

Minutes of the Forest Genetics Council

8:30 am – 4:00 pm, Tuesday, April 2, 2019

Members Present:

Annette van Niejenhuis, Bevin Wigmore, Bob Johnson, Dan Peterson, Domenico Iannidinardo (Co-chair), Gernot Zemanek, Jeff Mycock, Juergen Ehling, Kori Vernier, Mark Hay, Pat Martin (Co-chair), Tony Hopkin.

Regrets (proxy):

Shane Ford (Pat Martin), Bill Laing (Jeff Mycock),

Guests:

Brian Barber (FGC/SelectSeed), Henry Benskin (SelectSeed), Jack Woods (SelectSeed), Keith Thomas (FIRM), Margot Spence (FIRM), Raoul Singh (Genome BC).

Summary of Motions:

Motion: The Minutes of the FGC meeting held Dec 11, 2018 are hereby approved. Kori/Jürgen. Carried.

Motion: An LBIS budget of \$2.7M that includes requested Option A funding for all but several Conservation program activities is hereby recommended. Kori/Annette. Carried.

Motion: FGC adopts SelectSeed’s Pli Business Case report of April 1, 2019, and approves SelectSeed using its cash reserve to establish a 5000-ramet Pli seed orchard near Quesnel. Annette/Bob. Carried.

Summary of Action Items:

| Person(s) | Actions | Date |
|------------------|--|--------------|
| Brian | Provide link to AgSafe’s VSOC video to FGC members. | ASAP |
| Brian | Review safety systems in place at SelectSeed’s seed orchards. | June |
| Annette and Kori | Review Hazard Alerts on BC Forest Safety Council website and share relevant ones with seed orchard managers. | June |
| Annette and Kori | Add safety as a standing agenda item to CTAC/ITAC agendas | Next mtgs |
| Annette and Kori | With TAC members’ assistance, recommend a ‘system’ for sharing safety-related information amongst members and seed orchard managers. | Tbd |
| Brian | Invite presentation from CoAdapTree project team on the results of their social research at a future FGC meeting. | June or Sept |
| Brian | Include actual Class A seedling request #'s, in addition to % select seed used, in the 2019/20 Annual Report. | June |
| Brian | Separate FGC and SelectSeed categories and metrics in next version of Dashboard. | June |
| Brian & FGC | Share draft FGC interview report with FGC members via Google docs. Members to add/edit and discuss priorities and follow-up actions at its next meeting. | June |

| | | |
|-----------------|--|----------------|
| Brian | Share Seed Planning Unit (SPU) Evaluation Priority Matrix used to guide breeding/seed orchard investments, and last updated in 2013, with FGC and post on website. | ASAP |
| Brian | Forward FGC's recommended LBIS budget request and program allocations to Diane Nicholls, Chief Forester. | ASAP |
| Ministry (FIRM) | Adjust projects' funding levels based on total \$ allocated, feedback received from FGC and TACs, access to other funding sources, and potential for subsequent reallocation (i.e. risk management). | ASAP |
| FGC Co-chairs | Send notes of thanks to TAC chairs and committee members for their assistance with budget process | ASAP |
| FGC | Discuss advocacy for a higher annual LBIS budget allocation. | September |
| Brian | Circulate FGC/SelectSeed/BC Forest Genetics Society slide presentation, the Society's Constitution and Bylaws, SelectSeed's Articles, and Society membership application forms to FGC members. | ASAP |
| Brian | Compile FGC/Society/SelectSeed governance reference guide with links and annotations. | June |
| FGC members | Provide comments on Discussion Paper: Managing Changes to Orchard Location, Size, and Composition (March 13, 2019) to Pat Martin. | ASAP |
| Brian | Post above discussion paper on Google Docs for members to add comments, see others', and add topic to June agenda. | June |
| SelectSeed | Pursue its recommended next steps to establish a Pli orchard near Quesnel and report to FGC. | As appropriate |
| Brian | Revise and circulate SelectSeed's proposed 2019/20 Business Plan to FGC members for their review and approval. | ASAP |
| Brian | Circulate notice of upcoming conferences and seminars to FGC and TAC members. | ASAP |
| Brian | Issue Doodle Polls for June meeting, including SelectSeed and Society AGMs, and a fall field tour in September. | ASAP |

Proceedings

This meeting was held at the Executive Hotel Vancouver Airport in Richmond. A draft agenda and materials were circulated in advance.

