# Forest Resource Improvement Association of Alberta Forest Resource Improvement Program

# Foothills Growth and Yield Association (FRIAA Project # FOOMOD-01-03)

**Annual Report** 

April 1, 2006 – March 31, 2007

Prepared by:

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May 15, 2007



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## Introduction

The Foothills Growth and Yield Association (FGYA) Business and 2006 Work Plan (April 2006) identifies 6 active projects:

- 1. Development and management of the Association (FRIAA<sup>1</sup> 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).

Income and expenditures (where applicable), achievements and shortfalls for each project are described below for the period from April 1, 2006 to March 31, 2007.

## 1. Development and Management of the Association

## **1.1.** Income and Expenditures

Table 1 shows income and expenditures for Project 1 for the 2006-07 fiscal year. The budgeted amount is that shown in the business and work plan for 2006.

Income / Expenditure	Budget	Actual
Income		
Prior year balance forward	98,270	116,108
Membership fees - FRIP (FRIAA contract)	176,000	176,000
Membership fees - non-FRIP	22,000	22,000
Total income	296,270	314,108
Expenditures		
Director (including GST + expenses)	84,000	78,485
Field coordination	50,000	20,359
Research and development associate	50,000	0
Research support and supplies	16,400	11,094
Meetings and tours	7,000	7,779
Contingency (5%)	10,370	0
Transfer to Project 6	40,000	40,000
Total expenses	257,770	157,717
Ending Balance	38,500	156,392

 Table 1. Annual Income and Expenditures - Project 1

Note in Table 1 that the under-expenditure relative to budget results primarily from the Research and Development Associate position being unfilled and lower than expected field coordination costs. Details of expenditures are provided in Appendix 5.

<sup>&</sup>lt;sup>1</sup> Forest Resource Improvement Association of Alberta

\$6,870 of the "research support and supplies" budget item was spent as planned on editorial and partial printing costs incurred by the Canadian Forest Service (CFS) and a contractor in preparation of the information report, *Long-term lodgepole pine silviculture trials in Alberta: history and current results*, for publication.

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

- Foothills Model Forest (FtMF) administrative and financial services;
- Data management services provided by the FtMF GIS Coordinator and the Sundre Forest Products technical representative for Project 2;
- Participation on technical, steering and project committees;
- Attendance of meetings;
- Review of minutes, reports, proposals, experimental designs and scientific papers;
- Inspection and protection of experimental sites.

#### **1.2.** Achievements and Shortfalls

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

Deliverable	Achievements / Shortfalls
Planning and funding approvals	- Approvals for 2007 pending
Staffing	- Shortfall: research and development position unfilled <sup>2</sup>
Meetings and tours	- Technical committee and contractor meeting, June 7,
	Edson;
	- Tour and joint meeting with Loblolly Pine Coop, Virginia,
	December 4-7;
	- Strategic planning meeting, January 10, Edmonton (see
	Appendix 2);
	- Steering committee meeting, February 14, Edmonton (see
	Appendix 1).
Publications and reports	- Long-term lodgepole pine silviculture trials in Alberta:
	history and current results (co-published with CFS);
	- Proceedings of post-harvest stand development conference
	(FtMF publication available on FGYA website);
	- Establishment report for lodgepole pine nutrition trial (in
	preparation);
	- Quicknote / bulletin - summary of loblolly pine tour and
	information (in preparation);
	- Interim Report on the Development of Yield Estimators for
	Pure Lodgepole Pine Stands in Alberta (SRD report);
	- Shortfall: no "QuickNotes" produced this year.

 Table 2. Achievements and Shortfalls - Project 1

A mid-year progress report was issued in October 2006 (see Appendix 4).

 $<sup>^2</sup>$  In order to remedy this shortfall, following the January 10 strategic planning meeting a request for prospectus (see Appendix 3) was issued to Alberta forestry consultants with the intent of retaining a Program Manager / Operations Director and re-assigning the current Director to the research and development role.

## 2. Lodgepole Pine Regeneration

## 2.1. 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 and Research and Development Associate are accounted for under Project 1 - *Development and Management of the Association* (see Table 1). The data management services of the FtMF GIS Coordinator and the Sundre Forest Products technical representative were provided at no direct cost to the FGYA as an in-kind contribution.

## 2.2. Achievements and Shortfalls

Achievements are noted as follows:

- Scheduled measurements on all 408 plots were completed (see Table 3);
- 4 burned plots were replaced;
- Measurements for 50 plots were formally audited by an independent contractor (see Table 3);
- Work and data verification reports were completed (see Appendix 6);
- 64 plots were tended (see Table 4).

FMA	Full measurement	Vigour check only	Total	Formal audit
ANC	24		24	5
BRL	24		24	6
CFP	24		24	0
MWFP	24		24	0
SDA	24		24	0
SLS	24		24	12
SPI	4	52	56	0
WEYDV	24		24	4
WEYED	24		24	0
WEYGP	64	8	72	23
WWC	40	48	88	0
Total	300	108	408	50

Table 3. Number of RLP Treatment Plots Measured and Audited

The following shortfalls and deficiencies are noted relative to the 2006 work plan (and the associated fieldwork schedule as finalized July 4, 2006).

- No crop performance trend report was distributed based on the data loaded in 2005, other than the compilations used to schedule treatments in 2006;
- Data loading and issuance of work verification reports was late due to data loading delays and problems (now resolved);
- Minor data collection and loading deficiencies are detailed in Appendix 6 and will be remedied in 2007;
- 14 plots preliminarily scheduled as requiring tending in 2006 were not tended or confirmed as not requiring tending, and will be checked in 2007.

FMA code	Scheduled for weeding &/or pre- assessment	Treated*	Comments
ANC	4	0	Assessed unnecessary by contractor
BRL	5	4	Status of untreated plot unknown
CFP	0	0	
MWFP	2	0	Assessed unnecessary by contractor
SDA	0	0	
SLS	0	10	Manual brushing
SPI	12	14	Manual brushing
WEYDV	6	12	
WEYED	11	12	
WEYGP	1	1	
WWC	24	11	Remedial action may be required
Total	65	64	

 Table 4. Number of RLP Plots Scheduled for Treatment and Actually Tended

\* Herbicide unless otherwise commented

## 3. Post-harvest Stand Development

#### **3.1.** Income and Expenditures

The Director's time inputs were covered under Project 1 – Development and Management of the Association.

#### 3.2. Achievements and Shortfalls

As follow-up to the PHSD Conference the FGYA Chairman and Director participated in a meeting initiating the dialogues (recommended in the conference proceedings) between G&Y and genetics associations, the University of Alberta, government and industry representatives, and research sponsors. Reports pending from the Mixedwood Management Association, Foothills Model Forest and University of Alberta will be reviewed and acted on in 2007.

## 4. Cooperative Management of Historic Research Trials

## 4.1. Income and Expenditures

Table 5 shows income and expenditures for *Measurement and Maintenance of Historic Research Trials* (FRIAA Project # FOOMOD-01-02) during the 2006-07 fiscal year. The project covers the FGYA inputs for the overall Project 4 - Cooperative Management of Historic Research Trials. The actual FRIAA funding transfer is 10% less than budgeted in accordance with the holdback stipulated in the project payment schedule.

Income / Expenditures	Budget	Actual
Income		
Prior year balance forward	11,260	11,260
FRIAA funding transfers	34,413	30,972
Other	3,327	3,327
Total income	49,000	45,559
Expenditures		
Re-measurements	39,000	38,570
Contingency	10,000	-
Total expenditure	49,000	38,570
Ending Balance	-	6,989

#### Table 5. Annual Income and Expenditures - Project 4

#### 4.2. Achievements and Shortfalls

The Project involves 3 main tasks:

- 1. Maintenance and protection of the field installations;
- 2. Analysis of historic data and synthesis of results;
- 3. Ongoing re-measurement of trials.

