

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

Foothills Growth and Yield Association

Annual Report

April 1, 2010 – March 31, 2011

Prepared by:

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With

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Table of Contents

1. INTRODUCTION3

2. PROJECT 1 - DEVELOPMENT AND MANAGEMENT OF THE ASSOCIATION3

 2.1. INCOME AND EXPENDITURES 3

 2.2. ACHIEVEMENTS AND SHORTFALLS 4

3. PROJECT 2 - REGENERATED LODGEPOLE PINE4

 3.1. INCOME AND EXPENDITURES 4

 3.2. ACHIEVEMENTS AND SHORTFALLS 4

4. PROJECT 3 – COMPARISON OF PRE- AND POST-HARVEST STAND DEVELOPMENT8

5. PROJECT 4 - COOPERATIVE MANAGEMENT OF HISTORIC RESEARCH TRIALS8

 5.1. INCOME AND EXPENDITURES 8

 5.2. ACHIEVEMENTS AND SHORTFALLS 9

6. PROJECT 5 - REGIONAL YIELD ESTIMATORS11

 6.1. INCOME AND EXPENDITURES11

7. PROJECT 6 - ENHANCED MANAGEMENT OF LODGEPOLE PINE11

 7.1. INCOME AND EXPENDITURES11

 7.2. ACHIEVEMENTS AND SHORTFALLS12

8. PROJECT 7 - REGENERATION MANAGEMENT IN A MOUNTAIN PINE BEETLE ENVIRONMENT13

9. EXTENSION AND COMMUNICATION15

 9.1. *30. PRIORITY OF DOCUMENTS*..... **ERROR! BOOKMARK NOT DEFINED.**

List of Tables -

Table 1. Annual Income and Expenditures - Project 14

Table 2. Achievements and Shortfalls - Project 15

Table 3. Achievements and Shortfalls – Project 2 – Data Management, Analysis and Reporting..6

Table 4. Achievements and Shortfalls – Project 2 – Field Program8

Table 5. Annual Income and Expenditures – Project 49

Table 6. Achievements and Deliverables Project 4. Historical Research Trials 10

Table 7. Annual Income and Expenditures – Project 6..... 11

Table 8. Achievements and Shortfalls - Project 6 12

Table 9. Achievements and Shortfalls – Project 7..... 14

Table 10. Achievements and Shortfalls – Communications and Extension..... 15

List of Appendices

Appendix 1. FGYA Steering Committee Minutes, March 25, 2010..... 16

Appendix 2. Mid Year Progress Report November 2010.....21

Appendix 3: Historic Research Trial Contribution Agreement Amended Jan 201124

Appendix 4: Detailed Expenses 2010-11 for Project 1 – Management of the Association.....[300](#)

1. Introduction

The Foothills Growth and Yield Association (FGYA) Business and 2010 Work Plan was finalized in May 2010 (revised February 2010 re membership fee schedules) to incorporate 2009/10 actual results and directives from the Steering Committee meeting held March 25, 2010 (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. Regeneration 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, 2010 to March 31, 2011.

2. Project 1 - Development and Management of the Association

2.1. Income and Expenditures

Table 1 shows income and expenditures for Project 1 for the 2010/11 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, 2011 (year end).

Note in Table 1 that the under-expenditure relative to budget results primarily from lower than anticipated costs for most budget items. Some items originally included in the 2010 business and work plan (e.g. 10 year report) were not spent in 2010 and will show up in 2011 costs. Also the costs for Field Coordinator were well below budget (other demands on his time) as well as those for data management. Detailed expenditures for Project 1 are listed in Appendix 3.

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 as well as some Mountain Pine Beetle plots.

¹ Forest Resource Improvement Association of Alberta

Table 1. Annual Income and Expenditures - Project 1

| Income / Expenditure | 2010-11 Forecast | 2010-11 Actual² |
|------------------------------------|-------------------------|-----------------------------------|
| Membership fee (per voting member) | 18,000 | 18,000 |
| Income | | |
| Prior year balance forward | 29,878 | 29,878 |
| FRIP Carryover from FOOMOD 01 03 | 116,550 | 116,550 |
| Membership Fees FRIP new 5 year | 90,000 | 0 ³ |
| Membership fees - non-FRIP | 72,000 | 72,000 |
| Total income | 308,428 | 218,428 |
| Expenditures | | |
| Director | 30,000 | 30,875 |
| Field Coordinator | 40,000 | 19,870 |
| Research and Development Associate | 75,000 | 75,012 |
| GIS, Database and misc. services | 30,000 | 17,833 |
| Office and field supplies | 2,500 | 1,302 |
| Meetings and tours | 2,000 | 2,709 |
| Contingency (5%) | 9,300 | |
| Total expenses | 188,800 | 147,601 |
| Ending Balance | 119,628 | 70,827 |

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.

3. Project 2 - Regenerated Lodgepole Pine

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.

² Estimated number based on forecast year end – will be updated after March Costs are in

³ FRIAA transfer was authorized by not received by FRI by March 31, sum is added to forecasted income 2011/12

Table 2. Achievements and Shortfalls - Project 1 – Development and Management of the Association

| Deliverable | Progress | Reference |
|---|--|--|
| Project 1. Development and Management of the Association | | |
| Updated 5-year business plan and annual work plan | Completed May 2010. | |
| | Plan amended, incorporated into new 5-year program proposal, approved February 2011. | Third Five-Year Program, February 2011. |
| Project proposals, plans, designs, reports and publications | See under individual projects. | 10 year program report: Foothills Growth and Yield Association - The First Decade: April 2000 – March 2010. |
| Meetings, field tours and technical sessions | Workshop for FGYA members: <i>Decision support tools for management of lodgepole pine regeneration</i> , Hinton, 17 June 2010. | Workshop materials package distributed Draft lodgepole pine regeneration model deployment and enhancement plan. |
| | Open technical session: <i>Managing silvicultural risks in a changing climate</i> , Hinton, 17 June 2010. | Presentation distributed and available on request. |
| | Pre-field season meeting for FGYA technical representatives and contractors: <i>Regenerated Lodgepole Pine Project Plans for 2010 and Beyond</i> , Hinton, 18 June 2010. | See updated 5-year business and annual work plan. |
| | Annual steering and technical committee meeting scheduled for 22 March 2011. | |
| Active publicly-accessible web site | Ongoing under Foothills Research Institute site | www.foothillsresearchinstitute.ca |
| Web-based risk management discussion forum(s) | 2 forums established (see Projects 2 and 7). | https://sites.google.com/site/fgyadiscussiongroup/ http://mpbdst.encaps.com/ |
| Structured deployment and review of decision support tools | Established for regeneration model and MPB decision support tool (see Projects 2 and 7). | |
| Communications and extension strategy update and implementation | Update included in annual work plan. | Business and work plan, May 2010. Third Five-Year Program, February 2011. Reports, papers, forums and workshops listed under individual projects. |
| Mid-year and annual progress reports; | Mid-year report completed and draft annual report prepared. | Mid-year progress report (November 2010). Draft annual report for 2010-2011 (March 2011). |
| Financial statements | | |
| Documented recommendations of the technical committee | Technical Cttee Meeting, Edmonton, 25 March 2010. | Meeting minutes. |
| Steering committee minutes | Steering Cttee Meeting, Edmonton, 25 March 2010. | Meeting minutes. |

