation is needed.
 - f. The Foothills Research Institute, under the Terms of Agreement of the FGYA, is responsible for managing the database on behalf of the Association and for the past two years has not done so for a number of reasons, this work has been done by Bob Held. However, while Bob is willing to remain engaged in the management of the database in an oversight and advisory role in conjunction with Dick Dempster he cannot commit to the type of timely response required in the two week turnaround noted above and another database manager is required.
 - g. The final structure and format of the master database remains open at this point (SQL Server vs MS Access), this will be resolved between Dick Dempster and Bob Held by October 2009. Meanwhile, Dick Dempster will be undertaking analysis with the MS Access database.

Recommendation

- a. For this year, the RLP task force recommends hiring a consultant with responsibility for accepting data, verifying its conformity, responding to requests, and providing prompt turnaround. Bob Held will provide oversight and an advisory role. The specific terms of reference for the consultant would be:
 - Receive the populated loading databases from the contractors or Companies;
 - Communicate with the contractors as necessary to arrange orderly submission of data;
 - Run the QC routines to ensure no errors;
 - Within 2 weeks or less of receipt of each data submission, inform the contractor, appropriate company representative, and FGYA (Director, Bob Held and Field Coordinator) whether the data meets QC requirements or if there are any problems;

- Load accepted data into the MS Access database;
 - Send interim versions of the MS Access database to Bob Held or Dick Dempster on request if required by either for oversight or analytical purposes respectively;
 - Within 2 weeks of receipt of all scheduled 2009 data, complete checking and loading into the MS Access database, and submit to Bob Held for final review and loading into the master database.
- b. Carlos Pinilos of Timberline has done the cleaning and updates of the database, both Bob Held and Dick Dempster are comfortable dealing with Carlos and we recommend extending the contract with Timberline to encompass this role for the remainder of the 2009/10 operating year. The budget for this year includes sufficient funding to cover this service.
2. Review the Field Coordinator's quality control procedure and recommend changes if any to address issues of plot maintenance and tagging as well as measurements and classification; also to place emphasis on plots not previously (or recently) QC'd.
Lead: Glenn Buckmaster
Other: Dick Dempster; past field coordinators

Report and Recommendations

- a. Quality Control procedures have been reviewed and updated. Some of these are contained in the revised Field Manual (Attachment 1)
 - b. Other QC procedures are contained in the Field Manual Supplement for Field Coordinator and Technical Representatives (Attachment 2). Because it deals with such things as plot selection for QC as influenced by past checks as well as contractor history, suggested "maximum permitted deviations" recommendations around payment releases to contractors, it is not deemed appropriate to share distribute it to the contractors.
 - c. At the June 2009 field meeting the concept of objectively defining audit failures was discussed separately by Technical Reps and endorsed in principle. The FC will reference the *Field Manual Supplement for Field Coordinator and Technical Representatives* as a guide during field audits. However, it was decided that this year should be a "test case" as there was some concern that appropriate targets have not been confidently identified. The technical reps will discuss the maximum permitted deviations with the contractors and apply them as a test cast this year in an iterative process.
 - d. At the end of the field season, the audit data will be analyzed to review the appropriateness of the current *Target Accuracy Standards* and *Maximum Permitted Deviations*. Any required adjustments will be made prior to next field season.
3. Review and update Field Manual to ensure contractors responsibilities are clear and understood with respect to not only measurements but also plot maintenance and tagging. Also with respect to growth and development of the trees (see field coordinator recommendations 2008).

- a. Clarify where necessary remedial actions that may be required in light of field audit findings.
- b. Consider potential measurement changes in light of the increasing height and diameters of the trees.

Lead: Dick Dempster

Other: Glenn Buckmaster; past Field Coordinators

Report

The Field Manual has been updated and distributed as noted earlier, remedial actions arising from field audits are in the Manual and Supplement. Some clarification of measurement requirements are included in the manual but for the next few years until ingress and rapid development are completed no major measurement changes are appropriate.

My appreciation to the RLP task force members for their diligence and hard work on these issues.

Respectfully Submitted:

Bob Udell

Chair

July 10, 2009

Appendix 4: 2009/10 Mid Year Progress Report December 2009

Project/Activity	Approved Budget for Year	Expended to September 30	Progress to Date (September 30)
Foothills Growth and Yield Association (FGYA) Project 1: <i>Development and Management of the Association</i> - FtMF Project 235 - FRIAA Project FOOMOD-01-03	\$213,800 (FRIP and member funded)	\$67,886	<p><i>Planning and Funding Approvals:</i></p> <ol style="list-style-type: none"> 1. Work plan and budgets for all projects updated and approved. 2. Strategic priorities for FGYA have been updated <p><i>Meetings and tours:</i></p> <ol style="list-style-type: none"> 1. Technical committee and contractor meeting held June 24 in Hinton 2. MPB Technical Session June 24 evening in Hinton, workshop on June 25 3. ASRD Forest Health experts conducted a field training session on identification of forest health impacts by insects and disease – June 25 <p><i>Publications:</i></p> <ol style="list-style-type: none"> 1. Annual Report 2008-09 2. <p><i>Agreements:</i></p> <ol style="list-style-type: none"> 1. An expanded non-repayable contribution agreement has been negotiated with the Canadian Wood Fibre Centre (see Historic Trials report).
FGYA Project 2: <i>Lodgepole Pine Regeneration</i>	Estimated value \$140,000 (in-kind fieldwork contribution by members)	Estimated 90% complete, \$126,000 Value	<p><i>Planning:</i></p> <p>Schedules finalized and approved for full measurements (108 plots), status checks (300 plots).</p> <p><i>Fieldwork:</i></p> <ol style="list-style-type: none"> 1. Quality Control was applied early in the year to pre-empt any slippage in field procedures 2. New contractor loading database was developed, and a new service provider engaged for database manager services – Carlos Pinillos of TNRG 3. The master database remains with Bob Held of Sundre Forest Products 4. Field training session for technical reps and contractors on insect and disease identification June 25. 5. Scheduled work nearing completion; verification and QC audits in progress. <p><i>Analysis and reporting:</i></p> <ol style="list-style-type: none"> 1. Work underway on crop performance (8 year) report and Phase 2 RLP Program final report. 2. A preliminary assessment shows strong linkages of RLP mortality and growth to