This is a cooperative effort shared between the FGYA, Canadian Forest Service (CFS) and ASRD. The FGYA's main role is re-measurement and maintenance 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).

During 2006 re-measurements and maintenance were completed for 2 trials - Gregg spacing 1963, Kananaskis thinning 1941 (K-57). Data has been checked and (with some minor reformatting) will be submitted before year end to the CFS for compilation. Work on 2 other Kananaskis trials (K-3 and K-58) were deferred pending review with CFS to confirm methods and value.

A long-awaited achievement in 2006 was the co-publication by the CFS and FtMF, technically and financially supported by the FGYA, of the compendium report "*Long-term lodgepole pine silviculture trials in Alberta: history and current results*". The report describes in detail the locations and site characteristics of studies established between 1941 and 1984, their histories and objectives, experimental designs and treatments, and results compiled to 2005.

## 5. Regional Yield Estimators

#### 5.1. Income and Expenditures

No expenditures were incurred by the Association on this Project during 2006.

## 5.2. Achievements and Shortfalls

An Interim Report on the Development of Yield Estimators for Pure Lodgepole Pine Stands in Alberta was prepared by Yuqing Yang and Shongming Huang of the Forest Management Branch, ASRD, and edited and amended with input from the FGYA Director. It was circulated to members and included suggestions for further analysis and testing. The document is available 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).

## 6. Enhanced Management of Lodgepole Pine

## 6.1. Income and Expenditures

Table 6 shows budgeted and actual income and expenditures for Project 6 during the 2006-07 fiscal year.

Income / Expenditures	Budget	Actual
Income		
Prior year balance forward	-	45,586
FRIAA funds	133,300	202,110
Other requested	68,810	6,066
Transfer from Project 1	40,000	40,000
Total income	242,110	293,762
Expenditures		
Sub-project 1: lodgepole pine nutrition	144,410	148,406
Sub-project 2: pine-aspen density management	83,700	108,497
Analysis	14,000	2,272
Total expenditures	242,110	259,175
Balance	-	34,587

Table 6. Annual Income and Expenditures - Project 6

The balance indicated in Table 6 will be carried forward to 2007 to cover contract commitments pending for pine-aspen work completion (value approximately \$33,350).

## 6.2. Achievements and Shortfalls

Achievements, shortfalls and problems encountered with this project are summarized in Table 7.

Deliverable	Achievements / Shortfalls
Sub-project 1: lodgepole pine nutrition	- Installation, thinning, fertilization, pre- and post-
	treatment measurements completed for all 30 sites;
	- 1 <sup>st</sup> year post-fertilization foliar sample collections
	completed and sent to laboratory;
	- Laboratory foliar mass and chemical analyses
	completed;
	- Shortfall: protection status of experimental sites not
	confirmed.
Sub-project 2: pine-aspen density	- Cost overruns experienced by contractor because of
management	higher densities than indicated in RFP;
	- Delays in locating candidate sites;
	- Target reduced from 30 to 18 sample stands;
	- Field data submitted for 18 scheduled stands.
	Shortfalls:
	- Top height and age data were missed in some plots.
	Deficiency is being remedied by contractor, and data
	will be re-submitted in 1 <sup>st</sup> quarter of 2007.
	- Laboratory stem analysis not finished and will be
	completed in 1 <sup>st</sup> quarter of 2007.
Analysis and reporting	- Screening, compilation and checking of data in
	progress;
	- Trial establishment report in preparation.

 Table 7. Achievements and Shortfalls - Project 6

## APPENDIX 1. Minutes of Annual Steering Committee Meeting - Edmonton, February 14, 2007

#### In attendance:

Greg Behuniak Dick Dempster Greg Branton Murray Summers Don Podlubny Tim McCready John Huey Bob Held Richard Briand Daryl Price

#### **Review of Minutes from 23 Feb 06 Meeting**

Dick reviewed minutes and action items. Minutes adopted as presented.

#### **Director's Report**

Dick reviewed the Directors Report and asked for questions at the end of his presentation. End balance higher than expected due to changes in R&D function//staffing.

RFP issued to address management functions – intent to move Dick into R&D role with forestry consultant or individual to assume management functions. Don to report on findings under Agenda item 4 – Staff and Assignments.

The major projects for the year were reviewed and status provided.

The Committee agreed to post the SRD report on yield estimators on the association's website.

#### Discussion:

Enhanced Management of Lodgepole pine project. It was noted that pine-aspen sub-project costs for year were double estimates. Dick pointed out that this was because most of the previous years work and budget had been carried over. The number of sites sampled for the pine-aspen were reduced from 36 to 18 because of cost overruns (related to higher densities than specified in RFP) and difficulties in finding candidate sites. On balance the project should be at or near target.

Analysis funds moved to cover increased field costs. Analysis requirement will be absorbed into the analysis budget from Project 1. Total cost of the project will not change.

Motion: Report is accepted as presented.

Moved Greg Branton, Seconded Bob Held – Carried

## **Annual Work Plan**

Dick reviewed the annual work plan

#### Project 1

Planned- pre season meeting technical representatives and contractors in the spring - one day meeting.

Field tour – MPB attacked stands in BC. Two days starting in Prince George moving to Quesnel. Looking for feedback on timing for the tour – for BC best time first two weeks in July, but they remain flexible within that period.

Should year-end (February 2008) meeting of the Steering Committee be combined with a technical session?

#### Project 2

Need detailed fieldwork schedule. (Will be developed for review and finalization at the spring pre-season meeting to be scheduled for early June.)

#### Project 3

Dick has agreed to review and co-author with SRD a scientific paper analyzing previously reported and additional data with new site index models.

#### Project 4

Review needed of trials indicated for re-measurement in the draft report and cooperation between CFS, FGYA and SRD before renewal of cooperation agreement (due June 2007).

Data collected last year on spacing trials requires analysis. Provides opportunity to compare effects of density with observed differences in growth of post harvest versus fire origin stands. FGYA analytical inputs would be absorbed under FGYA 1.

#### Project 5

No activity planned.

#### Project 6

Scheduled work for 2006 to be completed including trial establishment report. Nothing new scheduled for 2007.

#### Project 7

Discussion on this topic from 10 January 07 meeting has been incorporated into the draft business plan and 2007 annual work plan. The project is an opportunity for the Association to contribute to addressing concerns flowing from MPB attacked stands.

#### Funding and Other

Work plan budget assumes fees remain the same (\$22,000) for each member – no change as per the current five-year plan and approved FRIAA proposal.

Funding request and work schedule has been prepared for Project 4 — requires further review from the committee.

Discussion on process for making the decision on determination for funding Project:

- Need for the FGYA, CFS and SRD to review initial agreement to confirm deliverables. - It was suggested that the FGYA appoint a representative to meet with other partners to discuss priorities and review the agreement.

- Greg Branton agreed to take on that responsibility.

Line item budget for the Association was reviewed in detail.

The FMF should determine Board representative for the Steering Committee. Murray indicated willingness to act as FMF Board representative. This was favorably received subject to final approval of Board.

Don noted that issue over in-kind support from FMF may affect business planning. A review of the FMF's GIS workplan and budget indicates they are 36 days short. Proposals are out with Oil and Gas and the Federal Government – no word back to date. Heavy pressures currently on GIS section due to increased workload. Suggestion from FMF to have associations pay for GIS costs outright. Asking for 50 percent to be paid for 2007 with expectation of full payment beginning in 2008. Cost to Association in 2007 would be \$6,000. Pressure could be relieved should funding be made available.