There being adequate notice served and a quorum of members present, Pat and Domenico (Co-chairs) called the meeting to order at 8:35 am. Members present, regrets and proxies were confirmed, and guests identified and welcomed. The meeting closed following an in camera session at 4:05 pm.

1. Agenda

The draft meeting agenda provided was reviewed and confirmed.

Motion: The Agenda for this meeting is hereby approved. Tony/Annette. Carried.

2. Safety

Members were asked to report on any safety-related initiatives or concerns within the purview of FGC. The discussion of safety continued following review of the related Dec. 11 action item – and are recorded here.

Members were interested sharing safety information (e.g. near misses, hazard alerts) in a timely effective manner. Several follow-up actions were offered.

Action: Brian to provide link to AgSafe’s VSOC video to FGC members.

Action: Brian to review safety systems in place at SelectSeed’s seed orchards.

Action: Annette and Kori to review Hazard Alerts on BC Forest Safety Council website and share relevant ones with seed orchard managers.

Action: Annette and Kori to add safety as a standing agenda item on CTAC/ITAC agendas, and

Action: Annette and Kori, with TAC members assistance, recommend a ‘system’ for sharing safety-related information amongst members and seed orchard managers.

3. Minutes from Dec. 11, 2018.

The draft minutes of the FGC meeting held via conference call on Dec. 11, 2018 were provided with agenda.

Motion: The Minutes of the FGC meeting held Dec 11, 2018 are hereby approved. Kori/Jürgen. Carried.

4. Action Items from Dec. 11, 2018 meeting:

| Person(s) | Actions | Status |
|-------------------------|---|--------------------------------|
| Brian | Add Safety to future draft agendas items as a standing item. | Completed |
| Brian & Annette | Follow-up with Shane re FIRM’s safety initiatives and AgSafe training | Completed |
| Margot | Schedule meetings to review CBST seed gap analysis and policy options in Jan-Feb (CTAC and ITAC). | Completed See item #7 |
| Pat and Domenico | Draft letter to TAC chairs with budget and business planning instructions for 2019/20 in early Jan. | Completed (attachment) |
| SelectSeed | Provide FGC with another interim report on its Pli orchard business case end of Jan and a final report in advance of FGC’s budget meeting. | See Item #14 |
| Brian | Forward draft Communication Strategy Scoping document with cover note to members to forward to communications staff/contacts for their review and comment, and to solicit participation in a subsequent call to discuss options and next steps. | In progress See Notes below |
| Members | Provide further comments on draft Dashboard to Brian. | Completed Item #6 |
| Brian | Include Safety and other projects/tasks underway in Dashboard and include in future draft agendas as a standing item | Completed See item #2 |
| Annette, Kori and Shane | TAC chairs to inform FGC and others of their upcoming winter meetings, as scheduled. | Completed |

| | | |
|------------------|--|--------------------------|
| Brian | Issue Doodle Poll for next FGC meeting face to face in Richmond between March 13-22. | Completed |
| Brian | Arrange 1-1 interviews with FGC members to solicit ideas and feedback on FGC, including priorities for FGC and him. Report to Co-chairs. | Completed See item #7 |
| Pat and Domenico | Subject to advice received from the Society's lawyer, Co-chairs to schedule extraordinary meeting of the BC Forest Genetics. Separate or in conjunction with FGC meeting in March. | See item #11 |

Discussion on action items:

Communications: A few edits and suggestions re the draft communications strategy were received from BCTS communications' officer. The subcommittee and others did not subsequently meet to discuss next steps. Although FGC deems communications to be important, completion of the plan will be deferred in consideration of other priorities. Item will remain on Dashboard.

Action: Brian to invite presentation from CoAdapTree project team on the results of their social research at a future FGC meeting.

5. 2017/18 Annual Report

The 2017/18 Annual Report has been completed, and will be distributed and posted at: <http://www.fgcouncil.bc.ca/doc-02-annualreports.html>

Brian provided an overview of the report contents and progress towards FGC's performance measures. The target for average genetic gain of Class A seedlots sown (20% by 2020) was met in 2018. However, select seed use as a percent of total dropped to from 73% to 68% in 2018. He target for this objective (75% by 2020) will unlikely be met as seedling requests are forecast to remain above 300M for several years and Pli orchards only supply only ~20% of current demand.

The percent of seedlings requested in 2018 that were guided by CBST (2%) and the percent of select seed used with genetic pest resistance (24%) were reported for the first time. Statistics on the orchard cone crops were also presented. The 2017 crop was small (210 kg or 21.2M seedlings) in comparison to the 2018 crop (3030 kg or 221M seedlings).