Table 3. Achievements and Shortfalls – Project 2 - Regenerated Lodgepole Pine Project:

| | | |
|---|---|---|
| Measurement and treatment schedule | Completed requirements analysis and schedules. 2010 measurement schedule issued to contractors in June 2010. Requirements analysis incorporated into 3 rd 5-year program plan. 2011 schedule will be finalized following March technical and steering committee meeting for issuance in June 2011. | RLP measurement schedule (spreadsheet), June 2010. Third Five-Year Program, February 2011. |
| Field treatments | No treatments in 2010. | Information Note: Regenerated Lodgepole Pine Trial – Proposal and Priorities for Measurement and Treatment, March 2009. |
| | Accidental incursion took place in installation 4-2-4444, affecting buffers and portions of C and T measurement plots. | Map of incursion, West Sky Resource Consultants. 27 July 2010. |
| Field measurements | Full (detailed) measurements: 76 installations (1 unscheduled installation added because of thinning / brushing incursion) | Field Manual for Measurements and Maintenance Version 3.1, July, 2010. |
| | Check (mortality only) measurements: 26 installations. | |
| | Problems encountered: - Data submitted late (January 6, 2011) for 24 installations. - Unacceptably high levels of suspect data identified in 18 installations during preliminary analysis. | Problems and proposed remedial actions are documented in pertaining work verification reports. |
| Summary status and verification reports | - 11 installations audited (9 by Field Coordinator and 2 by company Technical Representative). - Work verification reports completed and submitted to sponsoring members. - Summary to be discussed at March 22 meeting. | Audit and work verification reports, January 2011. |
| Digital database | Loading into Access database completed 9 January 2011 by contract database manager. | FGYA_RLP_2010Jan09.mdb. FGYA_RLP_FrontEnd_v113.mdb. |
| | Master database not loaded pending resolution of suspect data problems. | |
| Crop performance report | Not updated to include 2010 data pending validation, correction or replacement of suspect data. | Regenerated Lodgepole Pine Trial 2009 crop performance report, March 1, 2010 |

Annual Report 2010/11
May 5, 2011

| | | |
|--|---|---|
| Regeneration model deployment plan | Draft finalized September 2010, and distributed to web-based discussion group for feedback on 10 November. No comments received. | Draft Lodgepole Pine Regeneration Model Deployment and Enhancement Plan, September 2010. |
| Regeneration model: preliminary demonstration and distribution | Preliminary models distributed to FGYA members 7 April 2010. Model incorporates RLP trial data to 7 years after planting, with projections to 12 years total age. Demonstrated at the June 17 workshop, including an added feature linking mortality of planted stock to mean annual temperature. | RLPp_v1alpha and RLPn_v1alpha. Technical Report: Predicting Regeneration Establishment and Performance of Lodgepole Pine in Alberta, May 25, 2010 |
| Regeneration model enhancement | First round enhancement (model consolidation) completed 10 November 2010, incorporating feedback provided by workshop participants. The enhancement combines plantation and natural regeneration versions into a single application that can accept conventional RSA survey data and make predictions for any combination of planting and natural ingress. Climate input is optional. | Model (RLPc1alpha) and instructions (Discussion Group Note 2010-1) are available for download by authorized users from the FGYA Discussion Group website (see below). |
| | Second round enhancement. Intended to incorporate 2010 data (9 years after planting) and feedback from users. Scheduled for March 2011 but not done owing to 2010 data problems and lack of feedback. | |
| Regenerated lodgepole pine discussion group | Initiated on Google Sites 10 November, 2010, following delay in establishment of FRI SharePoint site. Designated users given access to the models, documentation and discussion group, and invited to participate in testing of the consolidated model and discussion of related issues. | https://sites.google.com/site/fgyadiscussiongroup/ |
| Assessment of climate effects | - Presentation of results – June 17, 2010. - Incorporation of mortality effects in regeneration model – completed for planted stock in RLPp and RLPc models. | Effect of Climate on Mortality of Immature Lodgepole Pine – PowerPoint Presentation, June 17, 2010. |
| | Preliminary mapping of mortality risk in lodgepole pine regeneration completed. | Technical Note 2011-1: Mapping the Risk of Climate-linked Mortality in Lodgepole Pine Regeneration, February 21, 2011 |
| | Scientific paper for peer reviewed publication – not completed. | |

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 | 6 | 6 | | | | 1 |
| BRL | 6 | 6 | | | | 1 |
| CFP | 6 | 6 | | | | 1 |
| MWFP | 6 | 6 | | | | 1 |
| SDA | 6 | 6 | | | | 1 |
| SLS | 6 | 6 | | | | 1 |
| SPI | | | 14 | 14 | | 0 |
| WEYDV | 6 | 6 | | | | 1 |
| WEYED | 6 | 6 | | | | 0 |
| WEYGP | 16 | 16 | 2 | | | 3 ⁴ |
| WWC | 10 | 10 | 12 | 12 | | 1 |
| TOTAL | 74 | 74⁵ | 28 | 12 | | 11 |

4. Project 3 – Comparison of Pre- and 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. Some work began in 2011, to verify previous results and quantify the effects of density on yield. See Project 4 – analysis and publication of results.

5. Project 4 - 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 2010-11 fiscal year. The project covers the FGYA inputs for the overall Project 4 – *Cooperative Management of Historic Research Trials*.

⁴ One plot audited by FGYA Field Coordinator, 2 plots audited by Greg Behuniak

⁵ Substantive measurement errors by some contractors will require remedial checks in spring 2011 before the 2010 data can be incorporated into the database for analysis.

