

# Genetic Conservation TAC MEETING – November 16, 2012

## Meeting held at the Provincial Tree Seed Center

**Attendees:** Sally Aitken, Tongli Wang, Lee Charleson, Charlie Cartwright, Michael Murray; Jack Woods, Dave Kolotelo, Jun-Jun Liu,

**By phone:** Tory Stevens, Andreas Hamann, Jodie Krakowski, Alan Vyse

**Guest:** Nick Ukrainetz

Initial comments clarified that Jack Woods and initially Jun-Jun Liu are not voting members on GCTAC.

### 1. Whitebark pine rust screening proposal and species' discussions :

- Jack provided an overview of FGC discussion on the Pa proposal. Council prefers that the GCTAC provide technical and budget recommendations that are in keeping with the 5-year GCTAC plan through the normal business planning process.
- Charlie: FLNRO Tree Improvement Branch (TIB) management wants to delay starting this project due to capacity issues. Charlie also handed out a revised version of the proposal. Several technical points were raised, including the need to clearly identify parent trees.

**ACTION: Charlie** will receive further comments on the draft and will add some discussion on points raised.

- Discussion on continued harvesting of Pa in some areas. Not specifically targeted, but “by-catch” in higher elevation operations. Largely due to lack of knowledge and ability to identify species by foresters and logging contractors. Previous rack card and information about this issues needs to be reviewed and distributed. Michael pointed out that BCTS has a policy on Pa logging that may be useful. Certification may be a means to increase attention to Pa conservation.
- A national recovery strategy for the species is due by June, 2013, but indications are that this date will not be met
- Michael discussed a conference call that he was part of to decide if there will be a BC strategy developed and those on the call indicated that this was the preferred route due to more resources being available at the provincial level
- Michael briefly explained there whitebark permanent sample plots which number 11, significantly less than the hundreds of plots monitored in Alberta

**ACTION: Michael** will find and distribute a copy of the BCTS policy on Pa logging

**ACTION: Jack** will raise the issue of Pa logging at the December FGC meeting and possibly at an upcoming meeting with Dave Peterson and Tom Ethier.

**ACTION: Alan** will contact SISCO organizers to see if they can include a presentation on Pa.

**ACTION: Lee** will discuss with Diane Douglas an ETAC project to re-do the Pa information and distribute it.

### 2. Species genetic clines, climate modelling and a Google Earth tool:

- Sally presented work done by her and Jordan Bommel that shows that most commercial conifers from western North America show very similar clinal trends for growth when seed sources are tested in locations with different climates than the source locations. This increases our confidence with movement of seed, especially when we don't have genecological information.
- Tongli presented an update on his climate modelling work and developments with response functions. The climate modelling work is being increasingly used in many forestry initiatives and has grown to become a key component of forestry climate-change work. He has also developed a tool that allows

ClimateWNA to be used with a Google Earth application.  
<http://www.genetics.forestry.ubc.ca/cfcg/climate-models.html>

### 3. Garry Oak:

- Sally presented an update on the Garry oak project being led by the Center for Forest Conservation Genetics. The site at UBC is in good condition, but site at Cowichan (North Arm) is being browsed by elk and needs to be fenced. Charlie suggested having a fence put up around only the test site as the larger fence around the whole site is in poor shape and would be too expensive to repair.

### 4. CONFORGEN:

- Jack provided an overview of the pan-Canadian CONFORGEN initiative to lead genetic conservation efforts for indigenous tree species. All provinces and territories are represented on a steering committee. There are several technical committees that become involved with specific issues. Jack is the BC rep on the Steering Committee. CONFORGEN is currently conducting a survey of experts on the conservation genetic status of all tree species in Canada.

### 5. White and Englemann spruce hybridization

- Sally discussed a molecular-genetics and phenotypic data project done by her student, Amanda de la Torre that characterized the white and Englemann spruce complex in the interior using selected parents from the Sx breeding program. There is strong evidence that selection is shifting this complex strongly to white spruce. This will likely favour greater adaptation with climate change.

### 6. Big Tree Registry

- Sally presented a proposal to move the provincial Big Tree Registry to a web-based system that is hosted under the CFCG website. This would provide a portal for public use and help the volunteers who maintain the registry.
- Lee suggested using some Extension TAC funds to help this year. Sally mentioned that GCTAC funds through the FGC that were to go to arbutus seed collection have not been used.

**RESOLUTION:** Dave / Lee Moved that the GCTAC authorizes a reallocation of funds from the CFCG arbutus project to setting up a provincial Big Tree Registry. CARRIED.

### 7. AdapTree update:

- Sally provided an update of the AdapTree project being undertaken with Genome Canada funding. This very extensive project with Sx and Pli will provide a great deal of information on genetic diversity that will be useful for conservation purposes, as well as for seed transfer and overall genetic resource management. In addition, the GELS component of the study is providing useful information about public and professional forester perceptions of assisted migration.

### 8. Conservation Catalogue

- General discussion on history and value of the catalogue and whether we are at the method development stage or the update/ground-truthing stage
- Andreas pointed out that new higher-resolution mapping technologies offer opportunities to improve on the method used for Tech. Report 53. Data collection for this work was completed in 2001, so a more current dataset (including more recent protective areas) with a more current BEC version is required.
- Andreas has a masters student starting in September who will possibly be working on this for western Canada. No GCTAC commitment for funds at this time requested.
- Agreement that the catalogue still has value. The following three steps should be followed:
  - Conceptual method update
  - Application of new method
  - Ground truthing matrix cells (species/seed zone matrix) with potential issues (verification stage).

- Charlie mentioned that he is currently working on a listing of genetics trials in place for minor commercial species (those without breeding programs).
- Support was expressed for the continued development of the catalogue and the ongoing use of the catalogue to identify conservation priorities and assess performance for conservation.
- Jodie indicated that she is writing up the groundtruthing results for a journal article as she thought that was less cumbersome than a Technical Report. It was also suggested that it would be good to have this document in the same format as Technical Reports 53 and 54 and the document Charlie is working on to document tests and ex-situ resources for species without tree improvement programs. Although discussed, no options for helping Jodie prepare this document in her spare time seemed practical.

#### **9. Genotyping project:**

- Charlie provided an overview of the Bg and Aspen genotyping work being done by Craig Newton. This work is largely done, but some additional funding is needed and it is proposed that funds left over from cone collections be reallocated to have the work done at Carol Ritland's lab at UBC. GCTAC members agreed that this reallocation should be done.
- Comments were made that genotyping work of this sort can also be done as a student project. While it takes longer, the outcome is often a more comprehensive report.

#### **10. Seed collections:**

- Charlie provided a list of seed collections completed under contract by Don Piggot in 2012. Pa crops were poor, but Don successfully collected many other species and sources that were on a priority list provided to him.

#### **10. Budget updates:**

- Dave announced that he was asked to submit a STOB 77 estimated budget (university grants) for the next two years. As no other information was available he provided the same amount that was spent this year.
- Regarding genotyping, Charlie said that TIB expects to continue to contract this work to Craig Newton with Chang-Yi Xie doing the analysis.
- Charlie said that some budget allocations for Pa stratification were re-allocated to the purchase of Pa seed for the whitebark screening proposal.

#### **11. Future meetings:**

- Dave suggested that more frequent and shorter conference calls with focus on a specific item are desirable. Members support this approach.

**The meeting was adjourned at about 3:45 PM.**

Minutes prepared by Jack Woods and Dave Kolotelo