

AGENDA

**9:00 am – 4:00 pm
Wednesday, March 19, 2014**

Location:

Sandman Signature, 10251 St Edwards Dr, Richmond, BC
Phone:(604) 278-9611
(Jack's cell 250-715-6285)

Time	Length (min.)	#	Item	Presenter
8:30			Coffee available	
9:00	5	1	Review of agenda	
9:05	15	2	Minutes, old business and action items from Dec. 5, 2013	Jack / Brian
9:20	15	3	Genetic Conservation TAC chair change	Jack
9:35	5	4	BC Seed Orchard Association support request	Jack
9:40	20	5	Update on climate-based seed transfer project	Lee Charleson
10:00	10	6	Summary of 2013/14 FGC LBIS budget expenditures	Darrell Wood
10:10	15	7	LBIS budget overview	Lorne Bedford
10:25	85	8	2014/15 LBIS Tree Improvement Program budget	
			- Overview	Jack
			- Tree Breeding	Barrie, Annette, Stephen
			- OTIP	Darrell Wood
			- Extension	Jack for Diane Douglas
			- Genetic Resource Decision Support	Lee Charleson
			- Seed and Cone Pest Management	Stephen
12:00	45		Lunch – to be provided	
12:45	30	9	Technical presentation: AdapTree genomics project update	Sally Aitken
1:15	35	8	Budgets continued	
			- Seed Transfer / Genecology	Lee Charleson
			- Genetic Conservation	Jack for Dave Kolotelo
			- Applied Tree Improvement and Biotech	Jack
			- Final budget allocation and recommendation	all
1:50	15	10	SelectSeed Business Plan	Jack Woods
2:05	25	11	A class seed use issues	Lee Charleson
2:30	15		Break	
2:45	20	12	Forecasting future seed demand and supply	Larry / Jack
3:05	30	13	Review of Chief Forester's principles governing seed orchards with new issues facing seed supply	Brian / Jack
3:35	20	14	FGC Strategic Plan development and survey results	Jack + committee
3:50	10	15	New business	
4:00			Adjourn	

**Conference call planned for June 2014 – date needed
FGC meeting plus BC Forest Genetics Society and SelectSeed AGMs**

Agenda item 2 - Minutes, old business, and action items from December 5, 2013 - Jack / Brian

Action Items

Responsibility	Action	Action taken
Brian, Barrie, Raoul, Annette + Jack and Alvin	Follow-up on the genomics lab action item from the October 18, 2013 FGC meeting	Ongoing communication with CWFC and FPIInnovations
Brian, Raoul, Annette, Mark	Follow up on the FGC Strategic Plan development item from the October 18, 2013 meeting	Done - to be presented
All FGC members	Provide comments to Jack if they want the Strategic Planning Subcommittee to consider any stakeholder engagements or items for the new strategic plan	Done
Annette, Stephen	Put the species selection tool/CBST linkage on the winter 2014 ITAC and CTAC agendas	Discussed at ITAC; pending for CTAC (spring meeting)
Brian, Annette, Stephen	Follow-up on linkages between the species selection guidelines and CBST and report to the FGC at the March, 2014 meeting	To be discussed
Brian, Terje Vold	Prepare an executive summary and cover letter for the SelectSeed Review report prior to sending it to Tom Ethier and Dave Peterson.	Done
Barrie	Work with TIB Forest Genetics Section staff to complete a succession plan, and make the plan available to Jack to pass along to the SelectSeed Board (no specific date set, but it is understood that this will be completed soon so as to not lose momentum with the current dialogue between the SelectSeed Board and Minister Thomson).	Plan passed along to SCL board; SCL board sent a 2nd letter to Minister Thomson

A resolution approving minutes from December 5th is needed.

3. Genetic Conservation TAC chair change

Dave Kolotelo has very ably chaired the GCTAC since March, 2005 and has decided to step down. The GCTAC has nominated Dr. Pia Smets from UBC to replace Dave. Pia currently manages the AdapTree genomics project at UBC and has extensive experience in projects ranging from tree breeding to genetic conservation.

Approval by Council of this nomination is needed.

Dave is sincerely thanked for his hard work as Chair of GCTAC for 9 years.

4. BC Seed orchard Association support request

The BC Seed Orchard Association represents seed orchard managers and those associated with seed orchards. They sent a letter to Council requesting support funding of \$4,000 to assist with meeting costs and to help reduce the cost to attendees to allow more to participate. The meeting will be held in Salmon Arm in June and it will primarily target orchard technical staff.

5. Update on the Climate-Based Seed Transfer Project - Lee Charleson

The FLNR Tree Improvement Branch is leading the development of climate-based seed transfer. This work includes a scientific framework, policy for seed use on Crown lands, and the development of tools to help licensees choose and deploy appropriate seed lots.