The annual report also featured articles on the late Dr. Michael Carlson and FGC's fall 2017 field trip near Quesnel. Next year's report (2018/19) will be published before Sept 2019 and include features on the late Dr. John Russell and CBST.

Action: Brian to include actual Class A seedling request #'s in addition to % select seed use in the 2019/20 Annual Report.

6. Dashboard

An FGC dashboard was recommended at the Sept 2018 meeting, and a draft was presented at the Dec meeting. An updated Dashboard, with some additional categories and metrics, was provided in advance of this meeting.

Members found the Dashboard informative and confirmed interest in quarterly reviewd. A few edits were suggested including adding 'target not met' for FGC Species Plans during the current quarter.

Action: Brian to separate FGC and SelectSeed categories and metrics in next version of Dashboard.

7. Climate-based seed transfer (CBST) update

Margot Spence provided a written update on the CBST project in advance, and provided a verbal update at the meeting.

Highlights includes the forthcoming amendments to the [Chief Forester's Standards for Seed Use](#) that ensure all planting areas can procure seed from at least one BEC variant. Refinements to CBST gap analysis, maps and tools continue. The transition period (from geographic seed transfer to CBST) will likely be extended past 2020.

Members affirmed that several significant seed gaps exist, and that new orchards and/or breeding strategies are required. It was noted there is also insufficient capacity and seed available to reforest areas damaged by the 2017 and 2018 wildfires. Fdi seedlings, although ecologically suitable to the burned areas, may also succumb to frost and drought. Members expressed interest in remaining informed of the Ministry's CBST project.

It was also noted SelectSeed, Ministry and West Fraser will undertake a seed needs analysis to estimate future demand based on timber supply, harvest profiles and silviculture strategies. The analysis will assist with orchard planning and inform new CBST-based species plans. Forsite has been invited to prepare a proposal based on a terms of reference. Contact Brian for more information on this project.

This was Margot's last attendance at an FGC meeting as she will retire on May 28. FGC thanked Margot and her team for their hard work on CBST and wished her well in retirement.

8. FGC Interviews and Reports

Brian interviewed current and recent-past FGC members in January-March 2019. His task was to "identify relevant new and emerging issues and opportunities and assist FGC in developing strategies in response to these, by conducting one-on-one interviews with FGC members to solicit their view and ideas, identify challenges and options, manage conflicts and create alignment on potential solutions".

Members identified the provision of improved seed (including pest resistant seed), CBST implementation, including assessing impacts on orchards, and estimating future seed needs as the top priorities. Other topics requiring attention included updating FGC's performance measures, awareness of conservation activities, and extension. Members were satisfied with FGC's structure and meetings, but recommended improvements to FGC's budget planning process, CF's seed orchard principles, and FGC's interactions with universities and First Nations.

Action: Brian to share his draft FGC interview report with members via Google docs. Members to add/edit and discuss priorities and follow-up actions at its next meeting.

9. TAC Updates

CTAC – Annette

CTAC held species meetings for Coastal Douglas-fir and white pine on Feb 27. At the former, it was recommended that the Maritime High elevation SPU (#31) and the Submaritime SPU (#19) be combined.

A motion confirming this recommendation was passed at the CTAC business meeting, held on March 7. Coastal CTAC members are very interested in CBST and moving to advanced generation tree breeding for growth and pest resistance. Both meetings were hosted by Annette at WFP's Saanich Forestry Centre.

ITAC - Kori

ITAC was held on Feb 5-6 at the Vernon Lodge, with 60 attendees. CBST break-out sessions were held on the supporting science, impacts on seed orchards, wild seed collections, planning and planting under CBST, and SPAR and CBST tools.

A summary of these breakout sessions and other ITAC presentations were posted at: <http://www.fgcouncil.bc.ca/inte-area1506.html>

The ITAC business meeting included a summary of Ministry breeding program activities and budgets. New breeding programs were proposed for interior Cedar and Ponderosa Pine. Species committees are required to address CBST gaps in seed supply and deployment. ITAC members are also interested in the timelines and plans for Sx and Fdi CBST-based breeding zones.

Brian presented SelectSeed's Pli orchard business case mandate and site selection criteria to ITAC. Members requested that FGC provide clarification re the vetting/approval process for new orchard requests.

Action: Brian to share Seed Planning Unit (SPU) Evaluation Priority Matrix - used to guide breeding/seed orchard investments (last updated 2013) - with FGC and post on website.