Table 5. Annual Income and Expenditures – Project 4

| Income / Expenditures | Budget | Actual |
|---------------------------------|---------------|---------------------|
| Income | | |
| Prior year balance forward | 14,430 | 14,430 |
| Member Contribution | 0 | 0 |
| FRIAA funding transfers | 0 | 3,441 |
| Other – CdnWoodFibre Centre | 67,000 | 67,000 |
| Total income | 81,430 | 84,871 |
| Expenditures | | |
| Measurements | 15,000 | 19,110 ⁶ |
| Evaluation of G&Y Models | | 0 |
| Analysis CWFC Project | 41,000 | 48,333 |
| Quality Control | 4,000 | 0 |
| Contingency, signage, Equipment | 8,000 | 0 |
| Admin Charge (CWFC Project) | 3,200 | 0 |
| Total expenditure | 71,200 | 67,443 |
| Ending Balance | 10,230 | 17,428 |

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, \$97,000 grant \$30,000/67,000)

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. This was updated in January 2011 to \$97,000 to cover extra analytical costs. See Appendix 3 (Contribution Agreement Schedules A,B,C,D).

⁶ 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. Achievements and Deliverables Project 4. Historical Research Trials

| Project 4. Historic Research Trials | | |
|--|---|--|
| Deliverable | Progress | Reference |
| Ongoing measurements | Scheduled measurements completed: - Clearwater fertilization & thinning; - Ricinus fertilization after thinning; - Strachan thinning. | Excel file: CFSData2010 submitted to CFS and FGYA 1 st October 2010. |
| Maintenance and protection of trials (shared responsibility) (Ongoing) | Buffers, tags and nails inspected for above trials. Tags and nails replaced as necessary. Damage (trampling and missing trees) resulting from recreational use in all 3 trials. | CFS research trials comments – contractor report (West Sky Resource Consultants), received 1st October 2010. |
| Analysis and publication of results (CFS) | - Modelling and analysis of longitudinal and multilevel historical spacing trial data. Manuscript in preparation. - Stand Density Management and Productivity of Lodgepole Pine Stands. No progress. - Predicting individual-tree diameter growth in thinned and nitrogen fertilized mid-rotation Lodgepole Pine. No progress, may be abandoned. - Analysis of spacing effects on lodgepole pine height growth. Abandoned. | |
| Analysis and Publication of Results (FGYA) | Validation of GYPSY 2010 (aspatial version) for application to managed lodgepole pine: analysis completed with support from FRIAA-GYPSY Project HIWOOD-01-129. Awaiting review by project sponsor and SRD. | Summary report: Results of Testing GYPSY with Data from the Gregg Spacing Trial, 19 January 2011. |
| | Verification of Project 3 conclusions and quantification of effects of density on yield. Data compilation to age 50 complete; projection to rotation age delayed pending decision on use of GYPSY or alternative model. | |
| Verbenone treatment | No trials reported attacked by MPB. | |

6. Project 5 - Regional Yield Estimators

6.1. Income and Expenditures

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

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.

The Association and its partners will renew activity under this project to validate growth and yield models for use in the Foothills region, and look at appropriate enhancements to improve their value. It proposes to also improve and extend the linkage between regeneration forecasting tools and conventional growth and yield models predicting rotation-age yields.

A project to validate the GYPSY model against the Gregg Trial data is reported under Project 4 – Analysis and Publication of Results.

7. Project 6 - 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) | (5,010) |
| FRIAA Open Funds | | |
| Extension | | |
| Total income | (5,410) | (5,010) |
| 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) | (5,010) |

No further expenditures are planned in 2011. Final reports have been received from UofA scientists and are being reviewed by the Research and Development Associate who will conduct any necessary supplemental analysis and prepare the final report in 2011. Subject to further review of these results by members, the FGYA will re-measure the thinning and fertilization field trial and obtain a fuller assessment of yield responses to treatments conducted in 2005-2006. The 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 – Enhanced Management of Lodgepole Pine

| Project 6. Enhanced Management of Lodgepole Pine | | |
|---|--|---|
| Deliverable | Progress | Reference |
| Sub-project 1: Lodgepole pine nutrition: | | |
| Analysis (3-year results and projections) | <ul style="list-style-type: none"> - Tree level analyses completed for nutrient uptake, mobilization and growth responses in harvest-origin samples. - Influence of treatments on snow damage investigated. - Stand-level projections of treatment effects not made because of snow-damage and limited (3-year) growth period. - Nutrient uptake in fire-origin stands not analyzed. – Analysis of effects of treatment on defense against blue-stain inoculation (conducted in buffers of 10 experimental sites) not completed. | |
| Papers and reports | <ul style="list-style-type: none"> - 3 papers developed: 1 accepted and published; 1 accepted and in press, 1 in final preparation. - Report on results of blue-stain inoculation pending. - Final project report not prepared. | <ul style="list-style-type: none"> - Growth response to fertilization and thinning in lodgepole pine (drafted). - Fertilization of lodgepole pine trees increased growth but reduced root carbohydrate concentration (published). - Snow damage in lodgepole pine stands brought into thinning and fertilization regimes (in press). |
| Sub-project 2: pine-aspen density management: | | |
| - Analysis | Analysis completed. | |
| - Papers and reports | Information report completed. | Report on EMLP2 Study (FRIAA Project OF-02-16): Effects of aspen competition on growth of lodgepole pine, November 23, 2010. |

8. Project 7 - Regeneration Management in a Mountain Pine Beetle Environment

This is a new project that began late in 2007/08 with work continuing 2011 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 – Regeneration Management in a MPB Environment

| Project 7. Forest Management in and MPB Environment | | |
|---|--|---|
| Deliverable | Progress | Reference |
| Basic monitoring (tree mortality) | Report completed for 2009 monitoring (87 plots). | - Technical Note 2010-5, Monitoring and Decision Support for Forest Management in an MPB Environment – Progress Report for 2009, April 30, 2010 . |
| | Schedule finalized for 2010. | Excel file: RevisedSchedule2010. |
| | 64 plots monitored in 2010. | |
| Detailed monitoring (includes vegetation status) | 21 plots measured in 2010 (2 deferred pending confirmation of attack). | |
| Compilation of existing and new data – PSP database development | Pre-existing data obtained for all plots in monitoring network and added to database. | Microsoft Access database: MPB_Database08_ver4_2010_1108. |
| | 2010 data compilation in process. | Report on compilation and results pending. |
| Decision support tool | Prototype demonstration, 17 June 2010, Hinton. | |
| | Deployment plan and DST documentation issued, July 2010. Enhancement plan developed, and revised March 2011. | - MPB-DST Deployment and Enhancement Plan, 20 July 2010. - Report: MPB Decision Support Tool Application Development (23 July 2010). - Revised MPB-DST Enhancement Plan, March 15 2011. |
| | Preliminary DST release to first-round user group, August 6, 2010. | http://mpbdst.encaps.com/ |
| | Meeting of user group held to review limitations of the preliminary DST and identify strategies for enhancement. | - Meeting Notes: MPB DST Project Beta Test Review, 17 December 2010. - Action Items from Meeting 17 December 2010 (final revision February 3, 2011). |
| | Meeting of user group to review and amend if necessary stand type starting conditions included in DST. | - Stand Types Meeting Summary Notes, 28 February 2011, Edmonton. |
| | | |

