

disrupting the natural cycle by which decaying plants replenish the lake's nutrients. When a lake's pH drops below 5.5, the traditional plants begin to be replaced by mosses, fungi and algae.

The last thriving organisms to be affected may be adult fish. A lake may appear to be well supplied from the point of view of the fisherman (since there are no young fish, he catches only big ones) when, in fact, it is already doomed.

Most of the rain that now falls in the central lake regions of Ontario and upstate New York has pH levels of five or less. George Lake in Killarney Provincial Park, Ontario, is in a region of quartzite rock, surrounded by white mountains. It has been painted by artists since the Group of Seven focused Canada's attention on the wild beauty of the Ontario wilderness a half century ago. It teemed with fish in the 1950s. Its waters now have a pH level of 4.5. They are crystal clear but they support no life. There is scientific evidence that suggests that if the acid rainfall continues unabated, thousands of lakes in Ontario will be destroyed by the year 2000. The lakes in Minnesota's Boundary Waters Canoe Area, a million-acre wilderness, and across the border in Quetico Provincial Park in Ontario, are also under increasing stress.

If the rain lost its acidity tomorrow, some lakes that are now lifeless might recover their



Minnesota's Boundary Waters Canoe Area.

sweetness in a few years. They could be restocked with fish and plants, but it would be a difficult and expensive job and they would then be different lakes. Those lakes containing toxic metals leached from the surrounding soil by the acid may be permanently damaged. When ecosystems that took fifteen thousand years to evolve are destroyed they can never be restored. A part of North America's natural world that existed in our grandparents' time has been irrevocably altered.

The Canadian View

John Roberts, Canada's Minister of the Environment, speaking before the American Association for the Advancement of Science early this year, noted that the effect of acid rain on Canada's eastern lakes "is simply disastrous." In excerpts below he makes the case for swift bilateral action:

The problem with acid rain is that our present level of knowledge is not regarded in some quarters as sufficiently conclusive to justify control action now. That is why the Federal Government has increased its acid rain research budget to forty to fifty million dollars over the next four years. But in the considered opinion of the Government of Canada and of the governments of the provinces most seriously affected, we know enough now to see that action to reduce the pollutants is required immediately.

Our problem is not knowing how to reduce the emissions. We have the technology today which would enable us to put acid rain behind us.

But the main problem is one of political will.

In Canada, I believe we have the will to act. Just three weeks ago, for example, the Canadian Parliament unanimously passed an amendment to the Clean Air Act which deals with the Long Range Transport of Airborne Pollutants. We are moving to reduce emissions from Canadian industry and we are committed to that course.

But, acid rain is an international issue. Pollutants are not respecters of international boundaries. Even if we were able to completely eliminate our own emissions, we would still be receiving more than six million tons of these chemicals from sources in the United States — six million tons which today's technology can eliminate or at least reduce to safe levels. As a politician who is attempting to deal with a problem which is more than fifty per cent from outside our borders, I can only hope for the necessary ingredients of political will which can allow an international resolution of this difficulty May I stress once again that the urgency is extreme.