



AGENDA

**9:15 am – 4:00 pm
Wednesday, March 12, 2008**

Location:

Richmond Inn Best Western
7551 Westminster Hwy., Richmond, B.C.
(hotel tel. 1-800-663-0299) (Jack's cell 250-715-6285)

Time	Length (min.)	#	Item	Presenter
8:45			Coffee and snacks available prior to the meeting	
9:15	5	1	Approval of minutes from December 12, 2007	
9:20		2	Old business and action items	
	10		- ITAC and CTAC review of Broadleaf Reports	Annette and Jack
	10		- Whitebark pine information note	Jack
	5		- FIA Tree Improvement Program name change to Forest Genetics Conservation and Management	Brian
	5		- Policy regarding limited scion	Annette and Jack
	5		- FGC documents made available on the FGC website	Jack
	5		- Climate change and seed transfer committee	Jack
10:00	20	3	Genetic conservation position in the MFR; letter from the Deputy Chief Forester	Brian / Jack
10:20	15		Break	
10:35	85	4	Subprogram budgets and business planning for 2008/09 (see budget table and subprogram/project descriptions)	
			- FIC expectations; budget allocation	Jack
			- Genetic Conservation	Dave Kolotelo
			- Tree Breeding	Alvin
			- OTIP	Keith
			- Extension	Keith
			- Genetic Resource Decision Support	Brian
12:00	45		Lunch – to be provided	
12:45	30	5	Dr. Yousry El-Kassaby: presentation on work supported through Applied Biotechnology project	YEK
1:15	60	4	Continue subprogram budget discussion	
			- Pest Management	Jack
			- SelectSeed	Jack
			- Incremental projects	Jack
			- Budget allocations and resolution	Jack
2:15	15		Break	
	20	6	Tree Breeding Subprogram review (see report)	Jack
2:50	15	7	Provincial government regulatory review (Info. sent separately)	Brian
3:05	10	8	Recognition award	Brian
3:15	20	9	New business	Brian
3:35			Adjourn	

Agenda item 2 – Old Business and action items from December 12, 2007

ITAC and CTAC review of broadleaf reports (reports sent separately):

Reports on the status and potential for genetic selection of broadleaf species on the coast and interior were commissioned on behalf of the FGC. These reports were reviewed by CTAC and ITAC members, and comments will be reported.

Whitebark pine information note (note sent separately):

An information note on the whitebark pine conservation issues has been prepared. Discussion is needed on how to distribute it to operational people.

FIA Tree Improvement Program name change:

The FGC recommended a name change for the *Forest Investment Account Tree Improvement Program* to the *FIA Forest Genetic Conservation and Management Program*. This was discussed with Doug Konkin and he has approved the change.

Policy regarding access to limited scion (policy sent separately):

The limited-scion policy statement developed by the Coastal TAC was distributed to the ITAC for comment. The ITAC supports this policy. It is recommended that Council approve the following policy and send a letter to the MFR recommending that it be used to guide scion distribution when needed.

Recommended Scion Allocation Policy

Where the demand for scion or grafted material from a forward-selected parent tree exceeds supply, scion or grafts will be allocated equally among parties with approved orchards whom express a timely interest in receiving scion or grafts from the parent tree.

Suggested motion: Council supports this policy statement guiding the distribution of scion and grafted material from parent trees, and will recommend to the Ministry of Forests and Range that this policy be followed when appropriate.

FGC documents available on the FGC website:

The FGC website is being modified to allow password access to documents.

Climate change and seed transfer committee:

At the December meeting, Council struck a Climate Change and Seed Transfer Committee to “recommend a business process that integrates with FGC business planning” and to report back to Council at the March meeting. This has not yet been done, as the Breeding Program Review committee discussion overlapped with the Climate Change and Seed Transfer Committee mandate. As a result, JW, in consultation with others decided to delay the implementation of this discussion until the Breeding Program Review was complete. The delay will not impact budget or planned activities for 2008/09, as the timeline for implementation was too late to consider projects until next fiscal year.