Annual Report 2009/10
Final May 19 2010

Project/Activity	Approved Budget for Year	Expended to September 30	Progress to Date (September 30)
			climate factors using an updated version of the ClimateAB program provided by Dr. Andreas Hamann of U of A. This work, begun in 2008, has been expanded to examine the Ives plots from the mid-80s with similar strong linkages clearly evident. Presentation being prepared, further work on a scientific paper under discussion with Dr. Hamann and Dr. Dempster collaborating.
FGYA Project 3: <i>Post-harvest Stand Development</i>	- \$0	\$0	Several projects are linked to this initiative; a proposed paper has been delayed pending completion of the new GYPSY model. <i>Follow-up to PHSD Conference:</i> <ol style="list-style-type: none"> 1. Three Dialogues arising from the PHSD Conference have been suspended until the Chairs indicate a need to meet again. 2. In reponse to Dialogue discussions, SRD engaged Dr. Jim Flewelling to prepare a report on incorporating genetic gain into yield forecasting. Discussions for next steps to follow between ASRD, the FGYA and the Forest Genetics Resource Council.
FGYA Project 4: <i>Historic Research Trials</i> -FtMF Project 235.1 -FRIAA Project FOOMOD-01-02	\$18,000 (FRIP and member funded) Updated Sept 09 to \$30,000	\$6,300	<i>Contribution Agreement</i> <ol style="list-style-type: none"> 1. In September, a non-repayable Contribution Agreement was signed with the Canadian Wood Fibre Centre for the purpose of expanding the scope of trial measurements and analysis - \$50,000 over two years <i>Fieldwork:</i> A contract was let for 2009 fieldwork and three trials were scheduled – Gregg, McCardle and TeePee Creek installations; Gregg Trial was completed by Sept 30.. <i>Analysis and Reporting:</i> <ol style="list-style-type: none"> 1. FGYA seeking assistance from domain experts in assisting with the testeing of trial data against newer versions of GYPSY and TASS. This would include examination of yield differences between fire origin and managed stands, implied by the remeasurements of the Gregg Trials.
FGYA Project 5: <i>Regional Yield Estimators</i>	-	-	Complete, no further work planned.
FGYA Project 6: <i>Enhanced Management of Lodgepole Pine</i>	\$0 (project funded under FRIAA	\$0	All expenditures complete, awaiting final reports to clear project off the books are received FRIAA holdback of \$5,000. Negative balance of \$5410 remains on the books, carried forward from 2008/09.

Annual Report 2009/10
Final May 19 2010

Project/Activity	Approved Budget for Year	Expended to September 30	Progress to Date (September 30)
- FtMF Project 235.2 - FRIAA Project OF-02-16	Open Funds Program, augmented by members)		<i>Sub-project 1 (Nutrition):</i> Data compilation and preliminary analyses completed by FGYA. Final analyses, interpretations and information report delayed pending participation from UofA. The final report is not begun, Ops Director and R&D Associate in communication with UofA over issue. <i>Sub-project 2 (Pine-aspen Density):</i> Scientific paper from U of A still pending. Ops Director and R&D Associate in communication with UofA over issue.
FGYA Project 7 Monitoring and Decision Support for Forest Management in a Mountain Pine Beetle Environment FRIAA Project OF-07-P019 Reported under MPBEP of Foothills Research Institute	Project funded under FRI's MPBEP	Reported under FRI's MPBEP	Project is managed under FRI's Mountain Pine Beetle Program, and reported by Program Manager Don Podlubny.
FGYA Total 2009-10	\$243,800 direct \$140,000 In Kind Not Incl. MPB	\$74,186 direct \$126,000 In Kind	

Appendix 5: Contribution Agreement – Historic Research Trials 2009

DEPARTMENT OF NATURAL RESOURCES

INVESTING IN CANADA'S FOREST SECTOR

Contribution Program for Promoting Forest Innovation and Investment

NON-REPAYABLE CONTRIBUTION AGREEMENT

THIS AGREEMENT is made in duplicate

BETWEEN:

HER MAJESTY THE QUEEN IN RIGHT OF CANADA
("Canada"), represented by the Minister of Natural Resources,

AND:

Foothills Research Institute, a non-profit company established in the Province of Alberta under part 9 of The Companies Act R.S.A. 1980, Ch. C-20, and **the Foothills Growth and Yield Association**, (the **FGYA**) a consortium of industrial and government partners that operates as a program of the **Foothills Research Institute** (the "**Proponents**").

WHEREAS Canada wishes to encourage the adoption of "**Managing for Value in Lodgepole Pine**";

WHEREAS the FGYA wishes to expand its Historical Research Trial project to encompass a broader range of Lodgepole Pine Long-term Research Trials;

WHEREAS the Proponents have submitted to the Minister a Proposal for the funding of a Project called "Management and Measurement of Lodgepole Pine Long-term Research Trials" which qualifies for support under the Program;

WHEREAS Canada has an interest in the information to be developed from the measurement and analysis of these trials;

WHEREAS Canada and the Proponents agree that in order for the Proponents to develop and implement the Project as described in Schedule A, the Proponents will require financial assistance from Canada;

AND WHEREAS Canada is willing to provide financial assistance toward the Eligible Costs of the Project in the manner and upon the terms and conditions hereinafter set forth;

NOW, THEREFORE, Canada and the Proponents agree as follows:

1. INTERPRETATION

1.1 In this Agreement:

"Agreement" means this Agreement and the attached Schedules A, B, C and D. In the case of a conflict between the Agreement and the Schedules, the terms of the Agreement shall take precedence;

"Completion Date" means the date that the Proponents shall complete the Project as specified in Paragraph 4.2;

"Eligible Costs" means any costs Incurred by the Proponents in accordance with the terms and conditions of this Agreement and which are listed in Schedule B;

"Fiscal Year" means the period beginning on April 1st of any year and ending on March 31st in the next year;

"Incurred" means an Eligible Cost where goods have been received by and/or services have been rendered to the Proponents;

"Incurred and Paid" means an Eligible Cost for goods and/or services that have been paid for by the Proponents;

"Intellectual Property" means any Intellectual Property right recognized by the law, including any intellectual property right protected through legislation (such as that governing patents, copyright, trade-marks, and industrial designs);

"Minister" means the Minister of Natural Resources and includes any duly authorized officers or representatives;

"Project" means the Project described in Schedule A and submitted by the Proponents in the Proposal; and

"Proposal" means a written Proposal including at least a background, purpose, work description, results expected, and a budget submitted by the Proponents, which is accepted by the Minister for a specific Project.