GCTAC – Brian for Shane

A GCTAC meeting was held on Feb 28 in Victoria. Topics of discussion included refining the criteria used to determine the conservation status of minor species, and the need for a coordinated BC recovery strategy for white bark pine. Project and budget proposals for 2019/20 were also discussed.

Several CGTAC members departed the committee during the past year. New members were sought. Kendra Bennett, Species at Risk Coordinator, FLNRORD, and Cyndi Smith, former Parks Canada employee and former Director of the Whitebark Pine Ecosystem Foundation, were recently appointed by Shane. A member of the Nature Conservancy of Canada has also been invited to join GCTAC (tbd).

13. LBIS Budgets

Expenditures 2018/19

A summary of 2018/19 LBIS budget allocations and estimated expenditures at Program level were circulated in advance. Refer to [FGC 2018/19 Business Plan](#) for allocations.

Budget Planning for 2019/20

Pat provided an overview of business planning and direction for 2019/20. In Jan 2019, he provided the TAC Chairs with a letter and budget targets for FGC's Programs. The letter included the following preliminary budget targets.

| FGC Program | Preliminary budget targets for 2019/20 |
|---|--|
| Genetic Conservation | \$ 200,000 |
| Tree Breeding | \$ 1,450,000 |
| Operational Tree Improvement Program (OTIP) | \$ 350,000 |
| Resilience | \$ 500,000 |
| Total | \$ 2,500,000 |

FGC’s three TACs – Interior TAC, Coastal TAC, and Genetic Conservation TAC - and an OTIP review committee met in Feb-Mar to review project proposals and budget requests for the following four FGC programs: Conservation, Tree Breeding, Resilience and OTIP.

A summary of the proposed program activities and budgets for 2019/20 were presented.

Conservation Program – Brian (for Shane), Keith

The following table provides a summary of Conservation activities and budgets for last fiscal and the requested amounts for next fiscal. Option A and B budgets were offered by project leaders.

| Proponent | 2015-20 Strategic Plan | Actuals 2018/19 | Option A | Option B | Activities |
|---|------------------------|-----------------|-----------|-----------|---|
| Tree Seed Centre | \$40,000 | \$ 45,000 | \$ 45,000 | \$ 40,000 | Ex-situ collections + seed bank mgmt |
| Whitebark Pine (Cartwright) | \$40,000 | \$ 32,000 | \$ 39,000 | \$ 35,000 | White bark pine field screening, parent tree marking (monumenting), IUFRO Publication |
| Whitebark Pine (Murray) | \$30,000 | \$ 25,000 | \$ 31,200 | \$ 19,300 | White bark pine resistance testing, seed extraction, nursery, field trial assessments, verbanone treatments. |
| Whitebark Pine BMP (Murray) | | \$ 20,000 | \$ 13,000 | \$ 10,500 | Develop BMP for Healthy Cone-bearing Whitebark Pine in Harvest Units; complete field work, tree ring measurements, report |
| UBC Centre for Forest Conservation Genetics | \$110,000 | \$ 59,594 | \$ 64,750 | \$ 59,750 | WBP phenotyping and assisted migration; new project (Ne or Juniper); travel, website and overhead. |
| Conservation Catalogue (Wang) | | \$ - | \$ 78,127 | \$ 78,127 | Refine catalogue; interactive web platform; assess CC impacts on spp protection status; model species richness over time; and identify most effective habitat for species protection. |
| Other | | \$ 4,900 | \$ - | \$ - | 2018 Fall Meeting - used for Feb 28 2019 face to face meeting in Victoria |
| total | \$220,000 | \$186,494 | \$271,077 | \$242,677 | |

White bark pine, a species at risk, continues to be a focus of BC’s tree conservation efforts. Some field-based projects may be able to leverage additional funding from other agencies.

The Conservation Budget target did not include 50% of Dr. Tongli Wang’s salary and UBC overhead – \$78k – for work associated the conservation catalogue. This adds a significant pressure to the Conservation program budget. It was also noted that funding for UBC’s Centre for Forest Conservation Genetics has been reduced from >\$500k/yr over the past decade restricting new conservation research conducted by Master and PhD candidates.

Tree Breeding and Resilience Programs – Keith, Kori and Annette

The Tree Breeding and Resilience Program were presented by Keith, A/Manager, Forest Genetics Section, FIRM. The budgets for activities associated with breeding and resilience programs were presented together as FIRM manages budget allocations at the species level.