Agenda item 3 – Genetic conservation position in the MFR; letter from the Deputy Chief Forester

A letter from Deputy Chief, Craig Sutherland was sent separately by email.

The genetic conservation plan approved by Council in September included a recommended position in the MFR to develop and implement a more operational genetic conservation program. FIA funding was tentatively approved to support the position, and a letter-of-recommendation was sent from Council to the MFR Deputy Chief Forester. In his response, Craig Sutherland stated that he was reluctant to establish a new forest conservation genetics position at this time due to anticipated budget constraints and to an ongoing Research Branch Strategic Review.

Council currently has an approved plan and budget recommendation for genetic conservation activities, and a suite of activities run primarily through the UBC Centre for Forest Conservation Genetics (CFCG). The next step is to increase operational activities in conservation and to increase collaborations among agencies. Council has at least the following two choices that need discussion:

1. wait for further developments within the MFR and re-open discussion regarding a position
2. seek to complete the tasks listed in the approved conservation plan through means other than a position within the MFR, including a possible position within the CFCG.

Agenda item 4 – Budgets and business planning for 2007/08

FIC expectations and process:

The FIA allocation from the Forest Investment Council (FIC) for the 2008/09 fiscal year is not confirmed at this time. However, it is likely to be in the range of \$5.57 million to \$5.67 million (same as 2007/08).

The budget process involves the following steps:

1. Subprogram and project committees develop business plans and budget recommendations for Council.
2. Council reviews all subprogram and project budget recommendations.
3. Council resolves shortfalls, balances among subprograms and projects, and approves a final budget.
4. The FGC Program Manager communicates Council's budget recommendation to the Forest Investment Council and the Provincial Chief Forester.
5. Final budget approval is given by the Deputy Minister.

Step 1 is complete. This meeting will focus on steps 2 and 3. The following summarize subcommittee-approved budget requests.

2008/09 Budget Summary

Subprogram or project	2007/08	2008/09 budget		
	Actual	Requested Option 1	Option 2	Option 3
Genetic Conservation	\$295,000	\$423,000	\$415,000	\$411,000
Tree Breeding**	\$2,403,600	\$2,530,000	\$2,460,200	\$2,400,200
Operational Tree Improvement Program (OTIP)	\$825,000	\$766,000	\$761,000	\$756,000
Extension and Communication	\$122,000	\$120,000	\$117,000	\$117,000
Genetic Resource Decision Support	\$130,000	\$130,000	\$120,000	\$110,000
Seed and Cone Pest Management	\$401,000	\$429,000	\$420,000	\$420,000
Administration*	\$55,000	\$55,000	\$55,000	\$55,000
Expansion of Class A Seed Supply (SELECTSEED Ltd.)	\$869,000	\$778,000	\$778,000	\$770,000
Incremental projects				
Cone induction (UVic)	\$143,400	\$148,800	\$148,800	\$148,800
Applied Biotech (UBC)	\$257,000	\$254,000	\$245,000	\$242,000
Post docs (UNBC)	\$150,000	\$150,000	\$150,000	\$150,000
Total	\$5,670,000	\$5,783,000	\$5,670,000	\$5,580,000

Note: as the final allocation of FIA funds is currently not known, this budget cannot be finalized. However, Council can identify where adjustments can be made and provide guidance on how to proceed to a final budget.

Genetic Conservation Subprogram – Dave Kolotelo

Process:

The Genetic Conservation TAC (GCTAC) previously developed a plan for genetic conservation that included a budget and activity recommendations. This plan was approved by Council in September 2007. MFR circumstances don't allow the hiring of an FTE at this time, changing the budget developed in the Conservation Plan. The following subprogram budget plan was approved by the GCTAC. The funding request to the FGC is summarized below. A more detailed budget breakdown is available and will be presented.