Discussion on mechanics of database management to meet the funding realities.

- Consideration of having project management run through the FMF – difficulty being FMF may not have the capacity to carry out the work.

- Concern expressed with lack of knowledge within FMF providing support in managing database services under the new SQL server.

- Dick suggests there are sufficient funds within the current work plan to incorporate the increased costs for the coming year.

- Further discussion on addressing funds and requirements for 2008 onwards will be required.

Discussion on approval of work plan.

- Approve the technical work plan for the year but revise the budget in Table 7 based on the project funding requirements.

- Murray indicated he was uncomfortable with carrying large reserve – further work needs to be done on defining expenses and requirements.

#### Motion:

The Committee accept the workplan as set out in Section 6.1 of the draft document.

Moved John Huey; Seconded Richard Briand - Carried

#### **Staff and Assignments**

RFP for program management services was sent out with 12 Feb 07 deadline for submission.

Two responses received and were circulated to the members – there was discussion on the two proposals. Chair (Greg Behuniak) will oversee review and selection.

Duties and responsibilities to be covered off under the RFP are outlined under Section 3 of the draft work plan.

Next challenge is moving to development of the research and analysis function. Association is at a point where project management can be handed off allowing Dick to focus on research and development and delivery of products.

Discussion on management services requirements.

- Suggestion on getting idea from members of the Steering Committee on level of commitment required in order to determine allocation to funding the position.

- Preference for moving away from large forestry contractors to defined need for 1 project manager and 1 technical coordinator. (Dick pointed out that the RFP indicated either firms or individuals, but that no individuals had been identified to be sent the RFP).

- Possibility to split contract between management and field services and parcel work to both firms who had applied.

Don, Dick and the Greg Behuniak to hold conference call to better define responsibilities. Need more definition of time requirements (field and management) prior to making a final decision on awarding the contract. To be completed prior to 23 Feb 07.

## **Updating Business Plan**

Plan update and amendments cannot be approved until financial commitment confirmed.

#### Authorization for Project Administration and Funding

Discussion:

- Draft work plan indicates project spending in 2007 of \$244,000. With projected balance forward of \$118,000, the required funding for 2007-08 would be \$126,000, which equates to less than \$15,000 per member.

- Need more certainty on re-structuring costs prior to making final commitment on funding levels for the next year.

- Three options:

- 1. Retain \$22,000
- 2. Move to \$15,000
- 3. Do nothing until further information

(Option 2 preferred.)

- Conditional approval should be provided for Project 4 funding (Historic Research Trials).

#### Motion:

The Steering Committee approve funding for FRIAA Project FOOMOD-01-02 Historical Research Trials for 2007 to a maximum of \$29,011 divided amongst members as per business plan, subject to renewal of the collaborative agreement with CFS and review of scheduled work.

Moved - Greg Branton; Seconded Greg Behuniak - Carried.

Motion:

Set membership dues at \$15,000 for 2007.

Moved Greg Branton; Seconded John Huey - Carried

#### **Other Business**

Meeting adjourned at 1635.

## **APPENDIX 2.** Strategic Planning Meeting Notes – January 10, 2007

## Petroleum Plaza North, 9945-108 Street, Edmonton

#### Present:

Dwight Weeks, John Huey, Ed Kulcsar, Bob Held, Glenn Buckmaster, Greg Behuniak, Mark Dewey, Dick Dempster, Daryl Price, Don Podlubny

Agenda:

- Greg noted that the majority of voting members were represented, and that although weather had prevented others from attending, we should proceed.
- The item on data sharing with the GYPSY project was dropped from the agenda and will be raised later with the Steering Committee depending on the outcome of pending GYPSY project planning meeting.
- Data management was added to the agenda as a sub-item under "Foothills Model Forest".

Handouts and presentations:

- Agenda (as previously e-mailed);
- Draft 2007 work plan (as previously e-mailed);
- Strategy background slides (abbreviated copy is being e-mailed with these notes);
- Loblolly Pine Coop slides (abbreviated copy is being e-mailed with these notes);
- Proceedings of Post-harvest Stand Development Conference (copies available on request);
- Information Report: Long-term lodgepole pine silviculture trials in Alberta (copies available on request).

Re-structuring of Director and R&D positions:

- It was agreed that it would be in the best interests of the Association to have Dick focus on development of analytical and research deliverables, and for the Association to retain another person or contractor to provide program management and field coordination services.
- Dick, Greg and Don to draft a "request for prospectus". This will be circulated to members for comment and for identification of candidate firms or individuals.
- The RFP will then be sent to potential candidates recognizing that there will be no commitment to hiring until the Steering Committee approves. The intent is to have a contractor or individual retained as soon as possible after April 1, and before June 15 (commencement of field season).
- The re-organization would be accomplished within the budget framework already established in the approved Business Plan (i.e. \$22,000 annual membership).
- Dick to include proposed re-structuring in annual work plan / updated business plan for review and approval by Steering Committee in February.

Foothills Model Forest:

- Don confirmed the FtMF Board and Executive's desire and commitment to continuing in the role of Coordinating Agency and for retention of the FGYA as a FtMF program.
- Depending on funding currently being sought by the FtMF, it may be necessary for the FGYA to provide financial support for some of the database management tasks (see below).
- Bob outlined recommended approach to data management and analysis involving:

- Replacing MS Access with SQL as main system for loading, archiving and querying data;
- Acquisition of SAS for research use.
- Expected costs would be approximately \$10,000 for initial licensing (not including training costs), and about \$5000 per year thereafter. Don is able to commit staff time (estimated at 6 days per quarter for 2007), but not licensing and training costs.
- Dick will request Debbie Mucha to firm-up costs, including for training.
- Bob, Debbie and Dick are to document a business case (i.e. cost and benefit of transition versus status quo) prior to seeking Steering Committee approval of the transition in the work plan and 2007 budget.

## Project proposal - Regeneration Management in a MPB Environment:

- There was agreement to recommend to the Steering Committee that we proceed in 2007 with the tasks proposed under "first steps" in the background slides, within the budget and staffing framework already established in the business / work plan. These tasks are:
  - Preparation of assessment report of BC and US experience and research (based in part on tour by FGYA members of areas subjected to attack in BC);
  - Identification and profile of most important susceptible stand types;
  - Detailed project design;
  - Procurement of project funding.
- The assessment should be extended to include consideration of what can be learned from:
  - Stands in the southern foothills (Castle area) that have been subjected to MPB infestation;
  - Existing thinning operations that have created wide-spacings e.g. caribou habitat enhancement.
- Scope should be focused on management strategies for regenerated stands, not on landscape level management or "beetle-proofing" of existing mature stands.
- Dick should identify possible dates for the BC tour during June and July, and report back to members. The tour should also focus on post-attack stand management options.
- The assessment and project design should be sufficiently complete by Fall to allow submission of a project proposal for FRIP open funds.

Loblolly Pine Growth and Yield Research Co-operative:

- Those who attended the December visit to the LPGYRC recommended maintaining and building on the link established.
- The application of loblolly pine models and thinning practices to lodgepole pine, based on "scaling" and "similarity analysis" approaches discussed and demonstrated during the tour, was of particular interest. Dick is to relay this interest back to the LPGYRC researchers and seek their ideas on how to implement.
- The FGYA should investigate the application of these approaches to utilizing models and experience from elsewhere, such as European yield tables for lodgepole pine.
- We should reciprocate the hospitality shown to us by the LPGYRC. This should include an invitation to researchers such as Ralph Amateis to participate in an FGYA meeting and / or field tour. Dick is to investigate costs of FGYA promotional gifts, such as hats.
- Dick will arrange with Don to make copies of LPGYRC slide presentations available for members to download from the government ftp site.

