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THE URGENT NEED TO CONTROL ACID RAIN

An Address by the Honourable John Roberts, Minister of the Environment, to the Georgia Conservancy League, Atlanta, June 24, 1982

...The reason I'm speaking to you today is because of an extremely dangerous threat that menaces the very life and productivity of our waterways: acid rain.

Acid rain has been the subject of a great deal of media attention lately, but let me briefly tell you about it. It is a particularly insidious form of pollution, because it cannot be detected by sight, smell or taste. In fact, the only way we can study acid rain is by using extremely sensitive scientific instruments, or by observing its effects: lakes and streams that have been killed or badly damaged by an increase in their acidity level. That is, they have been made too acidic by the long-range transport of air pollutants to support life. When this happens, it is too late to do anything but mourn for a lost resource.

Acid rain has other effects. The increased acidity of water can cause it to mobilize, that is, dissolve from the surrounding bedrock and soil, toxic metals such as aluminum and mercury. Acid rain also increases the acidity of soil, causing accelerated loss of useful nutrients, with implications for our forests and agricultural products.

The effects of acidic precipitation are becoming ubiquitous, and often it is beyond the ability of nature to cope with them. A limestone lake or stream, or an alkaline forest soil, has a natural buffering capability. But granite bedrock is very common in Canada, and has little buffering capacity. Likewise, much of our soil is naturally acidic to begin with and is very vulnerable to increased acidification.

Acidic precipitation common

Clean precipitation – normal rain or snow – usually has a pH value of 5.6, and rain with a lower pH is considered acidic. Rain ten times more acidic than normal is now common in parts of Canada; sometimes, it can be 40 times as acidic as normal.

Now even in a completely clean environment, it would still be possible for precipitation to be slightly acidic, due to natural causes. However, when I talk about the acid rain that menaces Canada and parts of the United States, I'm talking about a much more dangerous threat that comes from man-made pollutants such as oxides of sulphur and nitrogen. These result, among other things, from the burning of coal without proper safeguards in thermal power plants, from smelters, and from automobile exhausts. Sulphur dioxide and nitrogen oxide are the two main culprits responsible for acid rain.

When I say that acid rain has been in the news a lot lately, I also mean that there have been articles that dismiss the threat. A recent article in the *Wall Street Journal* argued that the acid rain question has been grossly exaggerated, that unproven variables enter the equation, that the matter needs more research, and that controls might prove to be ineffective. The report's author, by the way, was the president of the National Coal Association.

I am convinced that we already know as much as we need to know to begin to take action against acid rain. Over 3 000 scientific studies have already been done. In Canada, we know that 48 per cent of the 2 000 lakes surveyed to date in Ontario are very sensitive to acid rain. We know that, in Sweden and Norway, fish life has already been destroyed in over 6 500 lakes.

A tremendous amount of research has already been done. The Norwegian SNSF Project [State Research for Natural Sciences] alone is a collection of over 100 papers describing the effects of environmental impacts of acid precipitation on Scandinavia over an eight-year period.

Emission controls necessary

Perhaps one might argue that overview studies, or studies relevant to the American or Canadian experience, are lacking. Not so. The U.S. National Academy of Sciences, the U.S.-Canada Research Consultation Group, the National Research Council of Canada – all argue that acid rain is a genuine threat; that it is caused by the long range transport of SO_2 and NO_x; and that emission controls are the best way of dealing with the problem.

Evidence also indicates that the United States, as well as Canada, is in serious jeopardy. A study, prepared for U.S. Senators Stafford and Mitchell by the Office of Technology Assessment, found that one out of every four streams in the northeastern United States has already been damaged by acid rain. In the larger 27-state region covered by the study, one out of six lakes, and one out of five streams, have been harmed by acid rain.

The report indicated that in the northeast and upper midwest, up to 80 per cent of the lakes and streams are at risk. It held that there would be no hope for reversing the damage to those lakes and streams unless steps are taken to reduce the air pollution that causes acid rain.

Some people who downplay the threat argue that it is more due to local pollution sources than to far distant ones. Let me cite the recent Jason Report, prepared under the auspices of the Stanford Research Institute for the U.S. Department of Energy. The Jason Report found that, while the amount of local NO_x and SO_2 emissions has actually decreased in New York and New England over the last ten years, the acidity of precipitation in those states has increased, strongly suggesting the long range transport of pollutants.

The Jason Report also included two findings that are of special significance to you here in Georgia. It stated that the southeastern states contribute a significant and growing share of the acid rain coming into the northeast. It also found that the largest percentage increase in acidity in the past 30 years has been here in the southeast, where in the period between 1960 and 1978 alone, the emissions of both SO_2 and NO_x had approximately doubled.

I agree that we don't yet have all the facts about acid rain. We may never. If we wanted, we could study the problem from now till doomsday. Are we still justified in beginning to take control action?

Definitely. If we shilly-shally and procrastinate because of a so-called lack of knowledge, we would be like a surgeon telling a patient with a fatal cancer that he couldn't operate, because ten more years of research were needed to find out the cause of the disease.

Greater burden for Canadians

I don't think it is fair to argue, as has been done, that Canadians are unwilling to do their share to clean up the acid rain situation. We are willing to pay our own way, and more. The cost to the United States of a 50 per cent reduction in emissions from thermal plants east of the Mississippi would be $2.5 to $3 billion by 1990, leading to an average increase in utility rates of about two per cent. This percentage increase may be reduced by advances in technology. In Canada, given our population differential – we have about one-tenth the population you do – the burden on individual Canadians would be three to four times as great as on Americans, and we would gladly shoulder it.