1.2 Grammatical variations of the above terms have similar meanings. Words importing the singular number only shall include the plural and vice versa.

2. REPRESENTATIONS AND WARRANTIES

2.1 The Proponents represents and warrants that all factual matters contained in the Proposal and all supporting material submitted are true and accurate, and that all estimates, forecasts and other related matters involving judgement were prepared in good faith and to the best of its ability, skill and judgement.

3. COMING INTO FORCE

3.1 *This Agreement comes into force when signed by the parties.*

4. CONDUCT OF PROJECT

4.1 The Proponents shall carry out the Project promptly, diligently and in a professional manner and in accordance with the terms and conditions of this Agreement.

4.2 The Proponents shall complete the Project by **March 31, 2011**, unless terminated earlier pursuant to the provisions of this Agreement.

4.3 The Proponents shall comply with all applicable federal, provincial and municipal laws in relation to the Project.

4.4 The Proponents shall provide any information requested by Canada to satisfy its obligations under the *Canadian Environmental Assessment Act* as a result of the Project. The Proponents shall notify Canada of any changes to the Project that could impact on the potential environmental effects assessed for the Project.

4.5 The Proponents agrees to undertake all mitigation measures arising out of an environmental assessment or project screening conducted to comply with the *Canadian Environmental Assessment Act* as a result of the Project.

5. CONTRIBUTIONS

5.1 Notwithstanding any other provision of this Agreement, Canada's liability under this Agreement shall not in any circumstances exceed **\$50,000 (fifty thousand dollars)**.

5.2 Subject to the terms and conditions of this Agreement, Canada shall make a contribution to the Proponents toward the Eligible Costs of the Project.

5.3 In order to be eligible to receive a contribution as described herein, **the Proponents must submit its final claim for payment on or before March 31, 2011.**

5.4 Canada may adjust its contribution by such an amount as the Minister may decide if the Proponents receives more than or less than the contributions or payments in respect of the Project covered by this Agreement than those named in its Proposal.

5.5 The Proponents shall declare to the Minister any amounts owing under any legislation or contribution agreements by the Proponents to Canada and Canada may set-off any such amounts owing to Canada.

6. METHOD OF PAYMENT

6.1 Subject to the terms and conditions of this Agreement and Treasury Board Guidelines, Canada will provide **quarterly** advance payments to the Proponents based on cash flow forecast requirements submitted by the Proponents for each period PROVIDED THAT the Proponents has fully accounted for any preceding advance payment to the satisfaction of the Minister.

- 6.2 Canada shall withhold **ten percent (10%)** from any payment under this Agreement until:
- a) the Project has been completed to the satisfaction of the Minister;
 - b) a final report documenting the completion of the Project has been received and approved by the Minister;
 - c) the Proponents has certified, in the manner set out in Schedule D, that all claims for the payment of Eligible Costs of the Project have been Incurred and Paid by the Proponents; and
 - d) the Minister has approved a final statement of Eligible Costs Incurred and Paid in respect of the Project.
- 6.3 The Proponents agrees that Canada may offset any unused funds from an advance payment against further payments and that at the completion of the Project or the termination of this Agreement any unused funds shall be promptly returned to Canada.

7. ACCOUNTS AND AUDIT

- 7.1 Prior to the Completion Date of the Project and for three (3) years thereafter the Proponents shall:
- a) keep proper books, accounts, and records of its revenue received and expenses Incurred and Paid in connection with the Project and shall keep its invoices, receipts, and vouchers relating thereto;
 - b) keep proper and accurate records relating to the environmental impact (if any) of the Project;
 - c) on demand, make available to Canada such books, accounts, records, invoices, receipts, and vouchers referred to above and permit Canada to examine and audit and take copies and extracts from such documents; and
 - d) allow Canada, at Canada's discretion, to conduct a technical audit to verify that the proposed measures outlined in Schedule A were implemented in accordance with this Agreement.
- 7.2 If, at any time, any discrepancy is identified between the amounts paid by Canada and the amounts actually payable under this Agreement, the appropriate adjustments shall be promptly made between the parties. If there has been an overpayment by Canada, the amount of the overpayment shall constitute a debt due to Canada and may be so recovered.

8. INTELLECTUAL PROPERTY

- 8.1 All Intellectual Property that arises in the course of the Project shall vest in the Proponents.
- 8.2 The Proponents hereby grants to Canada a non-exclusive, irrevocable, world-wide, free and royalty-free licence in perpetuity to use or sublicense the use of any such Intellectual Property for non-commercial governmental purposes.
- 8.3 The Proponents shall supply to Canada the reports and documents described in Schedule C or as otherwise required by the Minister under Article 12 (Reports), and the Proponents hereby grants to Canada a non-exclusive, irrevocable, world-wide, free and royalty-free licence in perpetuity to use and modify such reports and documents for non-commercial governmental purposes.

9. INDEMNITY

- 9.1 The Proponents shall indemnify and save harmless Canada and its ministers, employees and agents, from any and all claims, demands, losses, costs (including lawyers' fees), damages, actions or proceedings resulting from or related to any wilful misconduct or negligent act or omission of the Proponents or its employees and agents in the performance of this Agreement, except to the extent caused by a breach of duty of Canada or its ministers, employees and agents.
- 9.2 The Proponents shall indemnify and save harmless Canada and its ministers, employees and agents, from any and all claims, demands, losses, costs (including lawyers' fees), damages, actions or proceedings resulting from or related to any claim, demand or action made by a third party against them or any of them based upon Canada's capacity as a provider of financial assistance under this Agreement, including, without limitation, any claim in respect of materials or services provided by a third party to the Proponents or to a subcontractor of the Proponents.
- 9.3 The Proponents shall indemnify and save harmless Canada and its ministers, employees and agents, from any and all claims, demands, losses, costs (including lawyers' fees), damages, actions or proceedings resulting from or related to the Proponents or its employees and agents entering into a loan, capital lease or other long term obligation in relation to the Project.

