

**BURNS BOG ECOLOGICAL CONSERVANCY AREA  
SCIENTIFIC ADVISORY PANEL MEETING, NOTES  
Tuesday, September 17, 2013 – 3:30 – 5:30pm  
Room M2.004, Richmond City Hall  
6911 No 3 Road, Richmond, B.C.**

**Attendees:**

Markus Merkens (Chair), Metro Vancouver (MM)  
Sarah Howie, Corporation of Delta (SH)  
Mike Brotherston, Corporation of Delta (MB)  
Allan Dakin, Scientific Advisory Panel (AD)  
Richard Hebda, (*via conference call*) Scientific Advisory Panel (RH), *left at 4:46pm*  
Dan Moore, Scientific Advisory Panel (DM)  
Marcel LaBreche, Metro Vancouver (ML)  
Greg Paris, Metro Vancouver (GP)  
Karen Golinski, Scientific Advisory Panel (KG)  
Talia Parr, Metro Vancouver (TP)

**Regrets:**

Loger Aure, Metro Vancouver (LA)  
Ken Brock, Environment Canada (KB)  
Scott Barrett, Ministry of Forests, Lands and Natural Resource Operations (SB)  
Paul Whitfield, Scientific Advisory Panel (PW)  
John Jeglum, Scientific Advisory Panel (JJ)  
Mitch Sokalski, Metro Vancouver (MS)

*Meeting started at 3:40 pm*

**1.0 Introductions**

**2.0 Review June 18, 2013 Meeting Notes**

**Old Business:**

**3.0 Review Action Items from February 19, 2013 Meeting:**

Item 4.1.2 – Flux Monitoring Stations Project

Dan's colleague has just returned from Switzerland. Dan also left a message for Sean Flemming from Environment Canada to find out whether their system is still available. Markus will be heading out to UBC to discuss further with Dan.

**Action: Dan will follow up this week with colleague and Sean Flemming and will report back to SAP**

**New Business:**

**4.0 Scientific Advisory Panel Topics**

**4.1 Research Strategies**

**4.1.1 Vegetation Monitoring 2013**

Thomas Munson conducted the monitoring again this year. Markus just received his draft report this week. Markus has been reviewing the database for the last ten years and there are some inconsistencies in the electronic database and the hand written field notes.



Markus has been correcting those as he has time. There are still three more years to review. Once Markus has finished reviewing he will get back in touch with Karen to do the ordination to see if patterns can be found in the data. Karen is entering the Bog tomorrow to look at some of the vegetation sampling site and discuss sampling at that time.

**Action: Markus to touch base with Karen once he is finished reviewing the data**

#### **4.1.2 Water-Flow Monitoring at SFPR Weir Locations**

Markus and Sarah have been discussing flow monitoring at each of the three outfall culverts with FTG and Delta Engineering. Markus would like to ensure the appropriate monitoring of devices is installed at each of those outfalls and believes a notched weir is the way to go. There was talk about refitting some of these standard weirs that they are installing with notched weirs. Sarah is waiting to see what they install and then look at possibly retrofitting what they have in there. Operations department is a little concerned with messing with structure they have in place as it could cause problems. Weirs should be in place soon.

#### **4.1.3 Evapotranspiration Estimation**

Markus to speak with Dan and colleagues to see what might be possible in terms of how small a site can be monitored by an individual flux tower. Hopefully in the coming year they can be installed should they still be available. Allan suggested looking at other methods for measuring evapotranspiration. Dan suggested a site scale water balance work, for examples where there are trees, quantify interception loss by having gauges and then for the transpiration there is water content changes with depth. If you know how much goes in from rainfall canopy drip and you know what the change of storage is from the site, you can calculate the evapotranspiration. This is done in conjunction with flux tower study. Allan suggested putting a drum into the Bog which is open at both ends to contain the water and measure the water levels changes within it.

#### **4.1.4 Flow Monitoring at Outflows**

Last year Markus purchased some water level devices to be installed with weirs at various locations in the Bog. It was discussed with the Vancouver Landfill situating a new weir at the northwest corner of the Landfill as the primary outflow for that area of the Bog. The Vancouver Landfill has discussed with their hydrology consultants and they have no objection to the installation of a new weir there. The cost of the weir is estimated at about \$30,000. Markus is reviewing his budget to see if this can be achieved this year and will follow up with Sarah to see if Delta has enough time to install it. The weir and monitoring devices will hopefully be installed before the heavy winter rains begin. Other outflows are not in place. Concentration has been on three outflows at SFPR.