Other business:

• February 14, 2007 was confirmed as the date for the annual Steering Committee meeting.

## **APPENDIX 3.** Request for Prospectus - Program Management Services

The Foothills Growth and Yield Association (FGYA) requires the services of an individual or firm to direct and coordinate its operations in western Alberta. The duties will involve:

- Preparation of annual work plans and budgets, and annual updating of a 5-year business plan;
- Chairing of a Technical Committee consisting of representatives from 11 member organizations, and consultation with the members regarding the development and management of projects;
- Ensuring that projects are implemented in a timely manner consistent with approved program and project plans and quality standards;
- Planning, supervision and quality control of field research and measurements, including the overseeing and auditing of contracts and the coordination of inputs by technical representatives;
- Dissemination to FGYA members of relevant information, including a minimum of one educational meeting or field trip per year;
- Preparation of progress reports every six months or as otherwise requested by the Steering Committee, and of annual program and project reports;
- Collaboration and cooperation with other agencies as appropriate and necessary to further the interests of the Association.

The successful candidate will:

- Enter into a one-year renewable employment agreement or services contract with the Foothills Model Forest (which administers the FGYA on behalf of its members);
- Retain or sub-contract any additional personnel required to fulfill the list of duties specified above;
- Report to the FGYA Steering Committee and the General Manager of the Foothills Model Forest;
- Work closely with the FGYA Research and Development Associate who is responsible for analysis of data, technical direction of research, development of research products, and scientific reporting of results;
- Be provided data management and financial accounting support by the Foothills Model Forest.

The required level of input is expected to be between 0.5 and 1.0 person years per year, and to be split fairly evenly between professional program direction and technical field coordination by one or more registered forestry professional(s). Funding, implementation and extent of the services are subject to initial and annual approval by the FGYA sponsors.

Interested individuals or firms are invited to submit a prospectus including the following information:

- Name(s), qualifications and relevant experience of proposed personnel;
- Availability: start date and minimum, maximum and (optionally) proposed days per year (this information should be broken down by individual and assignment if more than one person is proposed);
- Applicable per diem rates, plus an indication of other chargeable expenses on a unit cost basis.

Note that financial information is at this stage required only on a per diem or unit cost basis. Total inputs and contract value for the first year will be negotiated with the successful applicant. Firms already providing, or expecting to provide, other services to the FGYA should also include in their prospectus proposed provisions for avoiding conflict of interest in the oversight of field contracts.

The prospectus should be sent electronically as an e-mail attachment by February 12, 2007 to Don Podlubny, General Manager, Foothills Model Forest (<u>don.podlubny@gov.ab.ca</u>). Further information about the FGYA may be obtained at <u>www.fmf.ca/pa FGYA.html</u> or by contacting Dick Dempster (<u>dickdem1@telus.net</u>, tel: 780 424-5980) or Greg Behuniak (<u>greg.behuniak@weyerhaeuser.com</u>, tel: 780 539-8207).

AFFENDIA 4. Milu-year Frogress Report 2000-0/	<b>APPENDIX 4.</b>	. Mid-year Progress Report 20	)6-07
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Project/Activity	Approved Budget for Year	Expended to September 30	Progress to Date (September 30)
Foothills Growth and Yield Association (FGYA) Project 1: Development and Management of the Association - FtMF Project 235 - FRIAA Project FOOMOD-01-03	\$217,770 (FRIP and member funded, excludes \$40,000 transferred to Project 6)	\$55,155 (to August 31), plus \$12,000 (projected to September 30) = \$67,155	<ul> <li>Planning and Funding Approvals: Work plan and budgets for all projects updated and approved.</li> <li>Staffing: Director and field coordination assistance contracted.</li> <li>Meetings and tours: Technical committee and contractor meeting held June 7 in Edson; arrangements made for tour and joint meeting with Loblolly Pine Coop, Virginia, USA.</li> <li>Publications: <ul> <li>Annual Report 2005-06;</li> <li>Long-term Lodgepole Pine Silviculture Trials in Alberta: History and Current Results (co-published with CFS);</li> </ul> </li> </ul>
FGYA Project 2: Lodgepole Pine Regeneration	Estimated value \$170,700 (in-kind fieldwork contribution by members)	Estimated 90% complete = \$153,630 (in- kind)	<ul> <li>Post-harvest Stand Development Conference Proceedings.</li> <li><i>Planning</i>: Schedules finalized and approved for full measurements (296 plots), partial measurements (112 plots) and tending treatments (65 plots).</li> <li><i>Fieldwork</i>: Scheduled work nearing completion; verification and QC audits in progress; 1 installation that was destroyed by fire was replaced.</li> <li><i>Analysis and reporting</i>: Early competition assessments analyzed to identify treatment requirements. Approach to modeling and analysis under review.</li> </ul>
FGYA Project 3: Post-harvest Stand Development	_	-	<i>Follow-up to PHSD Conference</i> : FGYA Chairman and Director participated in meeting initiating recommended dialogues between G&Y and genetics associations, U of A, government and industry representatives, and research sponsors.
FGYA Project 4: Historic Research Trials -FtMF Project 235.1 -FRIAA Project FOOMOD-01-02 FGYA Project 5: Regional Yield Estimators	\$49,000 (FRIP and member funded) -	\$17,165 invoiced (\$32,387 under contract & incurred)	Planning: Re-measurement contracted for 2 main trials - Gregg spacing1963, Kananaskis thinning 1941 (K-57).Fieldwork: In progress.SRD Interim Report on the Development of Yield Estimators for PureLodgepole Pine Stands distributed to FGYA members.
FGYA Project 6: Enhanced Management of Lodgepole Pine - FtMF Project 235.2 - FRIAA Project OF-02-16	\$287,696 (includes \$45,586 carry-over from 2005) – FRIP open funds plus member contributions	\$132,531	Sub-project 1 (Nutrition): Installation, thinning, fertilization, pre- and post- treatment measurements, and QC checks completed on all 30 sites. Sub-project 2 (Pine-aspen Density): Reconnaissance and selection target reduced from 30 to 18 sample stands, and completed. Field sampling in progress (installation, mensuration and QC checks completed for 8 stands). Analysis and reporting: Received data screened and reviewed; compilation and analysis in progress.