10. DEFAULT

- 10.1 If, in the opinion of the Minister, there has been a misrepresentation or a breach of warranty under Article 2 (Representations and Warranties) or the Proponents fails to proceed diligently with the Project, or is otherwise in default in carrying out any of the terms, conditions, covenants, or obligations of this Agreement, or if the Proponents becomes bankrupt or insolvent, or has a receiving order made against it (either under the *Bankruptcy and Insolvency Act* or otherwise), or a receiver is appointed, or the Proponents makes an assignment for the benefit of creditors, or if an Order is made or a Resolution passed for the winding up of the Proponents, or if the Proponents takes the benefit of any statute for the time being in force relating to bankrupt or insolvent debtors, the Minister may, by giving notice in writing to the Proponents, exercise any or all of the following remedies:

- a) terminate the whole or any part of this Agreement;
 - b) terminate the obligation on the part of Canada to pay any monies in respect of the Project, including monies due or accruing due; and
 - c) direct the Proponents to repay forthwith all or any part of monies paid by Canada pursuant to this Agreement and that amount is a debt due to Canada and may be so recovered.
- 10.2 In the event of the termination of this Agreement by the Minister under Paragraph 10.1, Canada may, in the discretion of the Minister, pay to the Proponents Canada's share of the Eligible Costs of the Project completed to the date of termination.

11. ACCESS

- 11.1 The Proponents shall ensure that the Minister has access during normal working hours to any premises or place where the Project is being carried out for the purposes of inspecting and assessing the progress of the Project and all matters pertaining thereto.

12. REPORTS

- 12.1 The Proponents shall submit Project reports satisfactory to the Minister in accordance with the provisions of Schedule C or as otherwise requested by the Minister.
- 12.2 Upon completion of the Project, the Proponents shall provide the Minister with a declaration as to the total amount of contributions or payments the Proponents received in respect of the Project.

13. DISPOSITION OF PROPERTY

- 13.1 If, prior to the Completion Date of the Project and for three (3) years thereafter, the Proponents sells, leases or otherwise disposes of any property other than Intellectual Property, where the cost of the property is part of the Eligible Costs under the Project to which Canada has contributed under this Agreement, the Proponents shall immediately notify the Minister in writing of such sale, lease or disposition and, if the Minister so requires, the Proponents shall share with Canada the proceeds of the disposition in the same ratio as that of Canada's contribution to the purchase of the property, except that Canada's share shall not exceed its contribution under this Agreement.

14. SUBCONTRACTS

- 14.1 The field component of the Project shall be subcontracted by the Proponents to qualified contractors already engaged in such measurement work in Alberta. Every subcontract entered into by the Proponents shall provide that the subcontractor shall comply with the terms and conditions of this Agreement, which are applicable to the subcontract.

15. LEGAL RELATIONSHIP

- 15.1 Nothing contained in this Agreement shall create the relationship of principal and agent, employer and employee, partnership or joint venture between the Parties.
- 15.2 The Proponents shall not make any representation that:
- a) the Proponents is an agent of Canada; or
 - b) could reasonably lead any member of the public to believe that the Proponents or its contractors are agents of Canada.

16. ACKNOWLEDGEMENT

- 16.1 The Proponents will acknowledge the financial support of Canada in all public information produced as part of the Project.

17. TIME OF ESSENCE

- 17.1 Time is of the essence with respect to all provisions of this Agreement that specify a time for performance.

18. MEMBERS OF PARLIAMENT

- 18.1 No Member of the House of Commons or Senate shall be admitted to any share or part of this Agreement or to any benefit arising therefrom.

19. CONFLICT OF INTEREST

- 19.1 It is a term of this Agreement that no individual, for whom the post-employment provisions of the *Conflict of Interest and Post-Employment Code for Public Office Holders* or the *Values and Ethics Code for the Public Service* apply, shall derive a direct benefit from this Agreement unless that individual is in compliance with the applicable post-employment provisions.

20. FORCE MAJEURE

- 20.1 The Parties shall not be in default or in breach of this Agreement due to any delay or failure to meet any of their obligations caused by or arising from any event beyond their reasonable control and without their fault or negligence, including any act of God or other cause which delays or frustrates the performance of this Agreement (a “force majeure event”). If a force majeure event frustrates the performance of this Agreement, Canada will only be liable for its proportionate share of the Eligible Costs Incurred and Paid to the date of the occurrence of the event.
- 20.2 The performance of the obligation affected by a “force majeure event” as set out in Paragraph 20.1, shall be delayed by the length of time over which the event lasted. However, should the interruption continue for more than thirty (30) days, this Agreement may be terminated by Canada.

- 20.3 Should either party claim the existence of a “force majeure event” as set out in Paragraph 20.1, prompt notice thereof shall be given to the other party and the party claiming the existence of a “force majeure event” shall have the obligation to provide proof of such event and use its best efforts to mitigate any damages to the other party.

21. GOVERNING LAW

- 21.1 This Agreement shall be interpreted in accordance with the applicable federal laws and the laws in force in the Province of **Alberta**.

22. ASSIGNMENT

- 22.1 This Agreement shall not be assigned in whole or in part by the Proponents without the prior written consent of the Minister and any assignment made without that consent is void and of no effect.