1. UBC Centre for Forest Conservation Genetics	
- ongoing projects	217,225
- incremental project (Pli genecology)	<u>52,775</u>
Total for CFGC activities*	\$270,000
2. Projects	
- ex-situ seed bank collections	30,000
- seed bank testing	2,500
- bigleaf maple seed storage methods	5,000
- UBC overhead at 8% (on ex-situ)	3,000
Total	\$ 40,500
3. Funding for work identified for a MFR FTE	
- reserve amount in anticipation of program development and activities through the year	<u>\$ 112,500</u>
<hr/> TOTAL CONSERVATION BUDGET REQUEST	<hr/> \$ 423,000
Reduced budget option 2: (reduction of \$8,000 to item 3)	\$ 415,000
Reduced budget option 3: (reduction of \$12,000 to item 3)	\$ 411,000

* Excludes funding leveraged from other sources, including NSERC, non-FGC graduate student support, and funding from other FIA programs.

Tree Breeding – Alvin Yanchuk

Process:

Breeding program activities and budgets are presented to Species Committees and reviewed by the CTAC and ITAC. The total budget request for tree breeding and associated research activities for 2008/09 is \$2,530,000. Alvin will present details and describe specific activities and amounts to be allocated to staff salaries.

Proposed budget options:

Requested amount (option 1)	
Coast	\$ 974,000
Interior	\$ 476,000
Salaries (Research Branch)	\$1,080,000
<hr/>	
Total budget request (FIA TIP ongoing and incremental)	\$2,530,000
<hr/>	
Option 2 - risk manages about \$70,000	
Operating component (Coast)	\$ 930,000
Operating component (Interior)	\$ 450,200
Salaries (Research Branch)	\$1,080,000
<hr/>	
Total budget request (FIA TIP ongoing and incremental)	\$2,460,200
<hr/>	
Option 3 - option 2 less \$60,000	
Operating component (Coast)	\$ 880,000
Operating component (Interior)	\$ 440,200
Salaries (Research Branch)	\$1,080,000
<hr/>	
Total budget request (FIA TIP ongoing and incremental)	\$2,400,200
<hr/>	

Operational Tree Improvement Program (OTIP) – Keith Thomas

Process:

The same OTIP call for proposals process was used this year as in previous years. This included Species Committee and TAC recommendations, a Request for Proposals, submission of projects, review of proposals by committees, and presentation of a recommended list of projects to the FGC. The budgets listed below are recommended by OTIP Review Committees, and have been endorsed by the CTAC and ITAC chairs.

Projects and budget:

OTIP proposals totaling \$974,049 were reviewed. Review committees recommended funding \$ 791,000 worth of projects for 2008/09. A breakdown of projects will be presented at the FGC meeting.

The following budget options are proposed:

Option 1 (\$25k risk-managed)	\$ 766,000
Option 2 (\$30k risk-managed)	\$ 761,000
Option 3 (\$35k risk-managed)	\$ 756,000

Extension – Keith Thomas for Diane Douglas

Process:

The Extension Technical Advisory Committee (ETAC) developed project lists and budget recommendations. ETAC also oversees project delivery. Work is carried out primarily by Diane Douglas (TIB) and by contractors. The projects and budget shown below are recommended by the ETAC.

Projects and budget:

2008/09 proposed Extension budget

Project	Budget	Description
ETAC meeting support	\$500	Lunch/refreshments/facilities rental
TICtalk	\$3500	1 issue
Whitebark pine rack card	\$2000	Communication item for companies and districts
Client survey initiation and investigation	\$2000	Survey of client needs and views.
Initial update of Forest Genetics Council Display	\$5000	New display board for the FGC
Whitebark Pine Ecosystem Foundation support	\$1000	Grizzly lifetime membership of \$1000.00 US for FGC
Western White Pine Workshop	\$3500	Initial funding to develop and deliver the workshop in Vernon in June 2008
Forest Genetics field tour(s)	\$2500	Look at opportunities for field tours in various parts of province and especially highlighted resistance breeding
Anatomy & Physiology of Conifer Tree Seed – Forest Nursery Technical Series 1-1 (1997)	\$5000	Update publication by D. Kolotelo (multi-yr.)
Spruce Manual for Seed Orchardists	\$3000	Publish as Technical Note series and print (3rd year of project). The report is now ready and in a draft format.
Administration and Opportunities	\$7000	Extension opportunities such as assisting with workshops, extension notes, demo site maintenance, etc. that arise. Includes ETAC coordinator travel.
	Total	
	\$35,000	
MFR Salary /benefits (D. Douglas)	\$85,000	
Total request (Option 1)	\$120,000	
Reduced budget (Option 2)	\$117,000	reduces opportunities; find savings in other projects