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 2010. 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 |
| Workshop on RLP models | 17 June 2010 |
| Climate Change Impacts Technical Session | 17 June 2010 |
| Web-based Silvicultural Risk Management Discussion Group | Group established fall 2010 |
| 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. Some changes to website underway |
| Technical Information Reports/ Papers for Projects 2 (RLP) , 3 (PHSD) ,4 (HRT) , 6 (EMLP), 7 (MPB DSS) | See Achievements and Shortfalls by Project Number. |
| Bulletins – two Quicknotes | No Quicknotes |

Appendix 1. FGYA Steering Committee Minutes, March 25, 2010

Foothills Growth and Yield Association Annual Meeting

Steering Committee Meeting

March 25, 2010 1:00pm – 4:30pm

Stanley A. Milner Library

Room 7, sixth floor

Churchill Square, Edmonton

Attendees

Company Reps

Tim Burns – Blue Ridge Lumber
Richard Briand – Hinton Wood Products
Greg Behuniak – Weyerhaeuser
Tim Gylander – Weyerhaeuser
John Huey – Sundance
Dwight Weeks – Canfor
Tim McCready – Millar Western
Bob Held – Sundre Forest Products
Darryl Kelly – Spray Lakes

Government/Other

Bob Udell –FGYA
Dick Dempster – FGYA
Dave Morgan – SRD
Sharon Meredith – SRD (scribe)
Tom Archibald – Foothills Research Institute

Dwight Weeks called meeting to order at 1:07.

1) Review of Minutes and Action Items of March 20, 2009

Dwight reviewed action items from the March 20, 2009 Steering Committee meeting summarized in the following table:

| Item | Reference |
|---|---|
| Dick Dempster to provide breakdown of his time by project | See RDA Report for 2009 and Table below |
| Establish Quality Control/RLP Database Subcommittee | 1. RLP Task Force Report July 10 2009 2. Recommendation to extend TL contract for Dbase Management July 10 2009. 3. 7 of 9 voting members accepted recommendation on "Doodle" poll. |
| Project 2 RLP. Dick Dempster to review need for annual status checks | Review done, see notes. Regeneration is still in dynamic state, recommend continuing to performance survey dates, then re-evaluate. |
| Project 4 Historic Trials. Dick Dempster to review priority algorithm for historic trial remeasurements | Review done. Existing protocol for selection is still viewed as appropriate. See protocol. |

Motion: Dwight Weeks moved to adopt the minutes as recorded. Seconded by John Huey. Carried.

2) New Business

a. Election of New Chair

Dwight resigned as Chair of Steering Committee (end of two year term) and called for nominations for a new Chair. Richard Briand nominated Greg Branton; Greg accepted the nomination. No additional nominations were made in the second or third call for nominations. Greg Branton was elected Chair of the Steering Committee by acclamation.

Greg thanked Dwight for his efforts over the last few years.

b. Review of 2009 Program (preliminary annual report)

Bob Udell reviewed the draft annual report. Numbers are forecast to year end based on latest printouts from FRI. Year end actual costs will be used to produce the final Annual Report. Highlights for each project are as follows:

Project 1: Table 1 needs to be revised to be consistent with page 18 of draft business plan for actual expenditures and carry over. Rand McPherson did good job as field coordinator and in particular his early season work with contractors was helpful in ensuring measurements were done correctly.

Project 2: Was discussed in detail at technical committee meeting, so not repeated as most Steering Committee members were present.

Project 3: A grant from CFS will be used for measurements this year.

Note: Signs for Clearwater plots. Question also of signs for other trials and ones we don't maintain.

Action: Clearwater Plot signage to be assessed - installed or upgraded if needed.

Project 6: Cautiously optimistic that U of A will deliver its papers and technical reports.

Project 7: Will be covered in detail in workshop tomorrow.

Communication and Extension: Met all targets except producing Quicknotes. Dick did produce technical notes that could be revamped as Quicknotes. This is not really an issue for FRI.

i. Director & Field Coordinator

Bob Udell stated that the forecast of number of days was generous and he tried to limit time spent to allow more time to be spent by Field Coordinator. Bob has enjoyed being Operations Director and appreciated support from a number of people, but would like this year to be his last in that role. Greg Branton said that he wants to see transitional plan in place.

ii. Research & Development Associate

Dick Dempster went over his report in detail in the morning technical committee meeting, so only highlighted some important items. Some of his time on MPB DST is covered under the FRI MPB budget. Most of his work was on Project 2 (RLP). His total days to year end will be 135 and he was budgeted for 110. He is not charging for the extra days. He expects less time

will be required for next year as most of the outage was in planning and management and the same issues are not expected to occur next year.

Action: Bob Udell will cross check all numbers in annual report against the Business Plan before submitting to FRIAA.

Motion: Dwight Weeks moved to approve the annual report subject revisions to Tables based on final FRI accounting numbers. Seconded by Tim Burns. Carried.

c. Five Year Business Plan/ 2010 Work Plan Review/Approval

Bob Udell reviewed the 2009/2010 Business Plan, which includes suggesting more emphasis on Field Coordinator time and recommending carrying on with the Timberline contract for the database. Expenses include GIS, database and misc. services. No field tour was held last year and none is planned for this year, but the business plan proposes one every second year after this year.

Because the tenth year of project is complete, Bob Udell will need to submit an annual report and new five year proposal. Carson MacDonald is prepared to issue annual amendments to the agreement instead of a new five year project, but each year's plan amendment still projects out five more years. A new five year plan will signal the commitment of the members to the ongoing program.

Motion: John Huey moved that the FGYA should submit a proposal for a new 5 year project to FRIAA. Seconded by Richard Briand. Carried.

