

**BURNS BOG ECOLOGICAL CONSERVANCY AREA
SCIENTIFIC ADVISORY PANEL MEETING
Tuesday, February 15, 2011 - 4:30 PM – 7:30 PM
Parks West Area Office 130 – 1200 West 73rd Avenue Vancouver BC**

MEETING NOTES

Attendees:

Mitch Sokalski (*Chair*), Metro Vancouver
Markus Merkens, Metro Vancouver
Greg Paris, Metro Vancouver
Wendy Warn, Metro Vancouver
Loger Aure, Metro Vancouver
Sarah Howie, Corporation of Delta
Dr. John Jeglum, Scientific Advisory Panel
Paul Whitfield, Scientific Advisory Panel
Dr. Richard Hebda (*via conference call from 5:00 – 5:50pm*), Scientific Advisory Panel

Guest:

Dr. Lori Daniels, University of British Columbia

Regrets:

Jennifer McGuire, Ministry of Environment
Allan Dakin, Scientific Advisory Panel
Mike Brotherston, Corporation of Delta
Ken Brock, Environment Canada

Meeting started at 5:05 pm

- 1. INTRODUCTIONS – Dr. Lori Daniels, University of British Columbia**
- 2. REVIEW AGENDA AND DECEMBER 14, 2010 MEETING NOTES**
- 3. ACTION ITEMS FROM PREVIOUS MEETINGS**
 - a. Item 3.4 – Research Strategy (January meeting)**
 - Markus, Richard, Allan and John were present during the meeting
 - Water balance model is the utmost priority in the research strategy
 - Constructing a fire break of sufficient size in the bog will help gather critical data on hydrology, vegetation response to tree removal, tree growth rates and restoration strategies
 - SFPR's contractors will only provide data required to monitor impact of SFPR on the bog.

ACTION: Markus to collect topics from SAP members for a workshop and work with Sarah to organize workshop. Note that Paul will be away starting Sunday and back on June 1

4. PRESENTATION OF TREE RING ANALYSIS REPORT - Dr. Lori Daniels, University of British Columbia

- Dendroecological Analysis of Ages and Growth Rates of Lodgepole Pine in Burns Bog (Please see attachment 1)
- Sampling design: 10 transects consisting of 4 sampling points 0, 20, 50 and 100 m from reference line at a constant bearing. 2 trees from the upper canopy were cut and sampled for tree ring analysis
- 25 trees were harvested in 2009 in advance of the clearing crew.
- Cookies were cut from felled stem at: soil surface, 30 cm height, 1.3 m, 4 m, 8m, and 12 m.
- Cookie slices were prepared using standard procedures.
- All cookies were chronologically aligned by correlating tree ring width across years. 8 out of 25 trees had tree rings that did not align very well until the outer most ring was adjusted, - did not lay down a ring in one year.
- this result is most common in environments where trees are stressed causing them to allocate their energy to root growth but not enough energy to produce rings
- Individual trees range from 32-87 yrs, 1923 earliest establishment, 1978 being the youngest tree
- Out of the 25 trees, 20 made it to 8 metres and 10 made it to 12 metres. Samples get a little bit smaller as you move to the higher end of the gradient.
- Establishment (calendar year) = pith year of basal disc (0.0m)
 - Age (years) = outer ring – inner ring + 1
 - Height growth = age(height above) - age (pith year of basal disc)
- Diameter at breast height is a poor indicator of tree age
- There was no trend in tree ages relative to position on transect.
- Height growth rates – younger trees appear to be growing faster
- Some trees show evidence of being released at some point (inflection in growth curve)
- Greater age variability in upper canopy trees at 20 m relative to edge samples.
- Data indicate distinct patterns of tree growth potentially linked to historical management practices.
- It was noted that transect were likely not aligned on an ecotonal gradient. Some transect origins were closer to the edge of the original bogs whereas others were further inward. – Suggest correlating growth rates with some defined isocline. Perhaps distance from bog center
- Richard suggested that LiDAR data be checked to locate trees and figure out the location and density across a time line
- Next Steps
 - ✓ 25 of 80 trees have been sampled
 - ✓ complete sampling and according to the original sampling design
 - ✓ complete sampling design with greater sample sizes = better representation of habitat influences on tree growth
- Richard recommended that the rest of the trees be measured, also sample trees further into the bog (200 – 400 m position of transect).
- Perhaps future work on fire break management will allow greater sample sizes in conjunction with other studies looking at restoration activities.
- Richard mentioned that pine trees get big swellings developing at the walls, this needs to be observed. May have an influence on tree growth

5. 2011 VEGETATION MONITORING REPORT

- Ledum Groenlandicum (Bog Labrador Tree) see attachment 2
- Report shows 5 years of data collected from 2005, from 5 monitored zones
- Markus proposed to wait for 2 years to sample vegetation and go to a 5 year monitoring interval thereafter
- Good baseline information, strategy of holding off will give vegetation enough time to respond to the hydrological changes
- Survey costs \$5000/year
- Invite Sphagnum expert to differentiate and identify sphagnum in the hollow in the next survey
- Richard should be involved in the discussion

ACTION: Markus to summarize 6 years of data and submit to Richard

6. OTHER BUSINESS

- 7. NEXT MEETING DATE – Monday, June 20
5:00 pm – 7:30 pm**