Genetic Resource Decision Support – Brian Barber

The Genetic Resource Information Management program (GRIM) advisory committee recommends a name change for the subprogram to Genetic Resource Decision Support (GRDS). The name is both better suited to the activities and avoids the unsavory acronym.

The GRDS Steering Committee met on March 3, 2008 to review progress on 2007/08 projects, and to recommend proposed work for 2008/09. The following project budget is recommended.

Table 1: FGC GRDS Subprogram Budget - Fiscal Year 2008/09

#	Project Area	FIA	Key
1.	Strategic Planning & Analysis <i>Case (Interim)</i>	\$35,000	CC Business
2.	Resource Information Management <i>(SPU), QA (SL)</i>	\$35,000	Data, Maps
3.	Genetic Resource Information Mgmt Systems <i>Capital/Base funding</i>	\$ 0	SPAR
4.	Monitoring & Evaluation Performance	\$30,000	SoF Report;
5.	Training & Extension guides, tutorials	\$30,000	Web tools,
Total:		\$130,000	

Project descriptions

1. Strategic Planning & Analysis

Full implementation of a climate-based seed delivery model may take upwards of five years to allow adequate time for the research, policy, and design, test and build phases to meet completion. A business case (technical) is required to support the development of a new climate-based seed transfer (and deployment) model, including implementation of *Interim Measures* over the next 2 to 5 years. The business case will include: gap analysis, data assumptions & dependencies; rulesets; decision / risk matrix; and recommended options for implementation of quick fixes/ *Interim Measures*.

2. Resource Information Management

Data custodianship responsibilities require that data is accurate, up-to-date, high quality, and readily accessible. Data management protocols (change mgmt, business views), quality assurance testing and/or updates are required to meet data quality standards and develop *Interim Measures* and 'climate-ready' data sets (SPZ, SPU). Data updates also required to support UBC monitoring project and climate change work. A technical data quality review and update project is required to meet seedlot data integrity standards and develop 'climate-ready' seedlot data / inventories.

3. Genetic Resource Information Management Systems

Enhancements to SPAR / SeedMap, including options for new reports, 'collection area' maps / spatial data capture and data update/download (extracts) will be identified for review and consideration.

SPAR/SeedMap development and maintenance funded by Branch Base and IMG Capital.

4. Effectiveness Evaluation & Monitoring

New data, calculations, summaries and reports may be required for performance monitoring in support of the new FGC Strategic Plan (2009-2013). In addition, publication of a revised State of the Forest Report (2009) is currently underway. This report is considered high profile (2010 Olympics, SFM vision). Data, summaries, reports and maps are required to support new and/or revised indicators (Genetic Diversity, Silviculture).

5. Training & Extension

Timely, up-to-date and ready access to information is critical in meeting Sustainable Forest Management goals and FGC strategic objectives. Options for the delivery of web-based information to support FGC annual business plans (species plan updates); Future Forest Strategies, TSR / Timber Supply Analysis; status and trend reporting; performance measures; and, map gallery products will be developed for review and consideration. Training requirements are reviewed on an annual basis and may include: face-to face training sessions, LearnLinc, tutorial and guides.