Note: Dwight Weeks advised that Canfor will advise whether it can continue to support the FGYA's program after reviewing the draft project plan.

Dick asked for Input from Steering Committee on co-authoring an academic paper for submission to the Canadian Journal of Forest Research, inviting Andreas Hamman to present at the June workshop, and posting the crop performance report and Technical Note on climate influence on mortality. Greg Branton said that approval of the work plan would constitute approval of these things.

Considerable discussion about Table 2 and why there appears to be money that wasn't expected coming from FRIAA. Bob needs to have conversation with Carson about this \$116,550 and where that money has come from. It seems like there is an accumulation of FRIP money, possibly a holdback on the project. Membership fees of \$18,500 should be enough to carry the Project 1 forward if this is the case. If the FGYA gets the \$116,550 from FRIAA, it might even be possible to reduce membership fees. Dwight recommended maintaining membership fees at a steady state over the five years, rather than reducing them on a one time basis for a year.

Action: Bob Udell will talk to Denise and Carson. He will find out from Carson where the money came from that wasn't "on our radar screen." He will provide clarification to the Steering Committee.

Action: Bob Udell will change Table 2 to show what payment for all membership fees is and what ending balance and what the ending balance would be (i.e. Reconcile Annual Report with Work

Plan numbers). He will also look at scenarios to determine much the fees could be reduced and still maintain a positive balance at end of five years.

Motion: Richard Briand moved to approve the 2010/2011 work plan subject to changes to Table 2. Seconded by Greg Behuniak. Carried.

d. Staff and Assignments 2010/11

Bob Udell presented his proposal for staff and assignments in 2010/11. It was proposed that Bob Udell continue as Operation Director (30 days) and Rand McPherson continue as field coordinator (40 days).

It is proposed to use Timberline for database work for 2010/2011. Timberline was asked to provide an estimate for continuing to manage the database. A discussion of the Timberline proposal ensued. Some of the numbers seemed high, particularly work on QC routines and making the contractor loading database.

Action Item: Dick and Bob Held and Rand McPherson will talk and then will go back to Timberline with clearer picture of what we are doing this year and ask them to revise their estimate.

It was proposed to renew the rolling 2 year contract with the Research and Development Associate. Dick can see being involved in the Association at least until the RLP project converts into a regular growth and yield plots after the 14 year performance survey window. He would also like to see MPB project through to completion.

Bob Udell and Dick Dempster were excused from the discussion of staff and assignments.

Motion: Dwight Weeks moved to accept Bob Udell as Operations Director for a year, Rand McPherson as Field Coordinator for a year, and Dick Dempster as Research and Development Associate for two more years. Seconded by Bob Held. Carried.

Motion: Bob Held moved to accept Timberline as field database manager this year subject to a capped price of \$24,500. Seconded by John Huey. Carried.

Action Item: Bob Udell, Greg Branton and Richard Briand will discuss finding a new Operations Director and be ready to have a replacement at the next AGM/Steering Committee meeting.

e. Other Business

i. Name of Association

Tom Archibald explained that the possibility of a name change arose because of a GST audit at FRI. The name "Foothills Growth and Yield Association" bothered the auditor and caused a lot of problems in the audit. Part of the issue was proving that FGYA was not a separate entity, but a program under the Foothills Research Institute. Discussion ensued around why the name was chosen originally and whether association has a different legal connotation federally than under Alberta law. The Steering Committee was very reluctant to change the name unless necessary.

Action Item: Tom Archibald will talk to Revenue Canada and see what they will accept in terms of a name. As a last resort he will contact FRI's lawyer or ask a board member to talk to their lawyer. As a last resort, the FGYA will look at changing its name.

Motion: Greg Behuniak moved to remove reference to changing the FGYA name from work plan. Seconded by John Huey. Carried.

f. Authorizations for Admin and Funding

Deferred pending update to Business Plan (new five year plan proposal) and determination of what membership fees will be.

Greg Branton adjourned the meeting at 3:16.

Appendix 2. Mid Year Progress Report November 2010

Foothills Growth & Yield / 235

April 1, 2010 – March 31, 2011

| Brief Program Description / Mandate | | | | | | | | | |
|---|--------------------------|------------|-------------|-------------|-------------|-------------|-------------|--|---|
| 2010 - 2011 Program Projects | New / Cont. Project Year | % Complete | % Complete | | | | | % Complete Goal | Program Lead Comments |
| | | | 01-Apr-2010 | 15-May-2010 | 31-Aug-2010 | 15-Nov-2010 | 31-Jan-2011 | | |
| Project 1. Development and Management of the Association | Continued Year 11 | Ongoing | | | | | | | <p>May 15 –A New Five Year Plan will be prepared and presented to FRIAA and the membership for funding 2010-15. This will carry the RLP project through to the Performance Survey requirement time span under Alberta regulations.</p> <p>August 31 - Work has begun to find a new Operations Director for the Association in March 2011</p> <p>November 15 – Five year plan and five year report 2005-10 are underway</p> |
| | | | 10% | 50% | 50% | | | <p>May 15 –The new regeneration models for lodgepole pine growth and yield will be presented at a workshop on June 17. At the same workshop, a paper on emerging work on climate impacts will be presented (% for 15 May is % of work scheduled for this year)</p> <p>August 31 - Field work proceeding on schedule</p> <p>November 15 – Some crews did not deliver the measurements as required by the schedule. This sets back delivery of some products dependent on that measurement for three months (June 2011)</p> | |
| | | | 0% | 0% | 0% | 0% | | | <p>May 15 – Will be based on field data to be collected July-September</p> <p>August 31 - Dependent on data collection in progress</p> <p>November 15 – Awaiting 2010 data; report will be completed by March 31, 2011 providing all data loaded by November 30, 2010. Delay caused by failure of contractor to collect RLP plot data as required.</p> |
| Project 2. C&E Goal 1. Crop performance report - Regenerated Lodgepole Pine, 9 Growing Seasons. | Continued Year 11 | Ongoing | | | | | | | <p>May 15 –Work is proceeding on analysis and the development of the paper for peer review and publication in a scientific journal.</p> <p>August 31 - Planned work for 2010 not yet started due to conflicting commitments of academic partner</p> <p>November 15 –No further progress. Research and Development Associate will prepare draft by 31-Jan-2011 without academic assistance.</p> |
| | | | 50% | 70% | 70% | 70% | | | <p>May 15 –The regen models will be presented at the June 17 workshop with hands on training in their use. Further development may follow depending on feedback from workshop attendees and users.</p> <p>August 31:</p> <p>Nov 15 – Deployment and enhancement plan developed based on workshop results. User-friendly simulator completed and deployed to reviewers for testing and evaluation..</p> |
| | | | 80% | 90% | 90% | 100% | | | <p>November 15 - This work cannot proceed until the RLP data from Project 2 is delivered,</p> |
| Project 2. C&E Goal 2. Report on linkage between regeneration growth and mortality to climatic factors. | | | | | | | | | |
| | | | | | | | | | |
| | | | | | | | | | |
| Project 2. C&E Goal 3. Regeneration model development and potentially a user-friendly simulator. | | | | | | | | | |
| | | | | | | | | | |
| | | | | | | | | | |
| Project 2. C&E Goal 3. Regeneration model development and user-friendly simulator – enhancement, including incorporation of 2010 data | | | | | | | | | |
| | | | | | | | | | |
| | | | | | | | | | |
| | | | | | 0% | | | | |