Date	<u>Vendor</u>	<b>Description</b>	<u>Amount</u>	<u>GST</u>	<u>Total</u>
Apr 19/06	Dell Financial	Comp rental	74.83	5.24	80.07
Apr 24/06	CFS	lodgepole report costs	6,870.25		6,870.25
Apr 11/06	Telus mobility	cell ph	32.95		32.95
Apr 30/06	Dick Dempster cons	Time and expenses	7,087.50	496.13	7,583.63
May 9/06	Dell Financial	Comp rental	74.83	5.24	80.07
May 11/06	Telus mobility	cell ph	32.95		32.95
May 5/06	Continental Imaging	plotter paper	35.99	2.52	38.51
May 31/06	Dick Dempster cons	Time and expenses	6,957.73	453.25	7,410.98
May 31/06q	JS Thrower	recce work	1,642.00	114.94	1,756.94
Jun 14/06	Dell Financial	Comp rental	74.83	5.24	80.07
Jun 7/06	Melissa Pattison	mtg travel	46.73	3.27	50.00
Jun 7/06	Edson & District Rec.	meeting expense	378.93	21.63	400.56
Jun 11/06	Telus mobility	cell ph	32.95		32.95
Jun 30/06	Deci-con	Time and expenses	1,789.50	125.27	1,914.77
Jun 30/06	Dick Dempster cons	Time and expenses	8,035.88	471.63	8,507.51
jul 25/06	Dell Financial	Comp rental	74.83	4.49	79.32
Jul 11/06	Telus mobility	cell ph	32.95		32.95
Jul 31/06	Deci-con	time and expenses	2,652.00	159.12	2,811.12
Jul 31/06	Dick Dempster cons	time and expenses	4,637.50	278.25	4,915.75
Jul 31/06	JS Thrower	time and expenses	3,005.04	180.30	3,185.34
Aug 4/06	provincial treasurer	HTC mtg	28.00	1.68	29.68
Aug 11/06	Telus mobility	cell ph	32.95		32.95
Aug 14/06	dell financial	comp rental	74.83	4.49	79.32
Aug 15/06	Ikon	copying	19.95		19.95
Aug 31/06	deci-con	time and expenses	3,433.50	206.01	3,639.51
Aug 31/06	Dick Dempster cons	time and expenses	5,098.10	278.25	5,376.35
Sept 6/6	dell financial	comp rental	75.72	4.49	80.21
Sept 11/06	Telus mobility	cell ph	32.95		32.95
Sept 30/6	deci-con	time and expenses	2,803.60	168.22	2,971.82
Sept 30/6	Dick Dempster cons	time and expenses	4,614.84	246.75	4,861.59
Oct 18/6	dell financial	computer rental	74.83	4.49	79.32
Oct 11/06	Telus mobility	cell ph	32.95		32.95
Oct 31/06	West Sky	signs	1,350.00	81.00	1,431.00
Oct 31/06	Deci-Con	time and expenses	2,990.75	179.45	3,170.20
Nov 7/6	Debbie Mucha	travel	857.92		857.92
Nov 8/06	dell financial	computer rental	74.83	4.49	79.32
Nov 11/06	Telus mobility	cell ph	32.95		32.95
Nov 30/6	Dick Dempster cons	time and expenses	10,705.84	614.25	11,320.09
Dec 7/6	dell financial	computer rental	74.83	4.49	79.32
Dec 11/06	Telus mobility	cell ph	32.95		32.95
Dec 31/6	Dick Dempster cons	time and expenses	8,204.16	315.00	8,519.16
Jan 10/7	Grandma Lees	meeting	96.04		96.04
Jan 10/7	Zuppa	meeting	224.00		224.00
Jan 11/7	Telus mobility	cell ph	32.95		32.95
Jan 31/7	Dick Dempster cons	time and expenses	10,402.94	588.00	10,990.94
Feb 9/7	deci-con	time and expenses	857.81	51.47	909.28

# **APPENDIX 5. Detailed Expenditure Report for 2006-07**

## Annual Report 2006-07

Feb 14/7	Coast Plaza	meeting	391.00	23.46	414.46
Feb 11/7	Telus mobility	cell ph	32.95		32.95
Feb 28/7	Dick Dempster cons	time and expenses	5,391.67	315.00	5,706.67
Mar 11/7	Telus mobility	cell ph	32.95		32.95
Mar 14/7	Telus comm	conf call	66.61	3.99	70.60
Mar 29/7	Dell Canada	sql server software	1,463.00	87.78	1,550.78
Mar 31/7	Dick Dempster cons	time and expenses	8,531.44	467.25	8,998.69
		Totals	111,739.98	5,976.53	117,716.51

# APPENDX 6. Work Verification Reports for Regenerated Lodgepole Pine Project – 2006 Field Season

# ANC Timber Ltd.

# Installations

Class	Group	Density	Treat
2	2	0	С
2	2	0	Т
2	2	0	W
2	2	0	WT
2	2	816	С
2	2	816	Т
2 2 2 2 2 2 2 2 2 2 2 2 2 2 2	2	816	W
2	2 2 2 2 2 2	816	WТ
2	2	1111	С
2	2	1111	Т
2	2	1111	W
2	2	1111	WT
2		1600	С
2	2	1600	Т
2	2 2 2	1600	W
2	2	1600	WT
2	2	2500	С
2	2	2500	Т
2	2	2500	W
2	2	2500	WT
2	2	4444	С
2 2 2	2	4444	Т
2	2	4444	W
2	2	4444	WT

# Measurements

# Operations

Full measurement required for all plots.

Contractor: J.S. Thrower & Associates Ltd.

## Verification

Installation audited - plots audited 1111 C, T and W and 4444 T and WT.

## Results

Satisfactory, no remedial action required. Extra care required on future crown and internode measurements and ingress counts.

# Treatments

## **Operations**

Class	Group	Density	Treat	Tend 2006
2	2	0	WT	Weed
2	2	816	WT	Weed
2	2	1111	W	Weed
2	2	1111	WT	Weed

#### Verification

Class	Group	Density	Treat	Tend 2006
2	2	0	WT	Leave
2	2	816	WT	Leave
2	2	1111	W	Leave
2	2	1111	WT	Leave

Darren Bath of J.S. Thrower & Associates did an early assessment on these plots and concluded that treatment was not necessary this year.

#### Results

Satisfactory, no remedial action required. Check untended plots in 2007. Also check reported overspray installation 2-2-2500-T.

# Verification of Submitted Data

Tables / Data	Completeness	Problems	Action
	Verified	Noted	Required
Trees - vigour	YES	Imprecise measurement dates	Notify contractor
Trees - detail	YES	Imprecise measurement dates	Notify contractor
RegenPlots	YES	Imprecise measurement dates	Notify contractor
RegenPlotsDeciduous	YES	Imprecise measurement dates	Notify contractor
Tending	N/A	None	None

# Blue Ridge Lumber Inc.

# Installations

Class	Group	Density	Treat
5	2	0	С
5	2	0	Т
5	2	0	W
5	2	0	WT
5	2	816	С
5	2	816	Т
5	2	816	W
5	2	816	WT
5	2	1111	С
5	2	1111	Т
5	2	1111	W
5	2	1111	WT
5	2	1600	С
5	2	1600	Т
5	2	1600	W
5	2	1600	WT
5	2	2500	С
5	2	2500	C T
5	2	2500	W
5	2	2500	WT
5	2	4444	С
5		4444	Т
5	2	4444	W
5	2	4444	WT

# Measurements

## Operations

Full measurement required for all plots.

Contractor : J.S. Thrower & Associates Ltd.

## Verification

Installation audited - plots audited 816 C, T, 1600 WT, 2500 W, WT and 4444 T

## Results

Satisfactory, no remedial action required. Extra care required on future crown measurements and ingress counts.

# Treatments

#### Operations

Class	Group	Density	Treat	Tend 2006
5	2	0	W	Weed
5	2	0	WT	Weed
5	2	816	W	Weed
5	2	816	WT	Weed
5	2	2500	WT	Weed

## Verification

Class	Group	Density	Treat	Tend 2006
5	2	0	W	Herbicide
5	2	0	WT	Herbicide
5	2	816	W	Leave
5	2	816	WT	Herbicide
5	2	2500	WT	Herbicide

Information source: herbicide report submitted by Colin Scott, Blue Ridge Lumber Inc., September 26, 2006.

## Results

4 of 5 plots were treated. Unknown if remedial action is required for the remaining plot. Check in 2007.