Pest Management – Jack for Robb Bennett

BACKGROUND:

- Proposals & budget development led by Ward Strong (Nov 2007 – Feb 2008) in consultation with PM TAC and guided by business plan priorities. Table 1 outlines proposals list and evolution of project budgets.
- Project proposals and budgets initiated, developed, and reviewed by Pest Management Technical Advisory Committee at meetings 31 Oct & 29 Nov 2007 and 9 Jan 2008 (Table 1, “9 Jan 2008”). Proposals and budgets finalised at PM TAC meeting, 12 February 2008 (Table 1, “12 Feb 2008”). Formal budget request subsequently drafted and revised for submission to FGC on 12 March (see Recommendation and Table 1 below).

Budget recommended by the PMTAC

Proposals & budgets		Subtotals
1 Research tech support	13,000	
2 Research lab operations	15,000	
3 <i>Dioryctria</i> biology & ecology (UoA)	41,000	
4 <i>Leptoglossus</i> m/r/r (UNBC & UBC-O)	54,000	
5 <i>Leptoglossus</i> IR & visible light (SFU)	34,000	
6 Adelgid biology & impact (UBC)	34,000	
SUBTOTAL - Research		191,000
7 Interior pest management program	25,000	
8 Pesticide trials	15,000	
9 Field Guide development	28,000	
SUBTOTAL – Other projects		68,000
TOTAL (proposals)		259,000
Strong & Bennett salary costs (approx)	170,000	170,000
TOTAL budget (incl. salary costs)		429,000

Project descriptions:

- 1&2.** Research tech support and lab operations funds day-to-day operations (materials, supplies, relevant travel, and ~0.25 FTE auxiliary technical support) of the pest management research lab at the Kalmalka Forestry Centre
- 3.** *Dioryctria* biology/ecology study capitalizes on long-term efforts to understand the complex life cycle and biology of these very important pest insects. In 2008/09, the second year of our collaboration with the new University of Alberta insect chemical ecology group, work will focus on overwintering behaviour, lifespan data, and various aspects of mating behaviour.
- 4.** *Leptoglossus* infrared and visible light proposal builds on exciting novel findings in 2007/8 by SFU Chemical Ecology lab that *Leptoglossus* use infrared wavelengths to detect cones. The second year of this proposal will concentrate on optimizing IR and visible light frequencies for *Leptoglossus* attraction and configuring trap designs.
- 5.** *Leptoglossus* mark/release/recapture study builds upon several years of in-house study and the current results of the *Leptoglossus* host finding study. First year for this collaborative study involving UNBC and UBC-Okanagan

6. Adelgid biology and impact addresses the important issue of spruce / alternate conifer host cycling of adelgids in seed orchards. Preliminary work by UBC Forestry in 2006/07 utilizing existing data led to the implementation of a focused, well-structured study in 2007/08. This is the second and final year for this work.
7. Interior pest management is a lateral project transfer (including funding & administration duties) from OTIP. PM TAC has agreed to take over this on-going operational project from OTIP.
8. The pesticides trials proposal is a continuation of an on-going project addressing high priority research initially funded in 2005/06. 2007/08 work focused on stem-injection techniques with new systemics; 2008/09 proposal continues this work.
9. Field guide work was initiated with incremental funding late in 2006/07 field season. 2008/09 work is focused on collecting further images and production of individual insect fact sheets.

SelectSeed Business Plan and budget – Jack Woods

Process:

SelectSeed develops and manages orchards through contracts to meet objectives set by the FGC. SelectSeed annual business plans are reviewed and approved by the SelectSeed Board prior to presentation to the FGC. The Business Plan (distributed as a separate document) and the budgets listed below were approved by the SelectSeed Board on March 4, 2008. Board members are Glen Dunsworth (Chair), Reid Carter, Russ Clinton, Shane Browne-Clayton, and Jim Burbee

Projects:

See pages 10 and 11 of the Business Plan for long-term cash flow forecasts. Work includes:

- contract management of 14 seed orchards
- management services for the FGC
- meeting business and financial obligations for SelectSeed Company, and for the BC Forest Genetics Society

2007/08 SelectSeed budget options:

2008/09 budget by category for the purpose of MYA reporting (Table 6 from SelectSeed Business Plan).