23. NOTICES

- 23.1 The claims for payment, requests, notices, and information referred to in this Agreement shall be sent in writing or by any method of telecommunication and, unless notice to the contrary is given, shall be addressed to the Party concerned at the following address:

To Canada:

James D. Stewart
Research Scientist
Natural Resources Canada
Northern Forestry Centre
5320-122 St.,
Edmonton, AB
T6H 3S5
Telephone: (780) 435-7224
Facsimile: (780) 435-7359
E-mail: jstewart@NRCan.gc.ca

To the Proponents:

Tom Archibald
General Manager
Foothills Research Institute
Box 6330, 1176 Switzer Drive
Hinton, Alberta
Telephone: (780) 865-8330
Facsimile: (780) 865-8331
Email: tom.archibald@gov.ab.ca

Robert Udell
Operations Director
Foothills Growth and Yield Association
384 Collinge Road
Hinton, Alberta T7V 1L2
Telephone: (780) 865-4532
Facsimile: (780) 865-8331
Email: udellconsulting@shaw.ca

23.2 Notices, requests and documents are deemed to have been received, if sent by registered mail, when the postal receipt is acknowledged by the other Party; by facsimile or electronic mail, when transmitted and receipt is confirmed; and by messenger or specialized courier agency, when delivered.

24. AMENDMENTS

24.1 No amendment of this Agreement or waiver of any of its terms and conditions shall be deemed valid unless effected by a written amendment signed by the Parties.

25. DISPUTE RESOLUTION

25.1 The parties may attempt to resolve any dispute arising out of or pursuant to this Agreement by recourse to the dispute resolution methods identified in the following sequence, although steps may be by-passed by mutual consent.

- 1) negotiations;
- 2) non-binding mediation or conciliation; or
- 3) binding arbitration.

25.2 If the parties cannot agree on any of the foregoing dispute resolution mechanisms, either party may, at any time, elect to have such dispute resolved by litigation in the proper judicial forum in Canada.

25.3 Any party may within fifteen (15) days take the dispute to the next step if the parties fail to agree on the appointment or procedure referred to in this Article.

25.4 When mediation or conciliation is selected by the parties, they shall jointly appoint one impartial expert mediator or conciliator to undertake the process according to mutually agreed upon procedures.

25.5 If the parties decide to submit a dispute to arbitration, it shall be carried out pursuant to the *Commercial Arbitration Act* of Canada. The arbitral award shall be in terms of money only, and shall not include punitive damages, costs or interim measures. The parties shall attempt to appoint jointly one impartial expert arbitrator. If the parties cannot agree within thirty (30) days on the choice of an arbitrator, each party shall appoint, at its own cost, one impartial expert arbitrator and those two arbitrators shall appoint an expert third arbitrator as chairperson of an arbitral tribunal.

25.6 When one of the above steps 25.1(2) or (3) is selected to resolve a dispute, the parties shall jointly enter into a contract with the required mediator or conciliator, third party, arbitrator or arbitrators, as the case may be, to pay the costs for the desired services and to bear their own costs of participating in the process involved. The contracts referred to and contemplated by this Article shall be in the form and content as proposed by Canada.

26. APPROPRIATION

- 26.1 The payment of monies by Canada under this Agreement is subject to there being an appropriation by Parliament for the Fiscal Year in which the payment of monies is to be made.
- 26.2 Notwithstanding any other provision of this Agreement, Canada may reduce or cancel its financial contribution to the Project upon written notice to the Proponents in the event that the funding levels for the Department of Natural Resources are changed by Parliament during the term of this Agreement. In the event that Canada reduces or cancels its financial contribution, the Parties agree to amend the Project and the Eligible Costs of the Project, namely this Agreement, to take into account the reduction or cancellation of Canada's financial contribution.

27. LOBBYING ACT

- 27.1 The Proponents shall ensure that any person lobbying on behalf of the Proponents is registered pursuant to the *Lobbying Act* and that the fees paid to the lobbyist are not to be related to the value of the financial contribution pursuant to the terms of this Agreement.

28. SUCCESSORS AND ASSIGNS

- 28.1 This Agreement shall inure to the benefit of and be binding on the Parties and their respective representatives, successors and assigns.

29. OFFICIAL LANGUAGES/LANGUES OFFICIELLES

- 29.1 *This Agreement is drawn in **English** at the request of the Parties. Les Parties ont convenu que le présent Accord soit rédigé en **anglais**.*
- 29.2 *All public information documents related to the Project prepared or paid in whole or in part by Canada must be made available in both official languages, when the Department of Natural Resources judges that this is required under the Official Languages Act. Tout document d'information publique préparé ou payé en tout ou en partie par le Canada ayant trait au Projet doit être offert dans les deux langues officielles, lorsque le Ministère des Ressources Naturelles le juge pertinent, conformément à la Loi sur les langues officielles.*

30. ENTIRE AGREEMENT

- 30.1 This Agreement constitutes the entire Agreement between the Parties with respect to the subject matter of this Agreement and supersedes all previous negotiations, communications, and other agreements, whether written or verbal between the parties.

IN WITNESS WHEREOF this Agreement has been executed on behalf of **Her Majesty the Queen in right of Canada** by an officer duly authorized by the Minister of Natural Resources and on behalf of the **Proponents**, by officers duly authorized on their behalf.

HER MAJESTY THE QUEEN IN RIGHT OF CANADA

Date

George Bruemmer, Executive Director
Canadian Wood Fibre Centre
Canadian Forest Service, Natural Resources Canada

Foothills Research Institute

Date

Tom Archibald
General Manager

Foothills Growth and Yield Association

Date

Robert Udell
Operations Director

SCHEDULE A

To the Agreement between

HER MAJESTY THE QUEEN IN RIGHT OF CANADA And

Foothills Research Institute / Foothills Growth & Yield Association

STATEMENT OF WORK

1. **BACKGROUND:**

The Canadian Forest Service (CFS) has been instrumental since 1938 in the establishment and analysis of research trials evaluating the growth response of lodgepole pine to thinning and fertilization in western Alberta. Continuation of this research supports one of the major Science and Technology priorities of the Canadian Forest Service, namely to evaluate and enhance Canada's ability to practice sustainable forest management and to develop techniques to enhance timber production.

The Foothills Research Institute (FRI), originally established in 1992 under the Canadian Model Forest Programme as the Foothills Model Forest, has been conducting research and developing tools for the improvement of sustainable forest management practices since that time. In 2008, the FRI changed its name to better reflect the type of work and the partnerships that it represents. The Institute also supports the work of partnerships such as that represented by the FGYA which conduct their activities under the FRI Programme and receive the support of FRI through administrative and financial services.