# Verification of Submitted Data

Tables / Data	Completeness	Problems	Action
	Verified	Noted	Required
Trees - vigour	YES	Imprecise measurement dates	Notify contractor
Trees - detail	YES	Imprecise measurement dates	Notify contractor
RegenPlots	YES	Imprecise measurement dates	Notify contractor
RegenPlotsDeciduous	YES	Imprecise measurement dates	Notify contractor
Tending	YES	None	Load in database (FtMF) <sup>3</sup>

<sup>&</sup>lt;sup>3</sup> Also make tending history corrections (installations 5-2-816W and 5-2-2500W weeded 2004)

# **Canadian Forest Products Ltd.**

# Installations

Class	Group	Density	Treat
4	3	0	С
4	3	0	Т
4	3	0	W
4	3	0	WT
4	3	816	С
4	3	816	Т
4	3	816	W
4	3	816	WT
4	3	1111	С
4	3	1111	Т
4	3	1111	W
4	3	1111	WT
4	3	1600	С
4	3	1600	Т
4	3	1600	W
4	3	1600	WT
4	3	2500	С
4	3	2500	Т
4	3	2500	W
4	3	2500	WT
4	3	4444	С
4	3	4444	Т
4	3	4444	W
4	3	4444	WT

# Measurements

## Operations

Full measurement required for all plots.

Contractor : West Sky Resource Consultants Ltd.

# Verification

Not formally audited.

## Results

Not applicable. Confirm reported road encroachment on plot 4-3-0-T in 2007.

# Treatments

## Operations

Not applicable.

## Verification

Not applicable.

## Results

Not applicable.

# Verification of Submitted Data

Tables / Data	Completeness	Problems	Action
	Verified	Noted	Required
Trees - vigour	YES	None	None
Trees - detail	YES	None	None
RegenPlots	YES	None	None
RegenPlotsDeciduous	YES	None	None
Tending	N/A	None	None

# **Millar Western Forest Products**

# Installations

Class	Group	Density	Treat
5	1	0	С
5	1	0	Т
5	1	0	W
5	1	0	WT
5	1	816	С
5	1	816	Т
5	1	816	W
5	1	816	WT
5	1	1111	С
5	1	1111	Т
5	1	1111	W
5	1	1111	WT
5	1	1600	С
5	1	1600	Т
5	1	1600	W
5	1	1600	WT
5	1	2500	С
5	1	2500	Т
5	1	2500	W
5	1	2500	WT
5	1	4444	С
5	1	4444	Т
5	1	4444	W
5	1	4444	WT

# Measurements

# Operations

Full measurement required for all plots.

Contractor : J.S. Thrower & Associates Ltd.

# Verification

Not formally audited.

## Results

Not applicable.

# Treatments

## Operations

Class	Group	Density	Treat	Tend 2006
5	1	1600	W	Weed
5	1	2500	W	Weed

## Verification

Class	Group	Density	Treat	Tend 2006
5	1	1600	W	Leave
5	1	2500	W	Leave

Darren Bath of J.S. Thrower & Associates did an early assessment on these plots and concluded that treatment was not necessary this year.

## Results

Satisfactory, no remedial action required. Check untended plots in 2007.

# Verification of Submitted Data

Tables / Data	Completeness	Problems	Action
	Verified	Noted	Required
Trees - vigour	YES	Imprecise measurement dates	Notify contractor
Trees - detail	YES	Imprecise measurement dates	Notify contractor
RegenPlots	YES	Imprecise measurement dates	Notify contractor
RegenPlotsDeciduous	YES	Imprecise measurement dates	Notify contractor
Tending	N/A	None	None

# Sundance Forest Industries Ltd.

# Installations

Class	Group	Density	Treat
3	3	0	С
3	3	0	Т
3	3	0	W
3	3	0	WT
3	3	816	С
3	3	816	Т
3	3	816	W
3	3	816	WT
3	3	1111	С
3	3	1111	Т
3	3	1111	W
3	3	1111	WT
3	3	1600	С
3	3	1600	Т
3	3	1600	W
3	3	1600	WT
3	3	2500	С
3	3	2500	C T
3	3	2500	W
3	3	2500	WT
3	3	4444	С
3	3	4444	Т
3	3	4444	W
3	3	4444	WT

# Measurements

# Operations

Full measurement required on all plots.

Contractor : J.S. Thrower & Associates Ltd.

# Verification

Not formally audited.

## Results

Not applicable.

# Treatments

## Operations

Not applicable.

## Verification

Not applicable.

## Results

Not applicable.

# Verification of Submitted Data

Tables / Data	Completeness	Problems	Action
	Verified	Noted	Required
Trees - vigour	YES	Imprecise measurement dates	Notify contractor
Trees - detail	YES	Imprecise measurement dates	Notify contractor
RegenPlots	YES	Imprecise measurement dates	Notify contractor
RegenPlotsDeciduous	YES	Imprecise measurement dates	Notify contractor
Tending	N/A	None	None

# Spray Lake Sawmills Ltd.

# Installations

Class	Group	Density	Treat
1	1	0	С
1	1	0	Т
1	1	0	W
1	1	0	WT
1	1	816	С
1	1	816	Т
1	1	816	W
1	1	816	WT
1	1	1111	С
1	1	1111	Т
1	1	1111	W
1	1	1111	WT
1	1	1600	С
1	1	1600	Т
1	1	1600	W
1	1	1600	WT
1	1	2500	С
1	1	2500	Т
1	1	2500	W
1	1	2500	WT
1	1	4444	С
1	1	4444	Т
1	1	4444	W
1	1	4444	WT

# Measurements

## Operations

Full measurement required for all plots.

Contractor : West Sky Resource Consultants Ltd.

## Verification

Installation audited - plots 0 C, T, W, WT. 816 C, T, W, WT. 1600 C, T, W, WT.

## Results

Ingress counts were re-done. Extra care required in future measurements of heights, crown dimensions and ingress.

# Treatments

## Operations

Class	Group	Density	Treat	Tend 2006
1	1	0	W	Leave
1	1	0	WT	Leave
1	1	816	W	Leave
1	1	816	WT	Leave
1	1	1111	W	Leave
1	1	1111	WT	Leave
1	1	1600	W	Leave
1	1	1600	WT	Leave
1	1	2500	W	Leave
1	1	2500	WT	Leave
1	1	4444	W	Leave
1	1	4444	WT	Leave

## Verification

Class	Group	Density	Treat	Tend 2006
1	1	0	W	Manual Brushing
1	1	0	WT	Manual Brushing
1	1	816	W	Manual Brushing
1	1	816	WT	Manual Brushing
1	1	1111	W	Manual Brushing
1	1	1111	WT	Manual Brushing
1	1	1600	W	Manual Brushing
1	1	1600	WT	Manual Brushing
1	1	2500	W	Manual Brushing

1	1	2500	WT	Manual Brushing
1	1	4444	W	Leave
1	1	4444	WT	Leave

Information source: herbicide report submitted by Brian Wesolowsky, West Sky Resource Consultants Ltd., January 07, 2007.

#### Results

Satisfactory, no remedial action required.

# Verification of Submitted Data

Tables / Data	Completeness	Problems	Action
	Verified	Noted	Required
Trees - vigour	YES	None	None
Trees - detail	YES	None	None
RegenPlots	YES	None	None
RegenPlotsDeciduous	YES	None	None
Tending	YES	None	Load in database (FtMF)

# **Sundre Forest Products**

# Installations

Class	Group	Density	Treat
1	3	0	С
1	3	0	Т
1	3	0	W
1	3	0	WT
1	3	816	С
1	3	816	Т
1	3	816	W
1	3	816	WT
1	3	1111	С
1	3	1111	Т
1	3	1111	W
1	3	1111	WT C
1	3	1600	С
1	3	1600	Т
1	3	1600	W
1	3	1600	WT
1	3	2500	С
1	3	2500	Т
1	3	2500	W
1	3	2500	WT
1	3	4444	С
1	3	4444	Т
1	3	4444	W
1	3	4444	WT
3	2	0	С
3	2	0	Т
3	2	0	W
3	2	0	WT
3	2	816	С
3	2	816	Т
3	2	816	W
3	2	816	WT
3	2	1111	С
3	2	1111	Т
3	2	1111	W
3	2	1111	WT
3	2	1600	С
3	2	1600	Т
3	2	1600	W

3	2	1600	WT
3	2	2500	С
3	2	2500	Т
3	2	2500	W
3	2	2500	WT
3	2	4444	С
3	2	4444	Т
3	2	4444	W
3	2	4444	WT
5	3	816	С
5	3	816	Т
5	3	816	W
5	3	816	WT
5	3	1600	С
5	3	1600	Т
5	3	1600	W
5	3	1600	WT

### Measurements

#### **Operations**

Vigour measurements required for all plots.

