

**Notes from the September 15, 2005 Meeting of the
Scientific Advisory Panel
Burns Bog Ecological Conservancy Area**

IN ATTENDANCE

SAP Members: Richard Hebda, Allan Dakin, Geoff Scudder (by phone), Bert Brink and Bob Peart

SAP Members Absent: Hamish Kimmins

Planning Team Members: Greg Paris, Verne Kucy, Ken Brock, Tom Bell

Guests: Hugh Fraser, John Macfarlane, Loger Aure, Sarah Howie

1. Notes from the May 19 2005 Meeting. Approved with a couple corrections, so Bob was asked to re-circulate the final version.
2. The agenda was approved as distributed.
3. Recent Fire. Hebda's comments on the questions circulated by John MacFarlane were discussed. This exchange will be circulated separately. Following are other SAP member comments:
 - The key point is what can we learn from this.
 - There is a place for fire in the management of the Bog. Fire in the Bog has quite a history.
 - This reinforces that we need to keep the water table up.
 - Yes it was an emergency, and the sensitive nature of the Bog must be honoured somehow.
 - Fortunate this fire wasn't in the sensitive SW corner, nor did it affect the monitoring and control sites that have been established.
 - Amphibians, reptiles, insects and small mammals have likely been harmed.
 - Delta and GVRD need to clarify their fire management procedures, in particular
 - Salt water should only be used as a last resort. It is very harmful to the pH.
 - Likewise for fire retardant, although it isn't as harmful as salt water.
 - We need an overall fire management plan or guidelines that outlines a first response that isn't invasive and honours ecological integrity as much as possible, especially in the key SW Bog area.
 - Establish a process that doesn't demand emergency roads, as that would be very hard on the hydrology, especially near the dome.
 - Can a two-step process be put in place --- the first step being more sensitive and the second more intrusive as required?
 - Establishing a series of partitions (width to be determined) in a thoughtful way by removing trees/Labrador tea and squishing down the peat, thus lowering the ability for any fire to spread and encouraging herbaceous/wet species not woody plants. This

partitioning is most important in the SW corner because of the monitoring plots.

RECOMMEND that SAP members get an opportunity to go on-site and discuss what future guidelines might or should be with key Delta and GVRD fire personnel as soon as possible. As part of this briefing SAP members requested a final map showing where the fire started, how it expanded overtime and what if any roads/incursions were established. Also it is important to understand the factors that limited the fire from being even bigger. It is important to have a conversation with the fire experts about how you can balance the need to meet the public concern for air quality with the protection of key ecological elements of the Bog --- i.e. do both.

RECOMMEND that a fire-monitoring plan be put in place NOW. Be brought to SAP for review at the next meeting by Delta/GVRD.

- Water samples should be collected as soon as possible at the surface in the fire area and in ditches around the edges. In particular pH monitoring should be done immediately so that a base can be established. Also monitor the change in water quality over time --- burned vs. non-burned. Relate these changes to the established water flow/drainage.
- Other key factors that should be monitored are:
 - Invasive vegetation especially in the disturbed areas
 - The potential need for restoration.
 - Determine where the salt water was dropped if possible and determine effects on vegetation, water, etc.
 - Mapping the area that was burned and whether there were any areas within that that didn't burn, and how the burned areas re-colonize as related to ecosystem types.
 - How the burned area configures with pools of water and water levels.
 - A series of photographs in the spring 'to capture' the progress and sequencing of sprouting and greening.

4. Beaver Dams and Drainage. Hugh Fraser updated members on the status of drainage management. Key points are

- Control structures, piezometers are installed and 80th has been raised.
- Generally water levels are being maintained.
- The challenges are related to
 - The peripheral perimeter interface. Preventing flooding outside of Burns Bog lands while maintaining high water in the Bog. Particularly in the 64/104th and 96th Street areas. The balancing act is difficult.
 - Beaver dam management. Suggested installing beaver dam levelers.
- SAP members questions/comments:
 - This problem is happening because there is no functioning lagg, especially in the two challenge areas.
 - Beavers are at cross-purposes --- as we need them, and they are a problem.

- Is there any way that we can have a separate ditch for urban runoff and start creating an artificial lagg? Can we isolate those two areas somehow?
- How design a ditch network that is 'like a lagg'. Can we work towards this? To do this we need the true elevations so we can figure out what drains where.
- Maintaining water levels is more important with climate change so this situation needs to be resolved.
- It is appropriate to lower dams/ditches if neighbours are being flooded. Short term we have no choice. Keep the water as high as possible and adjust when needed.
- Need to prevent as much as possible the mixing of Bog water and Beaver dam water, as it may be 'different water'.
- Beaver dam levelers can work if installed properly.
- Does the Terasen right of way interfere with the lagg?

RECOMMEND A workshop be conducted that focuses on how lagg/ditch concepts can be developed all the way around the Bog and how this will address fire, bog restoration and the social interface challenge. Priorize key areas first, perhaps the SE corner as the preliminary experiment. We need to develop an ecological configuration conceptually and then perhaps turn it over to a grad student as an engineering project to figure out. We may have to eventually develop a protocol with key neighbours, or if absolutely critical purchase/covenant key properties, or pay compensation. Invite DU as they may have ideas. Bob to bring an outline to the next meeting and over the winter we will describe this project, figure out where the money is and find a study to conduct the project.

RECOMMEND Agreed with Hugh Fraser that he should inform the SAP whenever adjustments in water levels are required so they remain informed and have the opportunity to comment as needed.

5. Management Plan Timelines. SAP members were updated on the new timetable that now includes an option document for public information/distribution this November. Plan completion will now be March-May 2006. SAP members will continue to be informed by Bob. SAP members wanted assurance that the Covenant would be honoured regardless of the option selected.

6. SAP Research/Project Priorities. The following projects were 'brainstormed'. It was agreed that this list should be reviewed at the next meeting.

October

- Review/discuss Munson's monitoring report. Determine if the right 'questions' are being researched.
- Field trip regarding the fire. Discussion, monitoring and future projects will result. Get the monitoring work going. Perhaps the HCTF would assist with funding.
- The lagg workshop as outlined in these notes. This will be a continuing project.

November

- Invite the key fire people to attend and discuss the need for an appropriate fire management plan. See notes from this meeting.
- Gateway update and SAP role.

Important, with no date

- Invasive species strategy
- Actual costs for a drainage plan with automatic recording and true elevation data.
- Restoration research strategy and costs --- specific research topics. Link with the content of the management plan.
- Funding generation. Need an endowment fund?
- Fisheries research. The previous EAO work was inadequate so it would be valuable to determine the role of the Bog in peripheral waters. Is there any link with salmon --- doubtful but it should be investigated. Ken Brock to contact DFO and report back.
- The connection, if any, between the Fraser River and the Bog through the industrial zone.

7. Update/Status

- At the request of a member of the public it was confirmed that we are managing for functional raised bog processes. The integrity of the Bog is dependent on other ecosystem types, but they are not to be the focus.
- Members were updated on the status of Gateway's request for access to the Bog and that Delta was being requested to reconsider their position. Members asked that once this has been clarified that Gateway return to SAP to ensure that any gathered data has their input.
- The Monitoring report will be available for distribution shortly and can be discussed at the October meeting.
- Confirmed that an Invasive Specie strategy is required. The approach will be discussed at the October meeting.
- Invite John Jeglum to the November meeting if he is available.

NEXT MEETING DATES

All meetings are from 430-730 and at 4330 Kingsway

Thursday October 20

Thursday November 17

Thursday December 15