Annual Report 2010/11
May 5, 2011

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|--|---------------------------|---------|-----|------|------|--|--|------|---|
| | | | | | | | | | the enhancement will now be put off until June 2011. |
| Project 2. C&E Goal 4. Information report or scientific paper on implied yield differences between fire-origin and managed stands. | | | | | | | | | <p>May 15 –Work will commence following release of new GYPSY model by SRD scheduled for May 28</p> <p>August 31 – Removed from Project 2. See Project 4</p> |
| Project 4. Historic Research Trials | Continued Year 9 of 11 | Ongoing | 0% | 10% | 100% | | | | <p>May 15 –(% for 15 May is % of work scheduled for this year)</p> <p>August 31 - Contract awarded for 2010 Trial Measurements</p> <p>November 15 – Measures are complete</p> |
| Project 4. C&E Goal 1. Information report or scientific paper on implied yield differences between fire-origin and managed stands. | | | | 10% | 50% | | | | <p>May 15 –Work will commence following release of new GYPSY model by SRD scheduled for May 28</p> <p>August 31 - Required data and models acquired</p> <p>November 15 –Scope expanded to include validation of new GYPSY model. Work contracted and underway with support for added work provided by West Fraser FRIAA-GYPSY Project.</p> |
| Project 6. Enhanced management of Lodgepole Pine | Continued Year 7 of 7 | 80% | 80% | 80% | 80% | | | 100% | <p>May 15 –Still awaiting final reports from U of A.</p> <p>August 31 - Awaiting submissions from U of A</p> <p>November 15 – No Change except more recent UofA-proposed delivery dates have come and went.</p> |
| Project 6. C&E Goal 1. Information report(s) on pine/aspen trials; fertilization and thinning trials. | | 80% | 80% | 80% | 80% | | | 100% | <p>May 15 –All FGYA work is complete on this project, except the final reports which are the undertaking of U of A scientists.</p> <p>August 31 - Awaiting submissions from U of A</p> <p>November 15 - No Change except more recent UofA-proposed delivery dates have come and went.</p> |
| Project 7. Mountain Pine Beetle Monitoring / DSS | Continued Year 2 of 3 | 33% | 33% | 50% | | | | 66% | <p>May 15 – Preliminary DST to be presented at June 17 Workshop. Proposal for enhancing this DST has been submitted to MPBEP.</p> <p>August 31 - Data collection and model deployment proceeding on schedule</p> <p>November 15 -</p> |
| Project 7. C&E Goal 1. Summary report of PSP monitoring for MPB impacts. | | 0% | 0% | 0% | 0% | | | | <p>May 15 – Will be based on data collected during Fall and winter 2010-11. (Report for 2009-10 to March 31, 2010 finalized and submitted.)</p> <p>August 31 - Will be undertaken in last quarter following submission of field data</p> <p>November 15 – Field data collection proceeding on schedule</p> |
| Project 7. C&E Goal 2. Preliminary DST for silviculture decision making re MPB impacts. | | 90% | | 100% | | | | 100% | <p>May 15 – Final refinements underway, will be presented at June WS.</p> <p>August 31 - Proceeding to deployment and enhancement based on plan developed and approved following workshop</p> <p>November 15: Complete</p> |
| Project 7. C&E Goal 2 DST for silviculture decision making re MPB impacts – deployment and enhancement. | | | | | 25% | | | | <p>November 15 – Preliminary DST deployed to reviewers; feedback provided by reviewers. Planned report and meeting to discuss feedback not completed.</p> |
| General C&E Goal | | | | | | | | | |
| Silviculture Risk Management Discussion Group (new) for All Projects | | 0% | 10% | 10% | 50% | | | | <p>May 15 –Preliminary design done, polling of members</p> <p>August 31 - Awaiting access to FRI SharePoint facility</p> <p>November 15 - Because FRI is continuing to experience roadblocks and frustrations in the development of Sharepoint, the discussion group has been established on Google</p> |

Annual Report 2010/11
May 5, 2011

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|---|---|--|--|--|--|--|--|--|--|
| | | | | | | | | | Sites which appears suitable to the purpose. Participants invited and introductory discussion commenced; additional discussions to be added. Renamed as "Regenerated Lodgepole Pine Discussion Group." |
| Program Highlights April 1 – May 15, 2010 | The nine funding companies of the FGYA have directed the development of a new five year plan to take the Association and the regenerated lodgepole pine trials through the 8-14 year performance measurement requirement under Alberta regeneration standards. | | | | | | | | |
| Program Highlights May 16, - August 31, 2010 | This is our main field season, and work has been focused on field data collection rather than on the C&E deliverables detailed above | | | | | | | | |
| Program Highlights Sept 1 – Nov 15, 2010 | Work is underway on a new five year plan for the FGYA, also on a five year report. A Silviculture Risk Discussion Group has been set up on Google Sites, the proposed Sharepoint Site on the FRI system did not materialize. A prospectus will go out by Dec 31 for a new FGYA Operations Director and Field Coordinator. | | | | | | | | |

Note: Project 3 –Comparison of Pre-harvest and Post-harvest Stand Development and Project 5 – Regional Yield Estimators were complete in March, 2010.

Appendix 2: Historic Research Trial Contribution Agreement Amended Jan 2011

DEPARTMENT OF NATURAL RESOURCES

INVESTING IN CANADA'S FOREST SECTOR

Contribution Program for Promoting Forest Innovation and Investment

NON-REPAYABLE CONTRIBUTION AGREEMENT

Amendment # 2 – 5 January, 2011

THIS AGREEMENT is made in triplicate

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, (the "**Proponent**").