The Foothills Growth and Yield Association (FGYA) is a consortium of 9 companies holding major forest tenures in western Alberta, administered by the Foothills Research Institute. Non-voting members of the FGYA include the Foothills Research Institute and Alberta Sustainable Resource Development. The mandate of the Association is to continually improve the assessment of lodgepole pine growth and yield in managed stands by forecasting and monitoring responses to silvicultural treatments, facilitating the scientific development and validation of yield forecasts, and promoting knowledge, shared responsibility and cost-effective cooperation. The FGYA conducts its activities as a programme of the Foothills Research Institute.

In August 2001, representatives of the CFS and FGYA, along with those from Alberta Sustainable Resource Development (ASRD) toured the historic CFS lodgepole pine trials. They concluded that links should be forged to ensure the ongoing protection, measurement and interpretation of these trials.

A Letter of Agreement (LoA) was signed on July 1, 2002, covering terms, conditions, mutual and individual undertakings by the three organizations for the cooperative maintenance, management, analysis and reporting on 14 field trials owned by CFS (13) and SRD (1). This Letter of Agreement expired on March 31, 2007, was succeeded by an interim LoA, and eventually another 5-year LoA, signed in June of 2008. This latest LoA continues the partnership among the three agencies, and provides an umbrella agreement for research in many areas, including lodgepole pine management, and as such provides the context for this Contribution Agreement.

2. **OBJECTIVE/PURPOSE:**

The objective/purpose of this Project is to provide fundamental tree mensuration data and meet management conditions that will allow the CWFC to make use of the long-term lodgepole pine research installations for analyses of wood quality and fibre attributes necessary for assessing the value of different lodgepole pine management activities. This project will provide funding for the Proponents to manage and maintain the long-term lodgepole pine research installations, and to carry out scheduled re-measurements and provide the resulting data to the Minister and other partners.

3. **DESCRIPTION/SCOPE:**

The project will include three areas of activity; a) maintaining and protecting the long-term lodgepole pine research installations, including ensuring trials are clearly demarcated and signed for protection and demonstration purposes, and noting and reporting any changes to the plot status or access; b) re-measurement of plots based on scheduled intervals, including quality control of the collected data, and timely compilation and distribution of the data to the partners; c) analysis of measurement data and knowledge transfer of results.

The purpose of the Government of Canada funding is to support the expansion of proposed measures already planned and funded for the historic trial measurement programme of the FGYA, to encompass additional plots deemed of value to the work of the Canadian Wood Fibre Centre.

Specific tasks:

Year one (2009-2010)

Maintain and re-measure 4 installations, Gregg84, McCardell, Teepee Pole Flat and Teepee Pole North.

Perform quality control assessments on re-measurement data.

Provide cleaned data sets to CFS for analysis and archiving.

Analysis and interpretation of growth and yield

Year two (2010-2011)

Participate in analysis and interpretation of growth and fibre quality study data

Organize demonstrations, field tours or other knowledge exchange activities to present the results of this work.

Maintain and remeasure Clearwater Plots, and possibly the Strachan plots pending a decision on their future disposal (harvest options being discussed in 2009)

4.BENEFITS:

Benefits to Stakeholders:

The key stakeholders that benefit from this agreement are the forest industry and provincial governments in western Canada. Improving competitiveness of the forest industry in poor economic times is a key provincial government initiative in both Alberta and British Columbia. Providing the appropriate raw material to a facility at the right time and affordable cost requires considerable knowledge of the fibre attributes expected and an improved capacity to plan, optimize, and deliver that fibre effectively. Operational complexity at the forest level will increase significantly as the forest sector diversifies/specializes its manufactured products and requires fibre with specific properties. This agreement will provide fundamental information upon which a study of the response of fibre attributes to silvicultural activities will be built. This in turn will provide input to the development of decision support tools for forest planners in western Canada that will help them make the stand management decisions needed to provide competitive opportunities to the forest sector.

Benefits to Canada:

The forest sector is a key economic driver in Canada. Strengthening the forest sector's competitive position in the global marketplace is a priority for the Government of Canada. Value Chain Optimization is a key strategic goal for FPInnovations – Canadian Wood Fibre Centre (CWFC), which delivers research to improve the competitiveness of the Canadian forest sector. This agreement will enable the Proponents to maintain a continuous management presence for this network of long-term installations, and ensure that Canadian companies and citizens continue to benefit from the decades-long legacy of valuable information from these plots.

The long-term installations and the stream of valuable data that comes from them are the first link a chain of value that connects the forest and its management with the delivery of Canadian products into the global marketplace. Canada will also benefit by supporting the ongoing research efforts of the forest industry in Alberta as they seek ways to remain viable and re-invent themselves in a difficult economic climate.

SCHEDULE B

To the Agreement between

HER MAJESTY THE QUEEN IN RIGHT OF CANADA

And

Foothills Growth & Yield Association

BUDGET AND ELIGIBLE COSTS

1. Subject to the terms and conditions of this Agreement, the Proponents shall be reimbursed for Eligible Costs Incurred following successful completion of Project requirements. Eligible Costs shall be approved in accordance with Treasury Board Guidelines associated with the execution of the various tasks as described in Schedule A.
2. Subject to the terms and conditions of this Agreement, Canada shall make a contribution to the Proponents toward the Eligible Costs of the Project Incurred between September 1, 2009 and **March 31, 2011**, unless terminated earlier pursuant to the provisions of this Agreement.
3. **CANADA'S TOTAL OBLIGATION AND CONTRIBUTION: \$50,000 (fifty thousand dollars)**
4. Subject to the terms and conditions of this Agreement, Canada's contribution shall be allocated to the Proponents in the following amounts by Fiscal Year:

For example:

Fiscal Year..... Canada's Amount

2009-2010..... \$40,000

2010-2011..... \$10,000

Notwithstanding Article 24, provided Canada's total contribution of **\$50,000 (fifty thousand dollars)** is not exceeded, the funds allocated for each Fiscal Year may be adjusted by the Proponents as long as the Proponents submits a written request which must be approved in writing by the representative for Canada identified in Article 23.

5. **Other contributors:**

Foothills Growth and Yield Association\$39,000

Note: this consists of annual contributions from member companies (9 FMA Holders) including carryover funding from previous budget years.