6. Summary of LBIS Tree Improvement Program expenditures to date - Darrell Wood

Darrell will provide an overview of expenditures to date across all subprograms for the year ending March 31, 2014.

7. LBIS budget overview - Lorne Bedford

Lorne is Deputy Director of Harvesting and Silviculture Practices in the FLNR. He will outline the Land Base Investment Strategy budget and process for the developing it.

8. LBIS Tree Improvement Program budgets by subprogram

Breeding (Barrie, Annette, Stephen)

Breeding Subprogram budgets for 2014/15 were presented to the CTAC and ITAC by FLNR Tree Improvement Branch breeders responsible for each species. The following budgets are recommended by the CTAC and ITAC.

Reduced budget options were discussed by the CTAC, but it was agreed that determining specific reduction options is best left to TIB staff. As a result, the following three options include the full amount requested by species, with optional reductions of 10% and 25%. It is assumed that any reductions will be prioritized by TIB staff in consultation with CTAC and ITAC chairs and others, as needed.

Breeding budget recommendation for 2014/15

Species	Budget recommended by TACs	90% "B" budget	75% "C" budget
Coast			
Coastal D-fir	\$ 137,000	\$ 123,300	\$ 102,750
Redcedar	\$ 261,000	\$ 234,900	\$ 195,750
Yellow cedar	\$ 37,000	\$ 33,300	\$ 27,750
Western hemlock	\$ 93,000	\$ 83,700	\$ 69,750
Sitka spruce	\$ 59,000	\$ 53,100	\$ 44,250
White pine - coast	\$ 56,200	\$ 50,580	\$ 42,150
Alder	\$ 90,000	\$ 81,000	\$ 67,500
Amabilis fir	\$ -	\$ -	\$ -
Grand fir	\$ -	\$ -	\$ -
TOTAL COAST	\$ 733,200	\$ 659,880	\$ 549,900
Interior			
Lodgepole pine	\$ 360,500	\$ 324,450	\$ 270,375
White pine	\$ 81,000	\$ 72,900	\$ 60,750
Interior spruce	\$ 163,000	\$ 146,700	\$ 122,250
Interior D-fir	\$ 153,000	\$ 137,700	\$ 114,750
Western larch	\$ 139,000	\$ 125,100	\$ 104,250
Broadleaves	\$ -	\$ -	\$ -
TOTAL INTERIOR	\$ 896,500	\$ 806,850	\$ 672,375
Coast + interior	\$1,629,700	\$ 1,466,730	\$ 1,222,275

Operational Tree Improvement Program (OTIP) (Darrell Wood)

The OTIP call for proposals process was unchanged from previous years. This included Species Committee and TAC recommendations on priorities and eligibility, a Call 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.

OTIP proposed budget options for 2014/15

Cost area	Total requested	Total recommend by review committees	"B" option >80
Interior	\$456,824	\$349,060	\$339,269
Coast	\$168,975	\$163,214	\$143,214
Total cost	\$625,799	\$512,274	\$482,483

Extension (Jack for Diane Douglas)

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. Reduced options would be discussed with ETAC members and adjustments made as advised.

2014/15 Extension Subprogram projects and budget

Project	Description	Budget options	
		A	B
Publications	<ul style="list-style-type: none"> Tree Improvement in BC – finalize wording and printing (Diane Douglas) Lodgepole Pine seed set summary– develop and print (Nick Ukrainetz) 		
	<ul style="list-style-type: none"> Collection of Crop Statistics for Interior Lodgepole Pine Orchards Field Guide on White Pine Blister Rust (Don Pigott/Rich Hunt) Develop layman's document on climate adaptation (AMAT) for rancher's and woodlots (Dave Trotter) 	\$5,000	\$4,000
	<ul style="list-style-type: none"> Silviculture groups – connections with existing groups Pest Management Workshop – every 2 years, March/April 2015 Other opportunities that arise during year 	\$3,000	\$1,000
	<ul style="list-style-type: none"> Investigate types of signs and locations for Skimikin Seed Orchards (Hilary Graham) 	\$1,000	
Poplar symposium support	Support for the international Poplar Symposium to be held in July in Vancouver	\$5,000	\$5,000
Administration and travel	Travel for or Diane Douglas	\$2,000	\$2,000
Total		\$16,000	\$12,000

Genetic Resource Decision Support – Lee Charleson

The following projects were developed by Tree Improvement Branch staff, and reviewed and recommended by members of the Genetic Resource Decision Support steering committee (Chair, Buy Burdikin). All projects would be delivered through the Tree Improvement Branch.