#### **4.1.5 Burns Bog Northern Boundary Weir**

Weir has been constructed and was installed today at the East West ditch at the Northern boundary of the Bog. They are using a large metal culvert that was from the cranberry farming days that was salvaged from the Bog. There will be stop logs in that which will be adjustable. The rest of the structure will be two cedar walls filled with peat. Markus to install some flow monitoring devices to determine flow rates and direction.



#### 4.1.6 Database Progress

Markus has heard some positive comments from IT with respect to supporting the development of a database. No confirmation at this time for next year in terms of IT support. In the meantime Markus is working with our own research and information officers within Parks to begin to assemble the framework for a GIS database. Hydrological data will be the primary focus at first. There is a plan to report significant progress by the end of the year. Alan wondered if it would be possible to link existing reports and publications to the data base and use a search tool to find relevant data or studies.

**Action: Markus to contact MV library to see whether it would be possible to connect searchable PDFs with their current library system**

#### 4.1.7 SFPR Post Construction Monitoring

Markus received call from Richard Sims who would like to meet to discuss post construction monitoring plans. Dust fall monitoring has stopped some time ago. At the field meeting it was discussed that this needed to restart before the highway opens so that dust flows overtime can be monitored if traffic changes incrementally. This will be taken forward to Gateway when meeting is set.

**Action: Markus to follow up with Richard Sims for future meeting**

#### 4.1.8 Brief Status of all On-going Research Activities

All the Gateway projects are ongoing except for the dust fall monitoring. All data from the last 5 years has been collected consistently on most of those. All data will be incorporated into new database as soon as it is developed.

**Action: Markus to send SAP members detailed list of on-going research activities in the next few weeks**

#### 4.1.9 Lateral Flow of Water

During a tour earlier this year, SAP members were made aware of a soil pipe flow across a berm at Cranwest Farms that appeared to be draining a significant amount of water from one section of the Bog. Such soil pipes are common around the perimeter of Burns Bog. Markus and Sarah met with owner of the cranberry farm who was going to look into plugging that particular hole in order to reduce losses of water during the drier summer months.

**Action: Markus and Sarah to follow up with owner of cranberry farm**

#### 4.1.10 Potential Research Funding - Upcoming

Markus and Sarah have been discussing the possibility of getting some compensation funding from a development up North to fund some research specific to Burns Bog. Markus and Sarah are working on a research proposal that includes a new list of priority items for Burns Bog based on discussions with SAP members. These priority items include: lateral flow, evapotranspiration, rainfall interception by different vegetation communities, peat properties, flow monitoring. Some projects have been identified as being able to be taken on by students, but first need proposal to be accepted. Richard Hebda mentioned the importance of peat accumulation rates to be included in the research proposal.

**Action: Richard to meet with Karen to speak further about methods that could be applied to peat accumulation and provide report to Markus in two weeks**



## 4.2 Management Plan

### 4.2.1 July 30, 2013 Interagency Meeting Verbal Update

Post construction monitoring was one of the key items. MV wants to take the appropriate messages back to Gateway. This is a high priority for inter-agencies as well.

## 5.0 Operational Updates

Seasonal staff is finished for this year. Operations are working towards moving MV into the Animal Shelter. Fire season is complete. Bog was in Extreme for a week and a half. Two false alarms fires, but no reported fires in the Bog. Weather station data from the Bog was opposite this year to the data from the Richmond station for fire hazards, follow up required.

**Action: Marcel to follow up with Sarah to get in touch with Watershed Department and Parks Operations for a solution to connecting water station data**

## 6.0 Other Business

Markus to contact Lori Daniels, Greg Henry (UBC) or Ze'ev Gedalof for interest in looking at tree rings from the submerged stumps Don DeMill has been finding.

Status of Princess Farms – Mike will circulate short news release when the actions are initiated which should be shortly.

*Meeting adjourned at 5:03 pm*

**7.0 Next Meeting Date** - Tuesday, October 29, 2013, 3:30 pm – 5:30 pm  
Arbutus Meeting Room, MV, Parks West Area Office  
130 – 1200 West 73<sup>rd</sup> Avenue, Vancouver