6. **Budget Description by Task:**

In-kind contributions by Canada can be reduced or terminated subject to either Article 26 of this Agreement or at the discretion of the Minister and upon written notice by Canada.

Field Measurements	\$ 40,000
Trial Maintenance.....	\$ 10,000
Quality Control – Audits	\$ 6,000
Operations Director Administration	\$ 4,000
Analysis and Reporting - other.....	\$ 29,000
Total:	\$ 89,000

7. **Eligible Costs:**

In accordance with the departmental GST/PST/HST certification form, the reimbursable Provincial Sales Tax, the Goods and Services Tax and Harmonized Sales Tax costs must be net of any tax rebate to which the Proponents is entitled.

- 1) Contracts/Salary and Benefits
- 2) Field and travel expenses
- 3) Purchase of consumables and non-capital equipment
- 4) GST and PST

8. **Non-Eligible Costs (If applicable, otherwise you can remove):**

- 1) Property Taxes
- 2) Purchase of Land

9. Notwithstanding Article 24, provided Canada's total contribution of **\$50,000 (fifty thousand dollars)** is not exceeded, the funds allocated for any budget task may be adjusted by the Proponents up to and including a maximum of twenty percent (20%) without notice having to be provided to Canada. At the time of submitting a claim for payment, the Proponents must provide Canada with a revised budget. Any adjustment greater than twenty percent (20%) shall require the submission of a revised budget to Canada and written approval of the Minister in accordance with the methods described in Article 23 of this Agreement.

SCHEDULE C

To the Agreement between

HER MAJESTY THE QUEEN IN RIGHT OF CANADA

And

Foothills Research Institute / Foothills Growth & Yield Association

REPORTS

A. Payment Claims:

The Proponents shall provide the following documentation when submitting each claim for payment:

- i) a financial report signed by the Chief Financial Officer or Duly Authorized Officer of the organization which outlines Eligible Costs incurred by task.

Subject to the terms and conditions of this Agreement, if the Proponents cannot submit a claim for payment on or before March 31 of a Fiscal Year, the Proponents shall **no later than April 30** provide the Minister with a signed statement of anticipated Eligible Costs Incurred up to March 31, in order for the Minister to establish a Payable at Year-End.

B. On-going Progress/Technical Reports:

- i) By April 30, 2010, the Proponents will provide an interim progress report on progress on the activities listed in Schedule A.

C. Final Reports (Financial and Progress/Technical):

- i) The Proponents shall submit a financial report that shall demonstrate how the contribution was spent. As specified in the Paragraph 12.2 of this Agreement, the Proponents shall provide the Minister with a declaration as to the total amount of contributions or payments received in respect of the Project.
- ii) The Proponents shall provide a final narrative report to describe how its activities have contributed to the achievement of the benefits of the Project as described in Schedule A.

SCHEDULE D

To the Agreement between

HER MAJESTY THE QUEEN IN RIGHT OF CANADA

And

Foothills Research Institute / Foothills Growth & Yield Association

CERTIFICATION OF COSTS INCURRED AND PAID

1. Pursuant to Article 6 of this Agreement, the Proponents must submit the following certification in writing on company letterhead and signed by the duly authorized officer as follows.

“All claims for payment submitted to Canada for the reimbursement of Eligible Costs of the Project have been Incurred and Paid by Foothills Research Institute (“Proponents”) as of the date of this certification by the undersigned and all supporting documents to this effect have been kept in our records and will be made available to the Minister (NRCan) upon request.”

“I, Tom Archibald, an officer of Foothills Research Institute, duly authorized on behalf of the Proponents hereby represent and warrant that the above noted declaration is true and accurate. I understand that if, in the opinion of the Minister, there has been a misrepresentation or a breach of this warranty, the Minister could place the Proponents in default of the terms, conditions or obligations of the Agreement, and may exercise the Minister’s right to terminate this Agreement, and direct the Proponents to repay forthwith all or any part of the monies paid by Canada pursuant to this Agreement.”

Appendix 6: Detailed Expenses 2009-10 for Project 1 – Management of the Association

Foothills Research Institute
Transaction Detail By Account
 April 2009 through March 2010

Type	Date	Name	Memo	Amount
COMPUTER EXPENSE				
8105 - Equipment Lease				
Bill	04/01/2009	Dell Financial Services	server	26.40
Bill	04/03/2009	Dell Financial Services	server	12.60
Bill	05/01/2009	Dell Financial Services	server	26.40
Bill	05/05/2009	Dell Financial Services	server	12.60
Bill	06/03/2009	Dell Financial Services	server	26.40
Bill	06/04/2009	Dell Financial Services	server	12.60
Bill	07/08/2009	Dell Financial Services	server	12.60
Bill	07/08/2009	Dell Financial Services	server	26.40
Bill	08/13/2009	Dell Financial Services	server	26.40
Bill	08/13/2009	Dell Financial Services	server	12.60
Bill	09/01/2009	Dell Financial Services	server	26.40
Bill	09/02/2009	Dell Financial Services	server	12.60
Bill	10/01/2009	Dell Financial Services	server	13.86
Bill	11/19/2009	Dell Financial Services	server	13.86
Bill	12/01/2009	Dell Financial Services	server	13.86
Bill	01/01/2010	Dell Financial Services	server	13.86
Bill	02/05/2010	Dell Financial Services	server	13.86
Bill	03/03/2010	Dell Financial Services	server	13.86
Total 8105 - Equipment Lease				<u>317.16</u>
Total COMPUTER EXPENSE				317.16
CONSULTING				
8307 - Consulting services				
Bill	06/30/2009	Udell Consulting LTD.	jun	3,416.44
Bill	07/31/2009	Udell Consulting LTD.	jul	1,695.75
Bill	08/31/2009	Udell Consulting LTD.	aug	1,995.00
Bill	09/30/2009	Udell Consulting LTD.	sept	1,521.19
Bill	11/30/2009	Udell Consulting LTD.	oct,nov	3,092.25
Bill	12/31/2009	Udell Consulting LTD.	dec	1,147.13
Bill	01/31/2010	Udell Consulting LTD.	jan	1,521.19
Bill	03/31/2010	Udell Consulting LTD.	mar	5,810.44
Total 8307 - Consulting services				<u>20,199.39</u>
Total CONSULTING				20,199.39
FREIGHT				
8304 - Freight				
Bill	10/06/2009	Purolator Courier	friaa	18.43
Bill	01/26/2010	Purolator Courier	ab forest genetic	21.39