2014/15 Genetic Resource Decision Support project recommendations.

Project	Recommended budget	B budget	C budget
A GIS (Geographic Information System) support	\$45,000	\$45,000	\$45,000
B Policy development, risk and impact assessment	\$50,000	\$50,000	\$20,000
Climate Based Seed Transfer (CBST) project			
C management and facilitation	\$20,000	\$0	\$0
Total	\$115,000	\$95,000	\$65,000

Seed and Cone Pest Management (Stephen)

Proposals submitted to the Pest Management TAC have been evaluated by the Committee based on priorities for species and pest. Proposals for work in 2014/15 were contributed by scientists and practitioners, and developed by FLNR pest management staff in conjunction with PMTAC members. Proposals and associated budgets were reviewed by the PMTAC.

2014/15 Pest Management Subprogram budget recommendation.

Project name	Project Leader	Budget recommendation	
		A	B
Laboratory spray trials of Matador and Sevin	Ward Strong	\$ 3,927	\$ 3,927
Why are some Lodgepole pine clones favoured by Leptoglossus occidentalis?	Ward Strong	\$ 13,230	\$ 13,230
Matador Area-Wide Trials - 2014	Jack Woods	\$ 14,175	\$ 14,175
Cone and Seed Pest Management – Operations Budget for the Ministry Biologist	Jim Corrigan	\$ 21,500	\$ 21,500
Minor Use Pesticide Trials 2014	Ward Strong	\$ 55,125	\$ 27,563
Cone and Seed Pest Research Lab	Ward Strong	\$ 5,250	\$ 5,250
Pesticide trials to find pesticides that are effective against larvae of the long-haired June beetle,	Mike Brown	\$ 15,000	\$ -
Total budget		\$ 128,207	\$ 85,645

Seed Transfer and Genealogy

There are two components to this subprogram; a proposal call and MFLNRO-TIB genealogy project support. Four proposals were submitted to the call. They were reviewed by a committee and funding recommendations follow

2014/15 Seed Transfer TAC budget recommendations

Seed Transfer TAC budget	Option A	Option B	Option C
Ministry genealogy work	\$ 340,300	\$ 306,270	\$ 255,225
External projects (4 projects in Option A; top ranked 3 in option B)	\$ 79,525	\$ 45,670	\$ 45,670
TOTALS	\$ 419,825	\$ 351,940	\$ 300,895

TIB Forest Genetics Section genealogy budget request

Species	2014/15
Pli	\$50,000
Fdc	\$20,000
Sx	\$95,000
Hw	\$14,000
Bl	\$16,000
Cwi	\$24,000

Species	2014/15
Ss	\$14,000
Ba	\$15,000
Act	\$10,000
Mb	\$5,000
Bn	\$1,000
AMAT	\$76,300
Total	\$340,300

Projects submitted through a call for proposals

Project Title	Project Leader	Amount Requested	"B" budget option
Assessing the adaptive portfolio of reforestation stocks for future climates: Common garden experiments (leveraged with > \$1mm Genome Canada funding)	Sally Aitken	\$9,808	\$9,808
Identifying cedar blight resistance to develop durable and resistant western redcedar populations for future climates	Barbara Hawkins	\$20,850	\$20,850
Identifying critical soil moisture thresholds to support assisted migration practices and climate based seed transfer in central British Columbia	Hardy Griesbauer	\$15,012	\$15,012
Site adapted ectomycorrhizal fungi decline the nutrient uptake traits in coastal Douglas-fir	Marty Kranabetter	\$33,855	\$0
Recommended budget		\$79,525	\$45,670

Genetic Conservation

Process:

Genetic conservation work is directed by a plan approved by the FGC in January, 2012. Activities were discussed by the GCTAC, and projects developed by the MFLNRO (led by Charlie Cartwright), the UBC Centre for Forest Conservation Genetics (led by Sally Aitken), and the Tree Seed Centre (led by Dave Kolotelo). An additional proposal to screen whitebark pine for blister rust resistance was submitted by Michael Murray (FLNRO) and is supported by the GCTAC. Detail on individual line items will be provided at the FGC meeting.

Genetic Conservation subprogram budget recommendations

Project	Budget recommendations	
	Option A	Option B
UBC Center for Forest Conservation Genetics	\$147,701	\$118,451
Tree Improvement Branch - Forest Genetics Section projects	\$49,000	\$44,000
Tree Improvement Branch - Tree Seed Center project	\$37,000	\$28,000
Whitebark pine blister rust screening (Michael Murray)	\$19,970	\$19,970
Total	\$253,671	\$210,421

Applied Tree Improvement and Biotechnology - Jack

This subprogram provides funding to solicited and un-solicited proposals that support FGC objectives. A steering committee reviews proposals submitted and makes budget recommendations to the FGC. One proposal was submitted for FY 2014/15. The proposals was reviewed by the steering committee. Questions regarding the budget and budget options were relayed to the proponent and a final budget recommendations from the review committee are not available at the time this document was prepared. Recommendation will be available for the March 19th FGC meeting.