Species level breeding budgets were, however, divided between Value (growth and wood density) and Forest Health (pest resistance) to align with FGC’s objectives to increase genetic gain of select seed used and to increase the production and use of pest resistance seed, respectively. The division of breeding funds between the Value and Forest Health for a species is an approximation.

These following table is a provincial roll-up of Tree Breeding and Resilience programs’ recommended budgets by area and species, as presented to ITAC and CTAC, respectively.

| 2018-19 Tree Breeding and Resilience Program budget by area and species | | | | | 2018/19 | Change from 2018/19 Allocation |
|---|---------------------|---------------------|----------------------|----------------------------|--|--------------------------------------|
| Area and Species | Recommended by TACs | | | Total by Spp or Project | FIRM Initial Allocations (April 20 2018) | |
| | Tree Breeding | | Resilience (CBST) | | | |
| | Forest Health | Value | | | | |
| Interior | | | | | | |
| Hybrid Spruce | \$ 6,000 | \$ 254,000 | \$ - | \$ 260,000 | \$ 176,382 | \$ 83,618 |
| Western Larch | \$ - | \$ 186,000 | \$ - | \$ 186,000 | \$ 206,518 | -\$ 20,518 |
| Douglas-fir (interior) | \$ 15,000 | \$ 110,000 | \$ - | \$ 125,000 | \$ 139,156 | -\$ 14,156 |
| White Pine (interior) | \$ 1,800 | - | \$ - | \$ 1,800 | \$ 41,658 | -\$ 39,858 |
| Lodgepole Pine | \$ 94,000 | \$ 293,000 | \$ - | \$ 387,000 | \$ 265,902 | \$ 121,098 |
| Western redcedar (interior) | \$ - | \$ 25,000 | | \$ 25,000 | \$ - | \$ 25,000 |
| Ponderosa pine | \$ - | \$ 43,000 | | \$ 43,000 | \$ - | \$ 43,000 |
| Interior subtotals | \$ 116,800 | \$ 911,000 | \$ - | \$ 1,027,800 | \$ 829,616 | \$ 198,184 |
| Coast | | | | | | |
| Western redcedar | \$ 138,000 | \$ 216,000 | | \$ 354,000 | \$ 349,219 | \$ 4,781 |
| Douglas-fir (coast) | \$ 71,500 | \$ 98,500 | | \$ 170,000 | \$ 131,179 | \$ 38,821 |
| White pine (coast) | \$ 26,000 | | | \$ 26,000 | \$ 48,749 | -\$ 22,749 |
| Hemlock | | \$ 44,000 | \$ 22,000 | \$ 66,000 | \$ 58,499 | \$ 7,501 |
| Yellow cedar | | \$ 44,000 | | \$ 44,000 | \$ 38,113 | \$ 5,887 |
| Sitka spruce | | \$ 25,000 | | \$ 25,000 | \$ 48,749 | -\$ 23,749 |
| Red Alder | \$ 3,000 | \$ 54,000 | | \$ 57,000 | \$ 62,044 | \$ 26,956 |
| Maple, Big leaf | | \$ 32,000 | | \$ 32,000 | | |
| Amabilis fir | | | \$ 22,000 | \$ 22,000 | \$ 47,862 | \$ 26,138 |
| Subalpine fir | | | \$ 48,000 | \$ 48,000 | | |
| Grand and Noble fir | | | \$ 4,000 | \$ 4,000 | | |
| Forest Health Assessments | | | | \$ - | \$ 53,180 | (\$53,180) |
| Coast Subtotal | \$ 238,500 | \$ 513,500 | \$ 96,000 | \$ 848,000 | \$ 837,593 | \$ 10,407 |
| Province-wide | | | | | | |
| Climate Change Adaptation | | \$ - | \$ 148,000 | \$ 148,000 | \$ 128,342 | \$ 19,658 |
| CoAdaptree | | | \$ 50,000 | \$ 50,000 | \$ 50,359 | -\$ 359 |
| CBST Project | \$ - | \$ - | \$ 50,000 | \$ 50,000 | \$ 80,000 | -\$ 30,000 |
| Province-wide subtotal | | | \$ 248,000 | \$ 248,000 | \$ 258,701 | -\$ 10,701 |
| Reserve | | | | | \$ 50,000 | -\$ 50,000 |
| Grand Total | \$ 355,300 | \$ 1,424,500 | \$ 344,000 | \$ 2,123,800 | \$ 1,975,910 | \$ 147,890 |

