

**BURNS BOG ECOLOGICAL CONSERVANCY AREA
SCIENTIFIC ADVISORY PANEL MEETING, NOTES
Monday, April 13, 2015 – 3:30pm – 5:30pm
Arbutus Meeting Room, Parks West Area Office
130 – 1200 West 73rd Avenue, Vancouver, BC**

Attendees:

Markus Merkens (Chair), Metro Vancouver (MM)
Marcel LaBreche, Metro Vancouver (ML)
Greg Paris, Metro Vancouver (GP)
Allan Dakin, Scientific Advisory Panel (AD)
Dan Moore, Scientific Advisory Panel (DM)
Karen Golinski, Scientific Advisory Panel (KG) - via conference call
Richard Hebda, Scientific Advisory Panel (RH) - via conference call
Paul Whitfield, Scientific Advisory Panel (PW) - via conference call
Sarah Howie, Corporation of Delta (SH)
Angela Danyluk, Corporation of Delta (AD)
Carina Mangibin, Metro Vancouver (CM)

Observer:

Don DeMill, Consultant of Corporation of Delta (DM)

Guests:

Laura Dilley, Thesis Research Royal Roads University

Regrets:

Mitch Sokalski, Metro Vancouver (MS)
Tom McComb, Metro Vancouver (TM)
Loger Aure, Metro Vancouver (LA)
John Jeglum, Scientific Advisory Panel (JJ)
Mike Brotherston, Corporation of Delta (MB)
Ken Brock, Environment Canada (KB)
Scott Barrett, Ministry of Forests, Lands and Natural Resource Operations (SB)

Meeting started at 3:35 pm

1.0 Introductions

2.0 Review December 9, 2014 Meeting Notes

3.0 Review Action Items from December 9, 2014



4.0 Scientific Advisory Panel Topics

4.1 Research Strategy

4.1.1 Laura Dilley Thesis Presentation

- LD presented her study on “Restoration of Burns Bog: Cumulative Moisture Deficit as an Indicator of vegetation recovery and peat growth” (see attached).
- MM pointed out growth measurement of sphagnum’s shrinkage/swelling. Sphagnum grow in cooler condition than in summer.

4.1.2 Vegetation Monitoring

- The 10-year data was sent by MM in the fall to SAP members. Thomas Munson to go ahead with the sphagnum and vegetation, tree vigour assessment this year.
- RH emphasized the need to look at the longer term trend in terms of trajectory but the water table data and the monitoring site can be a proxy.
- From LD and the study done by TM, MM observed salal and rhynchospora show some changes. Possibility of looking at these species as indicator for dryness and wetness in analyzing the data – trend in annual moisture deficit.
- Problem when we intervene in bog hydrology before understanding the relationship with respect to water table. Started the experiment before understanding the baseline. SH said ditch blockages were installed in 2001 before the monitoring began and distance of the dams to the bog would only affect the edge and not further.
- RH: Water table data converted to values that LD demonstrated to look at the pattern of trends over the vegetation.

4.1.3 Water Balance Model Work Plan for next year

- DM updated the group on the thesis of Johannes Exler. Anticipated date to be finished by end of August as he is doing some data clean up and much comprehensive study.
- Caroline Chestnutt, another student close to finishing the course focusing on transpiration model based on the measured ETF flux tower in relation to soil moisture.
- As Haven, UBC under graduate student will leave in 2 weeks, MM suggested having another student continue monitoring the 30 piezometers at the bog’s edge – download the data to avoid losing them. Haven can also help in hydrolic connectivity with LD in 27 sites with the same methodology.

4.1.4 Greenhouse Gas Study at Burns Bog

- A second report on the measurement of CO₂ and methane is to be submitted to Geoderma soon. Upgrading of the flux tower this year to include methane measurement other than CO₂.
- MM added AMSPEC system, introduced by Nicholas Coops (UBC Forestry), measures continuous photo spectral reflectants in vegetation – photosynthesis of the plants thus measures productivity related to CO₂ emissions or absorption. These will be attached to the flux tower pointing to the ground.

4.1.5 SFPR Flow Monitoring update

- SH and MM installed some monitoring devices at the northern perimeter of the bog and additional equipment to be put up this year once sourced.
- Pressure transducer, ph and electrical connectivity loggers were installed at 72nd Ave and Hwy 91 Interchange to monitor Cougar Creek overflowing probably until November.



4.1.6 Canpotex Projects

- SH: hydraulic conductivity monitoring field test done. Actual monitoring should be completed in a month's time - to capture the saturated zone, acrotelm measured before the water table drops.
- The SFPR flow monitoring sites as well as some of the lateral outflow undertaken by Johannes will be funded by CANPOTEX.

4.1.7 80th Street Cranberry Field Restoration

- Survey of the Cranberry field which was cleared in 1998 showed significant recovery with little sphagnum growth. Recommendation of some experimental manipulation to accelerate sphagnum growth at the site.
- MM and Conor Reynold submitted a proposal to MV Sustainability Innovation Funds to install some experimental designs for students to monitor and find the appropriate system to undertake. If successful, should start in 2016.

4.1.8 Database Development

- MM still in the process of gathering data as points in a geo-reference database and tie description of the data available to each data points and time series. Eventually connect the data files. Will ask assistance from AD.

Action: Schedule a concentrated workshop/vegetation data analysis in summer. Available dates for all SAP members.

4.2 Management Plan

4.2.1 SFPR Post Construction Monitoring

- CoD and MV met with Gateway. All projects are still underway except for the dustfall monitoring which has been completed. Data has not been completed yet and will be passed onto SAP for comment.

5.0 Operational Updates

5.1 Field Operations

- Seasonal staff position for 4 months in summer.
- Building at 80th Street as an Operational Center but is still waiting for the funding in 2016.
- Preparing for wildfire season – additional fire trailer as a resource; fire training for staff.
- Encroachment into north of the Landfill off the 72nd on March 11th, several ATV's came into the bog thru the 60th damaging/uprooting collars which will be re-positioned this year.
- Meeting planned with the Landfill to discuss garbage issues.

6.0 Other Issues

6.1 RH: Wally, husband of Eliza Olson (President of BB Conservation Society) passed away. He was instrumental in the process of the ecosystem review. We should acknowledge his contribution formally. Mitch Sokalski attended his celebration of life and MM to discuss with him possibility of erecting a memorial on site to recognize his contribution.

6.2 AD: are there any research from other MV bogs relevant to Burns Bog? MM to provide data.

Meeting ended at 5:13pm

Next Meeting – Tuesday, June 16, 2015 (TBD)

