

## Consultation Report for RCEN

Title of Consultation: Western Canada Sulphur and Nitrogen Deposition Workshop

Date(s) held: April 28, 29 2009

Location: Banff AB

Delegate Name and Affiliation: Anna Tilman STORM Coalition

Number of ENGO Delegates at Consultation: 2

### A. Objectives

The consultation itself was a technical meeting (aka workshop) on the science of Atmospheric Deposition of Sulphur (S) and Nitrogen (N) and Ecosystems Update in Western Canada. Its objectives were to provide an update on the findings of current scientific work being done on this topic; to explore implications of these findings on policies and programs; and to identify future work to be considered.

This workshop was a follow-up to workshops held in 2005 that identified issues related to acid deposition in Western Canada and the need for much more work to fill in gaps of understanding of the role of deposition of S and N (wet, and particularly dry in the west) and the development of critical loads in these areas.

The workshop was organized by the CCME in conjunction with and (Cumulative Environmental Management Association) (CEMA) and the Wood Buffalo Environmental Association (WBEA), both of Alberta. It consisted of several presentations from scientists from Environment Canada, as well as other organizations, including one presentation giving an aboriginal perspective and another on health. Approximately 100 people were in attendance from various disciplines.

### Comment on Process:

- There was no advance material sent to the ENGO delegates, other than the agenda. The program interview that was handed out at the workshop should have been sent out to assist us on providing information on topics being discussed.
- There were no introductions of participants, which was probably cumbersome, but would have helped identify the areas represented at the workshop.
- There was no provision at the meeting to obtain copies of presentations. That matter was brought up, but it would seem that it would be left to the individual to go after a presenter to obtain a copy of their presentation.

- A short question period followed each presentation. Because of the sheer number of presentations, the question period was very limited. Also, since the workshop was held in plenary, there was little opportunity to have informal discussions with various presenters or meet people, other than who we already knew.
- The agenda could have been more balanced, allow time for informal discussion, etc.
- The open discussion held at the end of the day and a half workshop (for roughly one hour) on views of participants as to policy, direction, etc. needed to be better developed to guide the conversation.

On another note, we (the 2 ENGOs) were only notified a week prior to the workshop, that we could attend additional technical meetings that were being held April 29 and 30. We should have been informed about this earlier, so if interested, we could have made appropriate travel arrangements.

Furthermore, under the auspices of the Acid Rain Task Group (ARTG), a workshop was held a few weeks prior to this meeting that brought together experts to discuss the critical load concept. Information from this workshop should have been available to all participants.

## **B. Outcomes**

Several gaps in knowledge were acknowledged.

- Nitrogen deposition and dry sulphur deposition are having larger impacts that may have been recognized earlier.
- Ammonia levels are larger than what may have been assumed and of great concern. The use of fertilizers in agricultural practices is the likely cause.
- Other influences on acidification were noted and need consideration- VOC emissions, hemispheric transport, ground-level ozone, climate change
- Industrial activity in Alberta (tar sands), agriculture, and sulphur emissions from the two base metal smelters in Manitoba are having a large impact on acidification in the Prairies and beyond.
- The north-west region of the Athabasca Basin in northern Saskatchewan is particularly sensitive to acidification.
- Current critical load estimates may be overly conservative,
- There is as yet no information on the impact of S and N deposition in several western regions – including B.C., north-east Saskatchewan, and NWT.
- Link to acidification and increase in levels of methylmercury in waterbodies
- Impact on bogs not clearly known
- Impact of nitrogen eutrophication on ecosystems

## C. General Comments (Anna Tilman)

### Highlights of issues:

- **Gaps in monitoring, research and deposition**
  - Lack of measured data
  - Lack of baseline information
  - Impact of mineral extraction (mining and processing) and forestry practices, in addition to tar sands and upstream oil and gas operations must be examined
  - Uncertainties from model predictions
  - Impact of growth in industrial activity unknown – need to do projections
  - Need to link emissions to deposition in order to inform policy. Current estimates of emissions are not necessarily accurate and this needs to be addressed.
  - Who pays for monitoring – should industry not contribute to the cost?
  
- **Communication and Policy**
  - The public and policy makers need to be involved.
  - Emissions reduction strategy must be developed as component of policy.
  - Programs for communities (aboriginal and where there are hot-spots) should be developed to create awareness, knowledge and develop policy
  - Long-term monitoring is required to see if policies are effective
  - Funding resources may be a limiting factor
  
- **Critical Load (CL)**

The definition of CL is: ‘a quantitative estimate of exposure to one or more pollutants below which significant harmful effects on specified sensitive elements of the environment do not occur according to present knowledge’.

- The definition inherently is guided by seeking 95% level of protection for an ecosystem. The 95% level is not scientific but is deemed to be acceptable. However, this leaves 5% of an ecosystem not necessarily protected, and that may not be acceptable.
- ‘Present level of knowledge’ depends on efforts to improve present knowledge.
- Current estimates of CL are based on the best available data, but gaps in data prevent estimates of CL that are representative of the conditions of the area. Thus, CLs are in continual need of revision as new information comes forward and of course, calculation of exceedances of CL.

- Is the development of a long-term CL possible?
- The CL represents an average value for a given area – but is that appropriate?

The Canadian Acid Deposition Science Assessment Report, 2004 represented a comprehensive review of acid deposition in Canada. The report identified areas of uncertainty, indicated that further reductions in acid deposition were needed to protect ecosystems, discussed the impact on human health, linkages to other issues, the impact of nitrogen deposition, major industrial sources, and linked chronic acidification of soils to forest decline and delays in aquatic systems recovery, and concerns regarding increasing emissions of S and N in western Canada.

Five years have elapsed since that report. We have yet to see any policy come forth to address the overall issue of acid deposition.