

Secondary effects

These effects have been perceived not only in Ontario, where our research work is most advanced, but in other provinces including Nova Scotia, which has lost fish life in nine salmon rivers so far. The effects of acid rain have, as you know, also been well documented in many areas of the United States.

The impact of acidity on aquatic systems is magnified by secondary effects, such as the increased mobilization of potentially toxic heavy metals from the soils. These metals enter the waters and kill or injure living organisms. The death of these organisms appears to be affecting other wildlife which feed on them, including some species of migratory water fowl.

Acid rain is leaching magnesium and calcium out of the nutrient poor soils which sustain Canada's boreal forest. It also appears to be inhibiting the restoration to the soil of these key determinants of forest growth by slowing down decomposition in the forest litter. In effect, the soil is being threatened at both ends of the nutrient cycle.

The government of Canada and the provinces affected have become increasingly impatient with those who argue that we do not yet know enough about the effects of acid rain to spend money controlling it.

We know from precipitation chemistry that there is a considerable excess of acidity in the rain and snow falling on our country.

We know from sophisticated weather tracking methods where our acid rain comes from.

We know a great deal about what happens during the summer, when stagnant highs move slowly northward, allowing plenty of time for sulphur dioxide to turn into the much more acidic sulphate. We understand the effects of high stacks on thermal power plants and smelters, how they cause sulphur dioxide to remain aloft longer, travel farther, and to be transformed in greater amounts into sulphate.

Those who contend that we do not know enough about atmospheric processes to spend the money to reduce the emissions from these high stacks, are really saying that we should do nothing until we can calculate precisely the effect on a given lake, of a reduction from a given smoke stack hundreds of miles away.

Action needed now

The simple fact is that our lakes are being grossly overloaded with acid right now and a major reduction in the emissions that cause that deposition is urgently needed. Detailed precision is not required to make that judgment and, given the difficulty of developing such precision, an insistence on achieving it is tantamount to refusing to do anything about the acid rain problem.

On August 5, 1980, Canada and the United States signed a Memorandum of Intent (MOI) to negotiate a bilateral air-quality agreement. This move followed by some two years the far-sighted enactment by Congress of appropriations legislation containing a specific request to the United States Administration to negotiate such an agreement with Canada.