SCHEDULE A

**To the Agreement between
HER MAJESTY THE QUEEN IN RIGHT OF CANADA
And
Foothills Research Institute
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 analysis, 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, to carry out scheduled re-measurements and provide the resulting data to the Minister and other partners, and to carry out data analysis in support of efforts to develop and validate models to predict fibre attributes from inventory variables.

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 the re-measurement and other related 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)

Validation of existing models that predict fibre attributes from forest inventory information, and modification of existing models or development of new models to extend their applicability to other geographic areas, a wider age class range, and stands under fertilization or density management. Modelling the transition from juvenile wood to mature wood for selected fibre attributes.

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 Research Institute
BUDGET AND ELIGIBLE COSTS

1. Subject to the terms and conditions of this Agreement, the Proponent 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 Proponent 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 \$90,000 (Ninety thousand).**
4. Subject to the terms and conditions of this Agreement, Canada's contribution shall be allocated to the Proponent in the following amounts by Fiscal Year:

| Fiscal Year | Canada's Amount |
|-------------|-----------------|
| 2009-2010 | \$30,000 |
| 2010-2011 | \$67,000 |

Notwithstanding Article 24, provided Canada's total contribution of \$90,000 is not exceeded, the funds allocated for each Fiscal Year may be adjusted by the Proponent as long as the Proponent submits a written request which must be approved in writing by the representative for Canada identified in Article 23.

Other contributions:

Foothills Growth and Yield Association (cash) \$39,000

5. Budget Description by (Insert either by Task or by Nature of Costs):

By Nature of the Costs

| | |
|---|----------|
| Field data collection | \$48,200 |
| Data analysis and reporting | \$44,600 |
| Administrative costs (overhead & Quality Control) | \$4,200 |

7. Notwithstanding Article 24, provided Canada's total contribution of \$97,000 is not exceeded, the funds allocated for any budget item described under nature of the costs may be adjusted by the Proponent 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 Proponent 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.

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Annual Report 2010/11
May 5, 2011

SCHEDULE C
To the Agreement between
HER MAJESTY THE QUEEN IN RIGHT OF CANADA
And
Foothills Research Institute

REPORTS

The purpose of this Schedule is to provide the Proponent with a list of financial, final financial and progress/technical reports that will enable Canada to confirm that the Eligible Costs were Incurred, and the Project activities were completed to the satisfaction of the Minister.

Choose the following when providing progress payments:

A. Payment Claims:

The Proponent shall provide the following documentation when submitting each claim for payment in accordance with the frequency set out in 6.3:

- i) a financial report signed by the Chief Financial Officer or Duly Authorized Officer of the organization which outlines Eligible Costs Incurred by task;
- ii) a detailed report of all costs incurred including copies of the invoices; and
- iii) an explanatory note signed by the Chief Financial Officer or Duly Authorized Officer of the organization explaining what administrative costs were Incurred.

Subject to the terms and conditions of this Agreement, if the Proponent cannot submit a claim for payment on or before March 31 of a Fiscal Year, the Proponent shall **no later than March 15** 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:

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):

The Proponent shall submit, no later than March 31, 2011:

- i) a financial report that shall demonstrate how the contribution was spent. As specified in the Paragraph 12.2 of this Agreement, the Proponent shall provide the Minister with a declaration as to the total amount of contributions or payments received in respect of the Project.
- ii) 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.

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Annual Report 2010/11
May 5, 2011

SCHEDULE D
To the Agreement between
HER MAJESTY THE QUEEN IN RIGHT OF CANADA
And
Foothills Research Institute
CERTIFICATION OF COSTS INCURRED AND PAID

1. Pursuant to Article 6 of this Agreement, the Proponent must submit, no later than March 31, 2011 DATE, 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 _____ (organization’s legal name as stated in the Contribution Agreement) (“Proponent”) 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 _____ an officer, of _____ (organization’s legal name as stated in the Contribution Agreement), duly authorized on behalf of the Proponent 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 Proponent 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 Proponent to repay forthwith all or any part of the monies paid by Canada pursuant to this Agreement.”

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Appendix 4: Detailed Expenses 2010-11 for Project 1 – Management of the Association

Foothills Research Institute

April 2010 through March 2011

| <u>Type</u> | <u>Date</u> | <u>Name</u> | <u>Memo</u> | <u>Amount</u> |
|--|-------------|---------------------------------|-------------------------|-----------------|
| COMPUTER EXPENSE | | | | |
| 8101 - Hardware/Network Maint | | | | |
| Bill | 10/01/2010 | Printer World | plotter work | <u>31.84</u> |
| Total 8101 - Hardware/Network Maint | | | | 31.84 |
| 8105 - Equipment Lease | | | | |
| Bill | 04/07/2010 | Dell Financial Services | server | 13.86 |
| Bill | 05/07/2010 | Dell Financial Services | server | 13.86 |
| Bill | 06/18/2010 | Dell Financial Services | server | 13.86 |
| Bill | 07/06/2010 | Dell Financial Services | server | 13.86 |
| Bill | 08/11/2010 | Dell Financial Services | server | 13.86 |
| Bill | 09/01/2010 | Dell Financial Services | server | 13.86 |
| Bill | 10/06/2010 | Dell Financial Services | server | 13.86 |
| Bill | 11/05/2010 | Dell Financial Services | server | 13.86 |
| Bill | 12/06/2010 | Dell Financial Services | server | 13.95 |
| Bill | 01/12/2011 | Dell Financial Services | server | 13.86 |
| Bill | 02/02/2011 | Dell Financial Services | server | 13.86 |
| Bill | 03/08/2011 | Dell Financial Services | server | <u>13.86</u> |
| Total 8105 - Equipment Lease | | | | <u>166.41</u> |
| Total COMPUTER EXPENSE | | | | 198.25 |
| MEETING EXPENSE | | | | |
| 8407 - Meeting Expenses | | | | |
| Bill | 06/24/2010 | Provincial Treasurer | 1,300.95 | |
| Bill | 03/24/2011 | Provincial Treasurer | mar 21,22 | 771.75 |
| Credit | 03/24/2011 | mar 21,22 wrkshop less 21 meals | (88.20) | |
| Total 8407 - Meeting Expenses | | | | <u>1,984.50</u> |
| Total MEETING EXPENSE | | | | 1,984.50 |
| OFFICE & ADMINISTRATION | | | | |
| 8324 - Station. & Off. Supplies | | | | |
| General | | | | |
| Journal | 04/27/2010 | copy paper | | 55.65 |
| General | | | | |
| Journal | 06/24/2010 | copy paper | | 5.17 |
| General | | | | |
| Journal | 07/26/2010 | copy paper | | 8.98 |
| General | | | | |
| Journal | 08/30/2010 | copy paper | | 12.90 |
| General | | | Cont:235 Growth & Yield | |
| Journal | 10/27/2010 | copy paper | | |
| General | | | | |
| Journal | 02/24/2011 | copy paper | | 0.63 |
| Bill | 03/01/2011 | Mackenzie Reforestation Ltd. | | 157.50 |

