

**Notes from the April 14, 2005 Meeting of the
Scientific Advisory Panel
Burns Bog Ecological Conservancy Area**

In attendance

SAP members: Richard Hebda, Allan Dakin, Hamish Kimmins,
Geoff Scudder, Bert Brink and Bob Peart

Planning Team Members: Greg Paris, Verne Kucy

Guests: Hugh Fraser, Sarah Howie, and Paul Whitfield

1. Notes from the February 17, 2005 Approved as previously circulated.
2. Mission and Ecological Integrity Framework For the purposes of the scientific panel process the following was approved:

Mission: To return Burns Bog to a condition shaped by raised bog processes, buffered from disruptive or disturbing adjacent processes on the landscape.

Ecological Integrity Framework for Burns Bog

i) *Definition: the maintenance of characteristic ecological processes, structure and biota interacting over time; recognizing the directional forces of urbanization, adjacent land uses and climate change.*

ii) **Ecological Indicators (to be used for measurement and analysis):**

- *Characteristic ecological processes: hydrological systems and water chemistry, peat accumulation, trophic interactions, connection with adjacent ecosystems and landscapes.*
- *Structure: the set of plant species or communities that define the bryophyte dominated shrubby structure and function of the bog habitat.*
- *Biota: the set of key, rare and/or critical acidophilic species (plants, vertebrates and invertebrates) that is capable of natural or progressive evolution into another related bog ecosystem(s) with ecological integrity.*
- *Time: circa 100 years.*

3. Status of Short Term Action Items

- A number of weir structures have been put in place by Delta, especially along 80th Street. A few more are needed. These structures are raising the water and forcing the water over the bog, rather than have it run out the ditches.

ACTION: Delta will keep an eye on this process and install other structures as required and as time is available.

- Delta has located About 12 of the 25 previously established piezometers. Their location is being mapped and their data downloaded.

ACTION: This process is to continue.

- Discussion took place regarding a monitoring system being established using existing and new piezometers, staff gauges and weir structures. The proposed monitoring system for the SW corner as presented by Delta received SAP approval. Key discussion points were:

- The critical weirs need to have their flow discharge measured over time, to determine variability.
- The weir discharge needs to be designed to 'mimic' the typical bog permeability behaviour, using a variety of filters and fabrics. Allan is familiar with this type of equipment.
- The weir discharge values as outlined in the EAO report need to be considered.
- The water level and water chemistry are both important. We need to avoid losing nutrients so careful monitoring is important.
- The beaver dams are serving an important function and should be documented and monitored.

ACTION: Delta was requested to fully implement as soon as possible.

- The Burns Bog Ecosystem Restoration Monitoring Proposal, as distributed by Munson and Hebda, was discussed and approved with minor modifications related to photographic records, water chemistry monitoring (pH, EC and temperature) and space/time transects. It was agreed that a control for reference data is desired; and whether Sphagnum is expanding and colonizing and the trees are dying are key variation indicators. The monitoring process establishes a

systematic process for location placement and sample numbers. We need a statistically secure process to capture variation over time.

ACTION: Munson and Hebda to put in place as soon as possible and gather the data for Year One, once the budget is confirmed by GVRD and Delta.

ACTION: GVRD and Delta need to determine if there are funds to purchase the permanent equipment.

ACTION: SAP needs to discuss and make recommendations related to the permanent storage of the data that these processes are going to collect.

- Hugh and Paul are in the process of having the surplus weather station moved. SAP members agreed to the proposed location.

4. New Agenda Items

a. Scientific Tours of the Bog

The present policy is 'no access'. SAP members support the policy of no public access. However, carefully monitored access by scientists that will benefit the Bog and assist SAP with their research is of value. SAP members therefore recommend that if the following criteria are met and all members of SAP concur then access should be approved for scientists and science research. These criteria are: accompanied by SAP member(s), a working tour to assist SAP research, may assist with raising money for SAP research, and the direct benefit and relationship is clearly described.

b. Gateway Request to make a presentation.

SAP members agreed to invite Gateway representatives to their May meeting. A total of 30 minutes will be allocated ---- 10-minute presentation and 20 minute discussion. SAP members agreed that it was important that Gateway hear the scientific concerns 'straight from the horse's mouth'. One member stressed that the link between Gateway and Deltaport and any associated federal EAO processes needs to be made clear.

c. Paul Whitfield made an interesting presentation about the hydrology of bogs, which included an overview of the key scientific papers and some of their key findings. SAP members found this useful.

ACTION Paul was requested to provide Bob with his power point slides for circulation to all SAP members. Modeling stills requires further discussion.

d. There was insufficient time to discuss the visual 3D model quickly presented by Hamish. Members will have time at the next meeting to query him as necessary.

5. Next Meetings

Field Trip Thursday May 5, tentatively 10am-400pm. It was agreed to conduct a field trip to discuss the vegetation plot sites for the monitoring process; in particular the control and measures being established in the SW corner.

Regular SAP Meeting Thursday May 19 430-730pm. Proposed agenda items:

- Various updates, etc
- Future of the critical lands as recommended by Hebda/McDade
- Gateway Presentation
- Invasive Plants
- Follow-up on field trip as required.

6. Future Agenda Items

- John Jeglum's role
- Longer term perimeter drainage issues
- Potential research projects --- connecting with Universities/Colleges
- Budget Discussions as required to meet SAP's needs.
- Vancouver landfill --- drainage, chemicals, invasive plants, etc.