Contractor : West Sky Resource Consultants Ltd.

Four plots (installation 3-2-0) were replaced as they were recently burned over:

Class 3, Group 2, 0 Density, C Class 3, Group 2, 0 Density, T Class 3, Group 2, 0 Density, W Class 3, Group 2, 0 Density, WT (New installation was designated 3-2-9 in database) Full measurements were made on plots

#### Verification

Informal field check by Harry Ullrich, Field Coordinator/Auditor on September 21, 2006.

#### Results

Satisfactory.

# Treatments

### Operations

Class	Group	Density	Treat	Tend 2006
3	2	0	W	Leave
3	2	0	WT	Leave
3	2	816	W	Weed
3	2	816	WT	Weed
3	2	1111	W	Weed
3	2	1111	WT	Weed
3	2	1600	W	Weed
3	2	1600	WT	Weed
3	2	2500	W	Weed
3	2	2500	WT	Weed
3	2	4444	W	Weed
3	2	4444	WT	Weed
5	3	1600	W	Weed
5	3	1600	WT	Weed

### Verification

Class	Group	Density	Treat	Tend 2006
3	2	0	W	Manual Brushing
3	2	0	WT	Manual Brushing
3	2	816	W	Manual Brushing
3	2	816	WТ	Manual Brushing
3	2	1111	W	Manual Brushing
3	2	1111	WT	Manual Brushing
3	2	1600	W	Manual Brushing
3	2	1600	WT	Manual Brushing
3	2	2500	W	Manual Brushing
3	2	2500	WT	Manual Brushing
3	2	4444	W	Manual Brushing
3	2	4444	WT	Manual Brushing
5	3	1600	W	Manual

				Brushing
5	3	1600	WT	Manual Brushing

Information source: herbicide report submitted by Brian Wesolowsky, West Sky Resource Consultants Ltd., January 07, 2007.

#### Results

Satisfactory, no remedial action required.

Tables / Data	Completeness	Problems	Action
	Verified	Noted	Required
Trees - vigour	YES	None	None
Trees - detail	YES <sup>4</sup>	None	None
RegenPlots	YES <sup>1</sup>	None	None
RegenPlotsDeciduous	YES <sup>1</sup>	None	None
Tending	YES	None	Load in database (FtMF)

<sup>&</sup>lt;sup>4</sup> Applicable only to 4 new plots (installation 3-2-9) ; not required for other 2006 measurements

# Weyerhaeuser Company Ltd (Drayton Valley)

## Installations

Class	Group	Density	Treat
3	4	0	С
3	4	0	Т
3	4	0	W
3	4	0	WT
3	4	816	С
3	4	816	Т
3	4	816	W
3	4	816	WT
3	4	1111	С
3	4	1111	Т
3	4	1111	W
3	4	1111	WT
3	4	1600	С
3	4	1600	Т
3	4	1600	W
3	4	1600	WT
3	4	2500	С
3	4	2500	Т
3	4	2500	W
3	4	2500	WT
3	4	4444	С
3	4	4444	Т
3	4	4444	W
3	4	4444	WT

### Measurements

### Operations

Full measurement required for all plots.

Contractor : West Sky Resource Consultants Ltd.

#### Verification

Formally audited - plots 1600 W, WT; 4444 W, WT.

### Results

Satisfactory. Extra care required in future measurements of height, crown dimensions and ingress. Check inconsistencies between tree tag and database numbers (plot 3-4-4444-WT).

## Treatments

### Operations

Class	Group	Density	Treat	Tend 2006
3	4	0	W	Re-
				assess
3	4	0	WT	Re-
				assess
3	4	816	W	Leave
3	4	816	WT	Leave
3	4	1111	W	Weed
3	4	1111	WT	Weed
3	4	1600	W	Leave
3	4	1600	WT	Leave
3	4	2500	W	Leave
3	4	2500	WT	Weed
3	4	4444	W	Weed
3	4	4444	WT	Leave

### Verification

Class	Group	Density	Treat	Tend 2006
3	4	0	W	Herbicide
3	4	0	WT	Herbicide
3	4	816	W	Herbicide
3	4	816	WT	Herbicide
3	4	1111	W	Herbicide
3	4	1111	WT	Herbicide
3	4	1600	W	Herbicide
3	4	1600	WT	Herbicide
3	4	2500	W	Herbicide
3	4	2500	WT	Herbicide
3	4	4444	W	Herbicide
3	4	4444	WT	Herbicide

Information source: herbicide report submitted by Brian Wesolowsky, West Sky Resource Consultants Ltd., January 07, 2007.

#### Results

Satisfactory, no remedial action required.

Tables / Data	Completeness	Problems	Action
	Verified	Noted	Required
Trees - vigour	YES	None	None
Trees - detail	YES	None	None
RegenPlots	YES	None	None
RegenPlotsDeciduous	YES	None	None
Tending	YES	None	Load in database (FtMF)

# Weyerhaeuser Company Ltd. (Edson)

## Installations

Class	Group	Density	Treat
3	5	0	С
3	5	0	Т
3	5	0	W
3	5	0	WT
3	5	816	С
3	5	816	Т
3	5	816	W
3	5	816	WT
3	5	1111	С
3	5	1111	Т
3	5	1111	W
3	5	1111	WT
3	5	1600	С
3	5	1600	Т
3	5	1600	W
3	5	1600	WT
3	5	2500	С
3	5	2500	Т
3	5	2500	W
3	5	2500	WT
3	5	4444	С
3	5	4444	Т
3	5	4444	W
3	5	4444	WT

## Measurements

### Operations

Full measurement required for all plots.

Contractor : West Sky Resource Consultants Ltd.

### Verification

Not formally audited.

### Results

Not applicable.

## Treatments

### Operations

Class	Group	Density	Treat	Tend 2006
3	5	0	W	Re- assess
3	5	0	WT	Re- assess
3	5	816	W	Weed
3	5	816	WT	Weed
3	5	1111	W	Weed
3	5	1111	WT	Leave
3	5	1600	W	Weed
3	5	1600	WT	Weed
3	5	2500	W	Weed
3	5	2500	WT	Weed
3	5	4444	W	Weed
3	5	4444	WT	Weed

### Verification

Class	Group	Density	Treat	Tend 2006
3	5	0	W	Herbicide
3	5	0	WT	Herbicide
3	5	816	W	Herbicide
3	5	816	WT	Herbicide
3	5	1111	W	Herbicide
3	5	1111	WT	Herbicide
3	5	1600	W	Herbicide
3	5	1600	WT	Herbicide
3	5	2500	W	Herbicide
3	5	2500	WT	Herbicide
3	5	4444	W	Herbicide
3	5	4444	WT	Herbicide

Information source: herbicide report submitted by Brian Wesolowsky, West Sky Resource Consultants Ltd., January 07, 2007.

#### Results

Satisfactory, no remedial action required.