Continued financial support for the CoAdapTree genomics project was also requested. This project is co-funded by Genome Canada, Genome BC, VSOC, TimberWest and WFP. Dr. Sally Aitken provided project status reports to the TACs.

| CoAdapTree 2018-19 funding 2019-20 request | 2018-19 funding | 2019-20 request |
|--|--------------------|--------------------|
| PhD student 1 - Douglas-fir adaptation | \$ 10,500 | \$ 5,000 |
| PhD student 2 - Western larch adaptation | \$ 10,500 | \$ 5,000 |
| Summer student - supplement to NSERC Summer Research Award | \$ 4,900 | \$ 4,900 |
| Greenhouse rental | \$ 1,680 | \$ 1,680 |
| Greenhouse and lab phenotyping supplies | \$ 2,000 | \$ 2,000 |
| Technician | \$ 8,707 | \$ 17,420 |
| DNA lab supplies | \$ - | \$ 4,000 |
| Subtotal \$40,000 | \$ 38,287 | \$ 40,000 |
| Overhead 25% | \$ 12,072 | \$ 10,000 |
| Total \$50,000 | \$ 50,359 | \$ 50,000 |

Margot presented CBST project activities and budget requests to ITAC and CTAC. Less funds are requested in 2019/20. ITAC members recommended an increase to the Extension/Travel budget for 2019/20 in anticipation of greater needs during the transition period.

| CBST Project Component | 2018/19 | Actuals Projected to March 31/19 | 2019/20 Proposed Budget | Difference in Allocations |
|---------------------------------------|-----------------|----------------------------------|-------------------------|---------------------------|
| Project Management (contact) | \$15,000 | \$13,600 | \$10,000 | (\$5,000) |
| GIS Analysis and Tools (new contract) | \$50,000 | \$40,000 | \$25,000 | (\$25,000) |
| SPAR HELP functions and tutorials | \$10,000 | \$4,000 | \$10,000 | \$0 |
| Extension, Communications, Travel | \$5,000 | \$7,000 | \$5,000 | \$0 |
| TOTAL CBST Project | \$80,000 | \$64,600 | \$50,000 | (\$30,000) |

The total budget requested is ~\$147k more than budget target and the amount allocated to these activities last year. FIRM indicated it could risk manage the difference internally as some proposed expenditures often come in under budget or cannot be completed due to biological or operational constraints.

Annett and Kori confirmed support from TAC members for the requested budget allocations.

Operational Tree Improvement Program - Annette

The OTIP review committee, consisting of several CTAC and ITAC members, met on March 12 to review submissions to the Ministry’s OTIP Call for Proposals issued on Nov. 29, 2018.

The target budget for OTIP projects in 2019/20 was \$325k; the same amount allocated to approved projects last year.

The total funding requested through the Ministry’s OTIP Call for Proposals was over \$436k. The Committee deemed several projects to be ineligible and standardized costs for several activities. Species plans need to be updated to identify CBST seed supply and demand implications. It was also noted that quality of proposals requires improvement.

The following is a summary of the number of OTIP projects and funding by agency as the OTIP review committee recommended to the Ministry.

| Agency | Total \$ Recommended |
|----------------------------|----------------------|
| FLNR Saanich | \$ 17,148 |
| FLNR Kalamalka/Bailey Rd. | \$ 48,777 |
| FLNR Pest Management | \$ 39,283 |
| FLRN Skimikin | \$ 38,642 |
| Canfor Sechelt | \$ 13,965 |
| CropHealth | \$ 24,145 |
| Hansinger (Kettle River) | \$ 4,976 |
| PRT Armstong | \$ 20,032 |
| Sorrento Nursery | \$ 4,408 |
| Canadian BioAct Technology | \$ 10,658 |
| Tolko | \$ 11,933 |
| VSOC | \$ 74,135 |
| WFP | \$ 27,153 |
| Total | \$ 335,255 |

LBIS 2019/20 Budget Summary

The following table summarizes the budget allocation recommendations by the TACs and OTIP review committee.