2014/15 Applied Tree Improvement and Biotechnology budget recommendations.

Project title	Budget request	Recom- mendation	Option B
Seed shortfall in Pli and cone induction in Pli and Fdi (P. von Aderkas)	\$ 189,000	TBD	TBD

Summary of 2014/15 LBIS – Tree Improvement Program budget recommendations

The expected allocation from the Land Base Investment Fund to the Tree Improvement Program is \$2.5 million. The following table summarizes budget recommendations from FGC advisory committees. Note that the level of risk management (if any) the TIB is willing to take has not yet been determined.

Subprogram	2013/14	2014/15 TAC recommen- dations	"B" option	"C" option	Comments
Genetic Conservation	\$ 251,940	\$ 253,671	\$210,421	\$210,421	
Tree Breeding	\$1,265,000	\$1,629,700	\$1,466,730	\$1,222,275	
Operational Tree Imp. Prog.	\$524,449	\$512,274	\$482,483	\$482,483	
SelectSeed Ltd.	\$0	\$0	\$0	\$0	
Extension and Communication	\$18,000	\$16,000	\$12,000	\$12,000	
Cone and Seed Pest Mgt.	\$124,950	\$128,207	\$85,645	\$85,645	
Genecology and Seed Transfer	\$386,785	\$419,825	\$351,940	\$300,895	
Decision Support	\$65,000	\$115,000	\$95,000	\$65,000	
Tree Imp. Branch administration	\$40,000	\$10,000	\$0	\$0	Not yet discussed with TIB
Applied Tree Impr. and Biotech.	\$182,173	\$189,000	\$189,000		Not a final review committee recommendation
Subtotal	\$2,858,297	\$ 3,273,677	\$2,893,219	\$2,378,719	
TIB risk maangement		\$150,000	\$150,000	\$150,000	To be discussed
TOTAL	\$2,858,297	\$3,123,677	\$2,743,219	\$2,228,719	
Deficit		\$ (623,677)	\$ (243,219)	\$ 271,281	

10. SelectSeed Business Plan

The SelectSeed Business Plan was sent as a separate document.

SelectSeed develops and manages orchards through contracts to meet objectives set by the FGC, and provides management services to Council. This plan was approved by the SelectSeed Board of Directors on March 11, 2014.

Full program and budget are described in the Business Plan. No funds are requested through the SelectSeed Multi-Year Agreement. SelectSeed anticipates spending \$152,400 on FGC business and support, on a total budget of \$903,000. Seed sales and other income for the fiscal year ending March 31, 2015 are forecast to be \$842,000.

11. A-class seed use issues - Lee Charleson

A report was sent as a separate document. The following issues will be discussed.

1. Class A seed sales for non-THLB planting (carbon offset projects)
2. Access to class A seed from Ministry, private, and SelectSeed orchards
3. Request to use Class A seed on high site index sites only
4. Small class A seedlots in SPAR – what to do with them
5. Multi-lot selection for climate-based seed transfer
6. Increasing the average genetic worth of seedlot use on Crown land
7. Single seed per cavity sowing for Class A seed in short supply
8. Direct seeding

12. Forecasting future seed demand and supply (Larry / Jack)

Vernon Seed Orchard Company and their parent companies are undertaking an analysis of future seed demand to allow them to better understand their orchard requirement. Larry will provide an overview of this analysis.

Jack will review current procedures used in species plan development and outline how this information has been used to guide seed orchard sizing decisions. Species plans are updated and published annually in the FGC Business Plan.

13. Review of Chief Forester Principles governing seed orchards with new issues facing seed supply (Brian / Jack)

The document "Guiding Principles Respecting Public and Private Seed Orchard Management in BC" was sent separately.

The "Guiding Principles" discussion and document was finalized in July, 2010 and endorsed by Chief Forester, Jim Snetsinger. This document has provided guidance for cooperation among industry, Ministry, and SelectSeed orchard operations.

New seed-use patterns through climate-based seed transfer and changing harvest patterns will require modifications to current seed orchard capacity. A review of the "Guiding Principles" is warranted to help all players make decisions and to facilitate continued cooperation.

14. FGC Strategic Plan development and survey results

Survey results were sent as a separate document.

Results from the community-of-practice survey conducted in support of FGC Strategic Plan renewal will be discussed.