

# Environmental Supplement

## Some lakes recovering from acid rain, report says

By Samer Muscati (CUP)

THE MOST BEAUTIFUL LAKES ARE GLASSY, clear and calm. And dead.

But some lakes across Canada are slowly recovering from the barrage of chemicals that has made them so acidic that many species of fish have stopped swimming in their waters.

About 33 per cent of acidic lakes in Canada showed evidence of recovery from sulphate deposits, while about 16 per cent continued to acidify and get worse, according to a progress report on the 1991 Canada-U.S. air quality agreement released in November 1994.

Even if both countries meet their goals for a reduction in acid precipitation-causing emissions-- that is, nitrogen oxides and sulphur dioxides-- by the year 2000, environmental groups and the Canadian government say the goals are so low that acid precipitation is still a problem.

Under the agreement, nitrogen oxides are to be reduced by only 10 per cent by the year 2000. Sulphur dioxide emissions are to be reduced by 40 per cent in the U.S., and 50 per cent in Canada by the year 2000.

Both countries are on target for reducing nitrogen oxide emissions. Canada has al-

ready fulfilled its sulphur dioxide reduction commitment, but the U.S. still belches out more than two million tons of sulphur dioxides

burner to other issues. The acid rain problem is not solved and it is an issue that will go beyond the year 2000."

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per year more than its goal.

The U.S. produces more than 20 million tons of sulphur dioxides to Eastern Canada's 2.3 million. So no matter how much Canada cuts back, if the U.S. doesn't meet its goals, reducing acid rain damage will be difficult.

Ellen Schwartzel, air program manager for the environmental group Pollution Probe, which researches the effects of toxic chemicals, wants new regulations to control nitrogen oxides.

Barbara Lukaszewicz, former manager of the acid rain program for Environment Canada, says, "[Acid precipitation] has fallen from public view as a concern. It is on the back-

tion.

But Lukaszewicz says acid precipitation "is not a Western Canadian problem" because western region lakes are less prone to acidification due to such things as limestone deposits, which neutralize acids. There is also less of an industrial base in the west to produce acid emissions.

But even in Eastern Canada, some environmentalists have said the goals are set too low and governments are complacent.

"Look at what [former Prime Minister] Pierre Trudeau was able to do. Trudeau was willing to stand up to the oil and gas industry," says Jardine. "We haven't seen that from [Prime Minister] Jean Chretien."

Other findings from the report show that growth rates have fallen for sugar maple in Ontario and Quebec in the last 30 years, and acid fog has harmed white birch in southeastern New Brunswick.

The national advisory issues coordinating committee, a new federal-provincial task force composed of government, industry and environment groups, will develop strategies to deal with acid precipitation over the next three years.

## What is acid rain, and why should we care?

What is acid rain? Acid precipitation, which comes in the form of rain, fog, snow and dry particles, starts as a colourless gas emitted from smoke stacks and exhaust pipes.

The main gases are sulphur dioxide and some nitrogen oxides.

Nitrogen oxides come from motor vehicles and power plants. There are more than 12 million motor vehicles in Canada and more than 140 million in the U.S.

Sulphur dioxide is emitted by burning coal and oil to generate electricity, and by smelting ores to get nickel and other valuable metals.

Most of these emissions in Eastern Canada come from 20 coal- and oil-burning power plants in Ontario and the Atlantic provinces, as well as six big smelters in Ontario, Quebec and Manitoba.

In the U.S., there are 400 coal-burning power plants and industrial boilers.

Both sulphur dioxide and nitrogen oxides combine with oxygen, hydrogen, or water molecules to form dangerous chemicals like sulphuric acid, nitric acid and ammonium. These chemicals are dissolved in water or stay as dry particles in the air.

This precipitation can travel hundreds of kilometres before falling back to the earth,

meaning it can travel from the U.S. to Canada and vice versa.

Half of the sulphuric acid precipitation falling on Canada has been blowing north from the U.S.

So what?

About 150,000 of the 700,000 lakes in Eastern Canada are estimated to have become more acidic due to acid precipitation.

Although scientists have not been able to link slightly higher acidity to damage to the ecosystem, they fear there are unseen harms in these lakes.

But 14,000 lakes are already highly acidified, to the point where they have lost species or their ecosystems have been severely disrupted.

Acid precipitation also dissolves harmful metals, which find their way into food chains and water supplies.

Vegetation growth is altered. Acids combine with nutrients like potassium to form chemicals which can dissolve in water and which wash away from the soil.

Direct contact with the precipitation is also suspected to affect growth.

Suspected health impacts on humans include decreased lung function and higher incidence of acute bronchitis.