Annual Report 2010/11
May 5, 2011

| | | | | |
|---------------------------------------|------------|-------------|-------------------|---------------|
| Bill | 03/15/2011 | Grand & Toy | 175.38 | |
| General | | | Cont:235 Growth & | |
| Journal | 03/29/2011 | copy paper | Yield | |
| Total 8324 - Station. & Off. Supplies | | | | <u>432.55</u> |

Total OFFICE& ADMINISTRATION 432.55

PRINTING AND BINDING

8322 - Printing & Binding

| | | | | |
|------|------------|-------|-------|--------|
| Bill | 04/27/2010 | RICOH | copy | 178.70 |
| Bill | 05/24/2010 | RICOH | copy | 14.08 |
| Bill | 07/26/2010 | RICOH | copy | 13.30 |
| Bill | 08/30/2010 | copy | 9.44 | |
| Bill | 10/27/2010 | copy | 19.25 | |
| Bill | 02/24/2011 | RICOH | copy | 0.94 |
| Bill | 03/29/2011 | RICOH | copy | 52.80 |

Total 8322 - Printing & Binding 288.51

Total PRINTING AND BINDING 288.51

SUB-CONTRACTS

8152 - General Contracts

| | | | | |
|------|------------|--|----------|-----------|
| Bill | 04/30/2010 | Udell Consulting LTD. | apr | 723.19 |
| Bill | 06/30/2010 | Dick Dempster Consulting Ltd. | apr-jun | 22,842.75 |
| Bill | 06/30/2010 | McPherson Creek Forestry Services Ltd. | coord | 3,499.86 |
| Bill | 06/30/2010 | Udell Consulting LTD. | may jun | 7,655.91 |
| Bill | 06/30/2010 | TECO Natural Resource Group McPherson Creek Forestry Services Ltd. | mgt | 954.45 |
| Bill | 07/31/2010 | TECO Natural Resource Group McPherson Creek Forestry Services Ltd. | coord | 3,925.11 |
| Bill | 07/31/2010 | TECO Natural Resource Group McPherson Creek Forestry Services Ltd. | mgt | 2,388.49 |
| Bill | 08/31/2010 | TECO Natural Resource Group | coord | 2,365.23 |
| Bill | 08/31/2010 | TECO Natural Resource Group | mgt | 1,756.99 |
| Bill | 08/31/2010 | Udell Consulting LTD. | aug | 1,720.59 |
| Bill | 08/31/2010 | Dick Dempster Consulting Ltd. McPherson Creek Forestry Services Ltd. | jul-aug | 6,084.75 |
| Bill | 09/30/2010 | TECO Natural Resource Group | coord | 7,140.00 |
| Bill | 10/01/2010 | TECO Natural Resource Group | mgt | 756.00 |
| Bill | 10/31/2010 | Udell Consulting LTD. | sep-oct | 3,092.25 |
| Bill | 11/30/2010 | TECO Natural Resource Group | mgt | 3,307.50 |
| Bill | 12/31/2010 | Dick Dempster Consulting Ltd. | sep-dec | 26,832.75 |
| Bill | 12/31/2010 | TECO Natural Resource Group | mgt | 756.00 |
| Bill | 12/31/2010 | Udell Consulting LTD. McPherson Creek Forestry Services Ltd. | nov-dec | 2,942.63 |
| Bill | 01/31/2011 | TECO Natural Resource Group | coord | 2,940.00 |
| Bill | 01/31/2011 | TECO Natural Resource Group | jan | 7,913.56 |
| Bill | 02/28/2011 | Udell Consulting LTD. | jan-feb | 7,007.44 |
| Bill | 03/26/2011 | Debby Raabel | fgya mtg | 724.50 |
| Bill | 03/31/2011 | Udell Consulting LTD. | mar | 5,436.38 |
| Bill | 03/31/2011 | Dick Dempster Consulting Ltd. | jan-mar | 19,251.75 |

Total 8152 - General Contracts 142,018.08

Total SUB-CONTRACTS 142,018.08

Annual Report 2010/11
May 5, 2011

TELEPHONE AND UTILITIES

8422 - Telephone & Fax

| | | | |
|------|------------|-------------------|--------|
| Bill | 12/14/2010 | conf call nov 12 | 139.08 |
| Bill | 02/14/2011 | conf calls | 145.31 |
| Bill | 03/31/2011 | conf calls mar 31 | 140.33 |

| | |
|------------------------------|---------------|
| Total 8422 - Telephone & Fax | <u>424.72</u> |
|------------------------------|---------------|

Total TELEPHONE AND UTILITIES

424.72

TRAVEL AND TRAINING

8403 - General Travel

| | | | | |
|------|------------|-----------------------|---------|--------|
| Bill | 04/30/2010 | Udell Consulting LTD. | apr | 21.10 |
| Bill | 06/30/2010 | Udell Consulting LTD. | may-jun | 976.04 |
| Bill | 10/31/2010 | Udell Consulting LTD. | sep-oct | 464.33 |
| Bill | 12/31/2010 | Udell Consulting LTD. | nov-dec | 424.10 |
| Bill | 02/28/2011 | Udell Consulting LTD. | jan feb | 354.56 |
| Bill | 03/31/2011 | Udell Consulting LTD. | mar | 56.46 |

| | |
|-----------------------------|-----------------|
| Total 8403 - General Travel | <u>2,296.59</u> |
|-----------------------------|-----------------|

Total TRAVEL AND TRAINING

2,296.59

8550 - Recovered Expenses

| | | | |
|---------------|------------|--------------|---------|
| Sales Receipt | 03/31/2011 | Other Income | (41.90) |
|---------------|------------|--------------|---------|

| | |
|---------------------------------|----------------|
| Total 8550 - Recovered Expenses | <u>(41.90)</u> |
|---------------------------------|----------------|

TOTAL

147,601.30