CANADA - UNITED STATES

Acid Rain

Acid Rain and Forest Decline

Gouvernement du Québec, Ministère de l'Energie et des Ressources

Declining sugar maples in Quebec.

While the precise linkages have yet to be firmly established, acid rain is clearly one of the causes of forest decline in eastern Canada, the eastern United States and Europe.

Acid rain pollution is thought to contribute to forest decline by accelerating the leaching of nutrients from soils and from foliage and by mobilizing toxic metals in soil water. This results in reduced rate of tree growth and a generally weakened condition, which causes trees to be more susceptible to disease, drought and severe climatic conditions.

In Quebec 40 percent of the sugar maples in the areas surveyed show signs of decline. In Atlantic Canada, red maple, yellow birch and beech show symptoms of decline. Throughout the New England states and New York, serious decline is evident in red spruce: in 23 percent of the acreage surveyed, at least 50 percent of the trees have either died or suffered serious damage (that is, the loss of 50 percent or more of foliage from live crowns). In the southeastern United States various pine species are showing signs of a reduced rate of growth.*

Forest decline is not solely an environmental problem. Eastern Canadian forests contribute about $14 billion to the economy and any significant damage to this resource would have economic consequences. One example is Quebec's maple syrup industry, which accounts for 89 percent of Canada's total maple syrup production and is worth nearly (U.S.) $33 million annually. Many of the 10,000 producers in the province are having difficulty maintaining their operations as a result of serious forest decline.

Scientists are pursuing an answer to the problem. The Canadian federal government is spending about (U.S.) $2.1 million per year on multidisciplinary research activities to determine the causes of forest decline. An additional $2.1 million per year in federal expenditures contributes indirectly to

*Joint Report to the Canada-U.S. Bilateral Advisory and Consultative Group.