| FGC Program | 2018/19 Allocation | Estimated Expenditures | 2019/20 Target | Budget Requests 2019/20 | | |
|--|---------------------|------------------------|---------------------|-------------------------|---------------------|-------------------|
| | | | | Option 1 | Option 2 | Variance |
| Genetic Conservation | \$ 193,994 | \$ 190,000 | \$ 200,000 | \$ 271,077 | \$ 242,677 | \$ 71,077 |
| Tree Breeding (Volume & Pest Resistance) | \$ 1,521,006 | \$ 1,951,284 | \$ 1,450,000 | \$ 1,779,800 | \$ 1,779,800 | \$ 329,800 |
| Resilience (e.g. Climate Adaptation) | \$ 460,000 | | \$ 500,000 | \$ 344,000 | \$ 344,000 | -\$ 156,000 |
| Operational Tree Improvement (OTIP) | \$ 325,000 | \$ 302,500 | \$ 350,000 | \$ 335,255 | \$ 335,255 | -\$ 14,745 |
| Total | \$ 2,500,000 | \$ 2,443,784 | \$ 2,500,000 | \$ 2,730,132 | \$ 2,701,732 | \$ 230,132 |

The total LBIS funds requested exceeded the \$2.5 budget target by >\$200k, which has been the case the past three years. Members acknowledged the Ministry can prioritize and reduce funds allocated based on information received from TAC members.

The request for \$2.7M demonstrates a sustained need and capacity to deliver more forest genetics research and operations in BC.

It was recommended FGC advocate for a higher LBIS budget allocation earlier in the Ministry’s business planning cycle (e.g. in September).

Motion: An LBIS budget of \$2.7M that includes requested Option A funding for all but several Conservation program activities is hereby recommended. Kori/Annette. Carried.

| FGC Program | FGC Recommends |
|--|---------------------|
| Genetic Conservation | \$ 247,677 |
| Tree Breeding (Volume & Pest Resistance) | \$ 1,779,800 |
| Resilience (e.g. Climate Adaptation) | \$ 344,000 |
| Operational Tree Improvement (OTIP) | \$ 335,255 |
| Total | \$ 2,706,732 |

Action: Brian to forward FGC’s recommended LBIS budget request and program allocations to Diane Nicholls, Chief Forester.

Action: Ministry to adjust projects’ funding levels based on total \$ allocated, feedback received from FGC and TACs, access to other funding sources, and potential for subsequent reallocation (i.e. risk management).

Action: FGC Co-chairs to send notes of thanks to TAC chairs and committee members for their assistance with budget process.

Action: FGC to discuss advocacy for a higher annual LBIS budget allocation at its September meeting.

10. Genome BC’s Forest Sector Advisory and Stakeholder Committees

Rahul Singh, Sector Manager, Agrifood and Natural Resources, provided an update on Genome BC and its various sectors and funding programs. Genome BC’s Forest Sector Advisory and Stakeholder Committees have been reconstituted, and will assist with the development of its Forest Sector Strategy 2021-23.

Members were encouraged to consider Genome BC's various funding programs such as [Genesolve](#), which matches industry partners with researchers to solve problems using genomics. Genome BC matches partner funding 1:1 up to \$250,000 per project.

11. BC Forest Genetics Society

Brian provided an overview of the Society, its history, purpose and member accountabilities, and the Society's relationships with FGC and Select Seed Co, which is owned by the Society.

The Society's updated Constitution and Bylaws, and transition plan were filed by the Society's lawyer on Nov. 21, 2018. These updated documents are posted on the FGC website at: <http://www.fgcouncil.bc.ca/governance-area1506.html>

In accordance with the Bylaws, following Rob Guy and Scott King's resignations as Directors of the Society, Shane Ford appointed Pat and Domenico to serve as interim directors until the next AGM. Shane, Pat and Domenico held a directors' meeting on April 1, and authorized Pat to accept Society membership applications.

Membership in the society is not automatic following appointment to FGC. The Society Bylaws require eligible members (FGC appointees) to apply for membership to the Society. FGC members were therefore requested to complete a Society membership application form and submit to Pat in order to make the Society whole again prior to the next AGM.

Action: Brian to circulate FGC/SelectSeed/BC Forest Genetics Society slide presentation, the Society's Constitution and Bylaws, SelectSeed's Articles, and Society membership application forms to FGC members.

Action: Brian to compile FGC/Society/SelectSeed governance reference guide with links and annotations.

12. Managing Changes to Orchard Location, Size and Composition

Pat circulated a policy proposal respecting orchard changes in advance of the meeting. This proposal was shared and discussed with CTAC (Mar 7) and ITAC (Mar 8). Feedback from TAC members and additional written comments were invited.

Pat summarized the current status, principles and needs for improving the existing processes. The policy options being considered include orchard licensing and CF approval for all major orchard changes, including size, composition and location. Pat also indicated there is a brief window of opportunity to create these authorities along with other proposed changes to FRPA.