Tables / Data	Completeness	Problems	Action
	Verified	Noted	Required
Trees - vigour	YES	None	None
Trees - detail	YES	None	None
RegenPlots	YES	None	None
RegenPlotsDeciduous	YES	None	None
Tending	YES	None	Load in database (FtMF)

# Weyerhaeuser Company Ltd. (Grande Prairie)

# Installations

Class	Group	Density	Treat
1	2	0	С
1	2	0	Т
1	2	0	W
1	2	0	W WT C T
1	2	816	С
1	2	816	Т
1	2	816	W
1	2	816	W WT C
1	2	1111	С
1	2	1111	Т
1	2	1111	W
1	2	1111	WT C
1	2	1600	С
1	2	1600	Т
1	2	1600	W
1	2	1600	WT
1	2	2500	С
1	2	2500	Т
1	2	2500	W
1	2	2500	WT
1	2	4444	С
1	2	4444	T W WT
1	2	4444	W
1	2	4444	WT
2	3	0	С
2	3	0	Т
2	3	0	
2	3	0	W WT
2	3	816	С
2	3	816	Т
2	3	816	W
2	3	816	WT
2	3	1111	С
2	3	1111	Т
2	3	1111	W
2	3	1111	WT
2	3	1600	С
2	3	1600	T
2	3	1600	W

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2	3	1600	WT
2	3	2500	WT C
2	3	2500	Т
2	3	2500	T W WT C
2	3	2500	WT
2	3	4444	С
2	3	4444	Т
2	3	4444	T W
2	3	4444	WT
3	1	0	С
3	1	0	Т
3	1	0	W
3	1	0	WT
3	1	816	С
3	1	816	Т
3	1	816	W
3	1	816	WT
3	1	1111	С
3	1	1111	Т
3	1	1111	W
3	1	1111	WT
3	1	1600	С
3	1	1600	T W WT C T W WT C T W WT C C
3	1	1600	W
3	1	1600	WT
3	1	2500	С
3	1	2500	Т
3	1	2500	W
3	1	2500	WT
3	1	4444	С
3	1	4444	Т
3	1	4444	T W WT C T W
3	1	4444	WT

### Measurements

### Operations

Vigor measurement required for Class 2, Group 3, Density 1111 and 1600 plots.

Full measurement required for all other plots.

Contractor: Apical Forestry Consulting Ltd.

### Verification

Formally audited Class 2, Group 3, 2500 C, T, W, WT. 4444 C, T, W, WT.

Formally audited Class 3, Group 1, 816 T, W, WT. 1111 C, T, W, WT. 1600 C, T, W, WT. 2500 C, T, W, WT.

#### Results

Class 2, Group 3 - all issues found were addressed with field staff in the field by Duncan Gish and Harry Ullrich.

Class 3, Group 1- extra care needed in future measurements of heights, crown dimensions, ingress and deciduous counts

Satisfactory - no other remedial action required.

### Treatments

#### **Operations**

Class	Group	Density	Treat	Tend 2006
2	3	1600	W	Weed

#### Verification

Required work was completed according to herbicide report form submitted by Duncan Gish, Apical Forestry Consulting Ltd, January 04, 2007.

#### Results

Satisfactory

Tables / Data	Completeness	Problems	Action
	Verified	Noted	Required
Trees - vigour	YES	None	None
Trees - detail <sup>5</sup>	YES	None	None
RegenPlots	YES	None	None
RegenPlotsDeciduous	YES	None	None
Tending	YES	None	Load in database (FtMF)

<sup>&</sup>lt;sup>5</sup> Not required or provided for installations 2-3-1111 and 2-3-1600

# **Hinton Wood Products**

## Installations

Class	Group	Density	Treat
2	1	0	С
2	1	0	Т
2	1	0	W
2	1	0	WT
2	1	816	С
2	1	816	Т
2	1	816	W
2	1	816	WT C
2	1	1111	С
2	1	1111	Т
2	1	1111	W
2	1	1111	WT
2	1	1600	С
2	1	1600	Т
2	1	1600	W
2	1	1600	WT
2	1	2500	С
2	1	2500	Т
2	1	2500	W
2	1	2500	WT
2	1	4444	С
2	1	4444	т
2	1	4444	W WT
2	1	4444	WT
4	1	0	С
4	1	0	Т
4	1	0	W
4	1	0	WT
4	1	816	С
4	1	816	Т
4	1	816	W
4	1	816	WT
4	1	1111	С
4	1	1111	Т
4	1	1111	W
4	1	1111	WT
4	1	1600	С
4	1	1600	Т
4	1	1600	W

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,			
4	1	1600	WT
4	1	2500	С
4	1	2500	Т
4	1	2500	W
4	1	2500	WT
4	1	4444	С
4	1	4444	Т
4	1	4444	W
4	1	4444	WT
4	2	0	С
4	2	0	Т
4	2	0	W
4	2	0	WT
4	2	816	C
4	2	816	T
4	2	816	W
4	2	816	WT
4	2	1111	C
4	2	1111	Т
4	2	1111	W
4	2	1111	WT
4	2	1600	С
4	2	1600	Т
4	2	1600	W
4	2	1600	WT
4	2	2500	С
4	2	2500	Т
4	2	2500	W
4	2	2500	WT
4	2	4444	С
4	2	4444	T
4	2	4444	W
4 5	2	4444	WT
		0	C T
5	3	0	T
5	3	0	W
5	3	0	WT
5	3	1111	С
5	3	1111	Т
5	3	1111	W
5	3	1111	WT
5	3	2500	С
5	3	2500	Т
5	3	2500	W
5	3	2500	WT
5	3	4444	С
5	3	4444	T
0	0	1177	_ <b>_</b>

5	3	4444	W
5	3	4444	WT

### Measurements

### **Operations**

Vigor measurement for Class 2, Group 1, and Class 4, Group 1 for all plots.

Full measurement required for all remaining plots.

Contractor: J.S. Thrower & Associates Ltd.

#### Verification

Not formally audited.

#### Results

Not applicable.

### Treatments

### Operations

Class	Group	Density	Treat	Tend 2006
2	1	0	W	Leave
2	1	0	WT	Weed
2	1	816	W	Weed
2	1	816	WT	Weed
2	1	1111	W	Weed
2	1	1111	WT	Weed
2	1	1600	WT	Weed
2	1	2500	W	Weed
2	1	2500	WT	Weed
2	1	4444	WT	Weed
4	1	0	WT	Weed
4	1	816	W	Weed
4	2	816	W	Weed
4	2	816	WT	Weed
4	2	1111	W	Weed

4	2	1111	WT	Weed
4	2	1600	W	Weed
4	2	1600	WT	Weed
4	2	2500	W	Weed
4	2	2500	WT	Weed
4	2	4444	W	Weed
4	2	4444	WT	Weed
5	3	2500	W	Weed
5	3	2500	WT	Weed
5	3	4444	W	Leave
5	3	4444	WT	Weed

#### Verification

Work completed as follows:

Class	Group	Density	Treat	Tend 2006
2	1	0	W	Weed
2	1	0	WT	Weed
2	1	1111	W	Weed
2	1	1111	WT	Weed
2	1	1600	WT	Weed
2	1	4444	WT	Weed
4	2	816	W	Weed
4	2	1111	W	Weed
5	3	2500	WT	Weed
5	3	4444	W	Weed
5	3	4444	WT	Weed

Work completed as per herbicide report form submitted by Darren Bath, J.S. Thrower & Associates, December 20, 2006.

#### Results

11 of 24 plots were treated. Remedial action **may be required** for remaining plots. Check in 2007.

Tables / Data	Completeness	Problems	Action
	Verified	Noted	Required
Trees - vigour	YES	Imprecise measurement dates	Notify contractor
Trees - detail	YES	Imprecise measurement dates	Notify contractor
RegenPlots	YES	Imprecise measurement dates	Notify contractor
RegenPlotsDeciduous	YES	Imprecise measurement dates	Notify contractor
Tending	YES	None	Load in database (FtMF)