Category	Total projected expenses / income	MYA input by quarter			
		Q1	Q2	Q3	Q4
Expenses					
Existing orchard development contracts and capital investments	588,167	248,503	39,170	273,574	26,920
Propagation and holding	15,833	0	0	9,833	6,000
SelectSeed management and FGC support	218,000	54,000	54,000	55,000	55,000
NSERC Industrial Chair support	10,000	10,000	0	0	0
Crop production / seed extraction	43,000	4,000	4,000	28,000	7,000
Total Expenditures	875,000	\$316,503	\$97,170	\$366,407	\$94,920
Income					
Seed sales	67,000	0	0	60,000	7,000
Interest from investments	30,000	7,500	8,500	7,500	6,500
Total Income	\$97,000	7,500	8,500	67,500	13,500
Total MYA support	\$778,000	\$309,003	\$88,670	\$298,907	\$81,420

A reduced budget option will be discussed and would draw from capital held in reserve.

Incremental FIA TIP projects - Jack

Applied Tree Improvement and Biotechnology (UBC) – year 3

Process:

A steering committee (SC) provides guidance to the project leader (Dr. Yousry El-Kassaby), reviews plans and reports, and makes budget recommendations to the FGC. The SC reports to Council. This Committee met in February 2008. The budget presented here have been reviewed by the steering committee, and are recommended for support.

2008/09 budget:

Project	Budget
1. Quantifying seedlot parental contributions	
Western larch	\$20,000
Douglas-fir	\$18,000
2. Yellow cedar co-ancestry and genetic gain	\$18,000
3. Lab support and technician	\$50,000.
4. GRM monitoring using GIS systems	\$18,000
5. Laboratory chemicals	\$75,000
Subtotal:	\$224,000
NSERC Chair support *	\$25,000
Project travel	\$ 5,000
Total: Option 1	\$254,000
Total: Option 2 (reduces lab chemical costs)	\$245,000
Total: Option 3 (reduces lab chemical costs)	\$242,000

* Support directed to NSERC Chair. These funds will be used for project work only, not for salary.

Cone induction and crop enhancement (UVic) – year 2 of 3

Process:

A steering committee (SC) provides guidance to the project leader (Dr. Patrick von Aderkas), reviews plans and reports, and makes budget recommendations to the FGC. The SC reports to Council. This Committee met in February, 2008. Projects and budgets presented here have been reviewed by the steering committee, and are recommended for support.

Projects and budgets:

This project is focused on better understanding reproductive bud development in lodgepole pine and Douglas-fir, and examining plant hormone changes associated with reproductive bud initiation. The objective is to improve cone induction methods and ultimately seed orchard yields.

Work is being carried out in conjunction with seed orchardists, and with the Plant Biotechnology Institute in Saskatoon.

Project budget:

Items	2008/09
Research Scientist – Dr. L. Kong (Salary, benefit and other cost)	75,000
Travel	
- Lodging & flights	12,000
Lab supplies for chemical analyses)	49,800
Field assistant (summer students)	12,000
Totals	148,800

No budget options are presented, as any reductions to this project would compromise the experimental design.

UNBC Post doctoral fellowships:

In conjunction with FGC supported funding, UNBC is has recruiting two PDF positions in quantitative genetics. Work will focus on MPB issues and is being developed at the present time.

The FGC has previously committed to provide \$150,000 for three years. This will be the third and last year. Money from last two fiscal years has been only partially spent, and will be carried forward so the PDF positions will receive three full years of support.

Proposed Budget: \$150,000

Agenda item 6 – Tree Breeding Subprogram Review

In September, 2007, Council struck a committee to conduct a review of the Tree Breeding Subprogram planning and administration process. The review has been completed. A report was sent as a separate document.

Agenda item 7 – Provincial Government Regulatory Review

Documents sent as attachments.

This process will be presented by Brian Barber, and is intended to find ways to reduce the regulatory burden.