Several members expressed concern with the proposed policy changes, including potential approval delays, reduced autonomy and encumbrances to private sector orchard investment. Pat indicated the matter is still in the discussion phase and welcomed all comments.

Action: FGC members to provide comments on Discussion Paper: Managing Changes to Orchard Location, Size, and Composition (March 13, 2019) to Pat Martin.

Action: Brian to post above discussion paper on Google Docs for members to add comments, see others', and add topic to June agenda.

Note: Tony, Keith, Margot, and Rahul departed the meeting following this agenda item.

13. Pli Seed Orchard Planning

Pat provided an update of the Ministry's proposed plan for selecting and grafting 15,000 ramets for new CBST-based Pli ramets. The Ministry is currently grafting ~5000 backward and forward selections at the Kalamalka Forestry Centre in Vernon. The balance of ramets will be grafted over the next two years and distributed to the three interested parties – subject to the Pli breeder's orchard composition recommendations... and the next agenda item.

14. SelectSeed Pli Seed Orchards Business Case

Henry Benskin, President, SelectSeed, provided an overview of SelectSeed's business case for a new Pli seed orchard, including recommended next steps. A short confidential report was also provided to members in advance of the meeting.

On Sept 27, 2018, FGC directed SelectSeed to propose a business case for a next generation Pli seed orchard for the new BV zone in the range of 5,000-10,000 ramets. A report was provided to FGC on Dec. 11 that included the proposed site selection criteria, a climate analysis and summary of a site reconnaissance mission. A financial analysis model was subsequently developed and reviewed by SelectSeed's Board on Feb 2. This model and cost estimates were subsequently refined. Brian also made a presentation to ITAC on the SelectSeed's mandate, site selection criteria, climate analysis and solicited comments. Only two written comments, both supporting establishment near Quesnel, were received.

Henry summarized the financial analysis and other considerations reviewed by the Board on March 28. The Board concluded the company can generate a positive rate of return (>3%) by establishing a 5000-ramet Pli seed orchard on a property acquired through lease or purchase near Quesnel.

If FGC supports SelectSeed in establishing a Pli orchard to fill the demonstrated seed need, the next steps includes preparation of a detailed project plan with milestones for securing a property and management services in advance of planting Spring 2021. Success is dependent on successful implementation of the plan.

Motion: FGC adopts SelectSeed's Pli Business Case report of April 1, 2019, and approves SelectSeed using its cash reserve to establish a 5000-ramet Pli seed orchard near Quesnel. Annette/Bob. Carried.

Action: SelectSeed to pursue its recommended next steps to establish a Pli orchard near Quesnel and report to FGC as appropriate.

15. Select Seed Business Plan 2019/20

Henry and Brian provided an overview of SelectSeed's draft Business Plan for fiscal 2019/20. The report needs to be updated to reflect direction provided by FGC in the previous agenda item.

Action: Brian to revise and circulate SelectSeed's proposed 2019/20 Business Plan to FGC members for their review and approval.

16. New Business

Brian recommended FGC identify its priorities for Council, TACs and the Program Manager for the coming fiscal year. These will be considered following review of Brian's FGC Interviews report (see agenda item #8).

Brian informed council of several upcoming conferences and meetings, including the Western Forest Genetics Association in California end of June, and the Canadian Forest Genetics Association in Quebec in August.

Action: Brian to circulate notice of upcoming conferences and seminars to FGC and TAC members.

17. Next meeting

The next FGC meeting will be held in conjunction with AGMs for the BC Forest Genetics Society and Select Seed Co. Ltd. in June. This meeting could be held in Vernon to accommodate those attending VSOC's 30th anniversary celebration June 13.

The annual fall field trip will take place on Vancouver Island in September, co-hosted by Mosaic and the Ministry at the Cowichan Lake Research Station.

Action: Brian to issue Doodle Polls for June meeting, including SelectSeed and the Society AGMs, and a fall field tour in September.

18. In camera session

For FGC members only. Guests were asked to leave for the remainder of the meeting.

Motion: FGC meeting to go in camera. Domenico/Mark. Carried

Motion: FGC meeting to go out of camera. Annette/Kori. Carried

Adjourn

Motion: The meeting is hereby adjourned (at 4:05 pm). Bev/ Jürgen

Draft minutes by Brian Barber, May 22, 2019.

Approved by FGC on June 14, 2019