

Notes from the Thursday January 13 Scientific Advisory Panel
Burns Bog Ecological Conservancy Area

Attendance

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

Planning Team Member Observers: Paul Skydt, Tom Bell, Greg Paris, Verne Kucy.

Invited Observers: Mitch Sokalski, Sarah Howie, Wayne Mather, Marcy Sangret, Hugh Fraser, Paul Whitfield.

Introduction and Background

- After introductions were complete and various background documents outlined it was determined that the Terms of Reference required modification. Attached is the updated version with modifications in red.
- It was emphasized that both covenants are on title and that ecological integrity must take precedence over land management for the science to be credible. The covenants provide us our instructions and are the fundamental framework for the long-term management plan. It was agreed that managing the Bog for ecological integrity is not the same as managing for biodiversity.
- It was clarified that the starting point re measurement of recovery or indicators was the date of the EAO report.
- It was agreed that staying unified and ‘sending only one message’ is critical to success. The public meetings and messaging must provide a clear statement of vision and why.
- It was agreed that all members could take media calls if contacted and would make best effort to avoid any controversial points or reveal points/issues where disagreement remains. Also all media calls should be reported to Bob so that he is kept aware. Proactive use of the media is discouraged.
- If there are any questions about coordination or protocol contact Bob.

Discussion

- Climate Change. Paul Whitfield that climate change will lead to longer drier summers and shorter and possibly wetter winters. There will be lots of moisture for the Bog but over a shorter period of time. It is hard to determine the tipping point but within two decades there will be

consequences to management of the Bog and within four decades will have major effects. This change will be both significant and important. Therefore we need a large mound and we need to prevent the winter moisture from leaving the Bog too quickly. The challenge is how to keep the water table during the summer. It was agreed that as challenging as climate change is there a number of other considerations that we need to address first.

- Bog Hydrology and Processes. Hugh Fraser provided an overview of the existing drainage and the current steps being taken to retain water. The key discussion points were: the fragility of beaver dams, spring irrigation to provide frost protection, the effect our water regime measures have on adjacent private property, the Terasen corridor, the need to keep in touch with adjacent farmers whenever we change drainage patterns and concern about legal vulnerability as we change the water regime.
- Vision for Burns Bog. SAP members debated what it might take to restore/heal the ecological integrity of the Bog and have a properly functioning lagg near the margins of the water mound. It was agreed that this was THE QUESTION they had to resolve --- and 'just how do we get there from here'? It was agreed that there may be ramifications to 'this restoration' that aren't clear yet --- such as changing habitat so the cranes won't nest or small mammal habitat may be altered. There was general agreement that we need to 1. Maintain water levels within a certain range in summer for Sphagnum to grow and 2. Re-establish the water table in other portions of the Bog (example the treed areas). The key elements are the water table, sphagnum growth and the water drainage patterns.
- Bringing the public along with us as we do the management was discussed. One SAP member emphasized the value of having a 'modeling movie' that would show the public the effect of various management regimes on the Bog's habitats and species.

Work Plan Development, Direction and Priorities.

- The general framework is three part: i) Short Term Action Plan for 2005. ii) A long term management plan that outlines a vision, options, indicators, hydrology plan, implications and how to get where we want iii) and a follow-up longer term plan for what needs to be done over the next few decades along with a long term monitoring and research plan.
- Some measures/indicators of a healthy bog could be: treed-non treed, water table, sphagnum growth, water drainage patterns, certain plants, Ph and specie numbers.

Action Points

1. SAP requires a direction statement of principles that would define ecological integrity as it is related to Burns Bog. These principles would set a vision/goal in a broad way, provide clearer definition for managing the bog and lag and establish the standards/protocols for measurement and monitoring scientific results.
2. Re climate change --- we need the latest modeling on the winter rain/drier summers question. This information will assist us in the fundamental question about how to keep/manage the water. We need the data on how much precipitation falls, minus the evaporation and runoff will then let us know the amount of water 'kept available' for the Bog. We can then determine if this amount of 'kept' water is sufficient if various ditches are managed to hold the water in the bog system. It was also agreed that a obtaining a satellite series of the Bog over the last 30 years would be useful to try to determine the 'shape' of the Bog over time.
3. Therefore short-term a water management measurement mechanism needs to be established with rain gauges, pizometers, evaporation pans, thermometers, etc ASAP at critical points so the water table can be measured. How much water is going out now and is that a problem or not? It was agreed we should begin immediately to identify the critical drainage corridors and monitor the drainage patterns. If needed we need to put in weirs/dams. With a measurement system in place we can determine how we are doing with retaining moisture and whether/how the Bog is responding.
4. We need to put a water regime strategy in place such as: determine what do we need to do, explain why and how much it will cost and establish a system to monitor.
5. Long term we need to design a strategy to 'restore the Bog and lag' and how much money will be required to implement that strategy.

The following action plan was roughly agreed to:

- Hugh to complete his hydrological management as he outlined to SAP members.
- SAP to meet with Hugh to discuss the vision/ecological integrity and begin to define and outline various options for water management.
- Link these conservations with the Statement of Ecological Principles for the Bog (described above). What the implications of these options are and how to get there then requires discussion.
- A Short Term monitoring process needs to be put in place **STARTING NOW** so that we have a baseline control. This monitoring needs to be as automatic as

possible. There should be consideration of establishing a representative test plot(s).

- A Long Term decision needs to be made regarding longer term bio-monitors to measure results: is sphagnum increasing, is pine going down and what is the effect on rare and endangered species were discussed as the critical measures.
- The monitoring and water management regimes will identify gaps --- which will then require research.
- A modeling stimulation is required to assist SAP.

Follow-up Questions and Points

- What advice/documentation is there about the effect of the Vancouver landfill on the Bog --- as related to drainage, chemicals and invasive plants?
- Connecting with universities, colleges about research products by students and faculty that could help SAP.
- Do we require a briefing from BC Highways on the proposed highways and their consequences?