In Canada we are deeply disappointed with the state of negotiations between my country and the United States government on acid rain. The foot-dragging and interference in the development of scientific information has reached frustrating proportions. The Administration's rejection of our proposal to reduce sulphur dioxide emissions in eastern North America by 50 per cent by 1990, and a clear indication that it may be some considerable period of time before it will be able even to begin to discuss control actions, is a bitter pill for us to swallow.

The latest obstacles, which occurred less than two weeks ago at a negotiating session in Ottawa, are forcing us to an agonizing reappraisal of the usefulness of continuing discussions.

Different conclusions

Our emission-reduction proposal was drawn from the same science that U.S. negotiators used to draw diametrically opposed conclusions. On a *per capita* basis our proposal is more costly to Canadians than to Americans. We are willing to put our money where our mouth is. I can only conclude that the values and factors influencing Canadian decision making are considerably different from those in the U.S.

I will certainly admit that Canada does not have clean hands when it comes to acid rain. But we have moved to cut back our sulphur dioxide emissions, and we are committed to doing much more. Look at the facts.

In Canada as a whole, 50 per cent of our acid rain originates in the United States, and in the regions of particular concern, such as the tourist and recreation areas of Ontario, as much as 75 per cent of the acid rain comes from the United States. We receive far more acid rain than we export. Because of the circumstances of both our economy and geography, we are far more vulnerable to it.

It is estimated that if SO_2 emissions could be reduced by 50 per cent in eastern Canada and the eastern United States, the vast majority of the lakes and streams threatened by it would be safe. We in Canada are prepared to undertake such an emission reduction by 1990, and we have made the offer to you to do it if you will take a parallel course of action.

That it why I'm speaking to you today. I'm here to plead, ask, wheedle, even cajole the United States to try to clean up the emissions that lead to acid rain. What I am asking of you is no less than what we Canadians are prepared to do. I ask it of you as neighbours, as our best friends and closest trading partners. I ask it because it is in the best long-term economic self interest of both our countries. And I ask it in the name of our precious resources of forest, water and wildlife, treasures that are the heritage of us all.

Sometimes, however, when Canadians plead with the United States to institute some controls, or even when we release scientific information south of the border, we are accused of interfering in American internal affairs.

Situation urgent

As a good friend of the United States, and of Americans, I do not think I am meddling when I frankly point these things out to you. The situation is extremely urgent; our lakes are literally dying.

Despite the lip service that is being given to the so-called scientific lack of knowledge about acid rain, the real reasons why very little is being done about it in the United States are economic, and I know this very well. The main source of acid rain in eastern Canada and the northeastern United States is the industrial belt that stretches roughly from Pittsburgh to Chicago, and includes the great coal-burning regions of Ohio and Indiana. To clean up acid rain, to install the scrubbers and other technical solutions that are available right now will cost money, as I have said. I know that the solution will pinch a little bit; it is already pinching us in Canada.

Over ten years ago both Canada and the United States strengthened their laws to clean the air in our cities. We have both made tremendous progress. The air in our cities is purer. However, some of our industries stopped local air pollution by building

taller stacks as well as controlling their emissions. These taller stacks are spreading current emissions far and wide. Thus, part of the answer to one problem has become part or cause of another problem – acid rain. It is time for both countries to look at laws and regulations. It is time to revise our legislation in a manner conducive not only to maintaining and improving local air quality but to reducing long-range transport of air pollutants. Continuing only to focus our attention on local air quality will do little or nothing for acid rain.

The things we will each have to do to solve the acid rain problem will be quite different. The relative importance of emissions from various source sectors in our two countries dictates this. In eastern Canada almost 50 per cent of our SO_2 emissions come from non-ferrous smelters and less than 20 per cent from utilities. In the eastern U.S. about two-thirds of your SO_2 emissions come from utilities.

We are faced today with a genuine environmental and ecological crisis. It is every bit as serious as the one faced by Theodore Roosevelt in the early years of this century, when he pushed your nation's first comprehensive land use, conservation and national parks program through a hostile Congress. He did so in the face of opposition from special interest groups such as the railroad trusts, the mining and lumber industries, and the cattlemen. Teddy Roosevelt's words still have a lot of meaning for us today:

"To waste, to destroy our natural resources, to skin and exhaust the land instead of using it to increase its usefulness, will result in undermining in the days of our children the very prosperity which we ought by right to hand down to them amplified and developed".

As Teddy Roosevelt preserved your national parks, we have to ensure that our precious water resources are saved for our descendants. In the past, when we spoiled the land by overtimbering, overgrazing or unwise plowing, we could always move on; move west. We might be tempted to repeat this past history of the depredation of the land in our use of water resources. It is no longer possible. The number of our lakes and streams is limited; once they are gone, spoiled by pollution from whatever source, that's it. We can no longer move over the next ridge to discover a new waterway.

All must conserve

Today, we must all be conservationists. The first duty of the angler and hunter, manager, scientist and politician is to ensure the protection and perpetuation of our land and water resources. Those who come after us will need them. Therefore, I salute you, members of the Georgia Conservancy League, for I know that this is your goal as well.

I hope that I have been successful in seeking to enlist you to help us Canadians fight our acid rain battle, for I know what a valuable ally you can be. I further hope that we shall win our war, for then and only then will I be able to continue to invite you to come to Canada to enjoy the fishing.

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