Annual Report 2009/10
Final May 19 2010

Total 8304 · Freight				<u>39.82</u>
Total FREIGHT				39.82
MEETING EXPENSE				
8407 · Meeting Expenses				
Bill	06/30/2009	Provincial Treasurer	wrkshop jun25-26	833.70
Bill	03/25/2010	Second Cup	fgya agm	<u>519.64</u>
Total 8407 · Meeting Expenses				<u>1,353.34</u>
Total MEETING EXPENSE				1,353.34
OFFICE & ADMINISTRATION				
8324 · Station. & Off. Supplies				
Bill	03/24/2010	Grand & Toy	binders/dividers	<u>114.65</u>
Total 8324 · Station. & Off. Supplies				<u>114.65</u>
Total OFFICE & ADMINISTRATION				114.65
PRINTING AND BINDING				
8322 · Printing & Binding				
Bill	04/08/2009	IKON Office Solutions	copy	105.48
General Journal	04/08/2009		copy paper	124.97
Bill	05/07/2009	IKON Office Solutions	copy	12.81
General Journal	05/07/2009		copy paper	23.64
Bill	06/15/2009	IKON Office Solutions	copy	16.15
General Journal	06/15/2009		copy paper	9.16
General Journal	07/07/2009		copy paper	42.48
Bill	07/07/2009	IKON Office Solutions	copy	15.95
General Journal	11/07/2009		copy paper	1.46
Bill	11/07/2009	IKON Office Solutions	copy	4.33
Bill	11/24/2009	IKON Office Solutions	copy	21.21
General Journal	11/24/2009		copy paper	3.21
Bill	01/25/2010	IKON Office Solutions	copy	3.81
General Journal	01/25/2010		copy paper	2.56
General Journal	02/22/2010		copy paper	0.43
Bill	02/22/2010	IKON Office Solutions	copy	<u>0.63</u>
Total 8322 · Printing & Binding				<u>388.28</u>
Total PRINTING AND BINDING				388.28
SUB-CONTRACTS				
8152 · General Contracts				
Bill	04/30/2009	Timberline Natural Resource Group	mgt	3,950.46
Bill	05/31/2009	Timberline Natural Resource Group	mgt	3,165.75

Annual Report 2009/10
Final May 19 2010

Bill	06/30/2009	Dick Dempster Consulting Ltd.	apr-jun	21,546.00
Bill	06/30/2009	Timberline Natural Resource Group	mgt	20,885.56
Bill	07/31/2009	McPherson Creek Forestry Services Ltd.	fgya	2,607.15
Bill	07/31/2009	Timberline Natural Resource Group	mgt	3,658.11
Bill	08/31/2009	McPherson Creek Forestry Services Ltd.	fgya	2,777.46
Bill	09/30/2009	McPherson Creek Forestry Services Ltd.	fgya	8,624.07
Bill	09/30/2009	Dick Dempster Consulting Ltd.	jul-sept	20,249.25
Bill	09/30/2009	Timberline Natural Resource Group	mgt	7,502.83
Bill	10/31/2009	McPherson Creek Forestry Services Ltd.	fgya	955.55
Bill	10/31/2009	Timberline Natural Resource Group	mgt	10,722.04
Bill	11/30/2009	McPherson Creek Forestry Services Ltd.	fgya	4,501.77
Bill	11/30/2009	Timberline Natural Resource Group	mgt	3,324.04
Bill	12/31/2009	Dick Dempster Consulting Ltd.	oct-dec	24,139.50
Bill	12/31/2009	Timberline Natural Resource Group	mgt	1,904.72
Bill	01/31/2010	Timberline Natural Resource Group	mgt	1,527.12
Bill	03/31/2010	Dick Dempster Consulting Ltd.	jan-mar	9,077.25
Bill	03/31/2010	McPherson Creek Forestry Services Ltd.	fgya mtg & admin	1,442.70
Bill	03/31/2010	Dick Dempster Consulting Ltd.	jan-mar reports	7,481.25

Total 8152 · General Contracts	<u>160,042.58</u>
--------------------------------	-------------------

Total SUB-CONTRACTS	160,042.58
---------------------	------------

TELEPHONE AND UTILITIES

8422 · Telephone & Fax

Bill	05/14/2009	Telus Communications	conf calls apr 9,16	304.95
Bill	06/14/2009	Telus Communications	conf call may 11	90.00
Bill	07/14/2009	Telus Communications	conf call jul3 conf calls jul 22	139.50
Bill	08/14/2009	Telus Communications	22	39.32
Bill	02/14/2010	Telus Communications	conf call jan 8 conf call jan 20	221.71
Bill	03/14/2010	Telus Communications	20	10.24

Total 8422 · Telephone & Fax	<u>805.72</u>
------------------------------	---------------

Total TELEPHONE AND UTILITIES	805.72
-------------------------------	--------

TRAVEL AND TRAINING

8403 · General Travel

Bill	06/30/2009	Udell Consulting LTD.	jun	46.10
Bill	11/30/2009	Udell Consulting LTD.	oct,nov	462.40
Bill	03/31/2010	Udell Consulting LTD.	mar	803.59

Total 8403 · General Travel	<u>1,312.09</u>
-----------------------------	-----------------

Total TRAVEL AND TRAINING	<u>1,312.09</u>
---------------------------	-----------------

Sub-Total	<u><u>184,573.03</u></u>
------------------	--------------------------

Annual Report 2009/10
Final May 19 2010

OTHER EXPENSE

8642 · Transfer to Other Projects				
General Journal	06/30/2009	Transfer	to 612 for 3 hrd cov mtn trails	149.85
General Journal	10/27/2009	Transfer	to 235.2 to balance 2008 costs	<u>399.78</u>
Total 8642 · Transfer to Other Projects				<u>549.63</u>
Total 8640 · Transfers within Funds				549.63
Total Charges Project 1				<u>185,122.66</u>