



**REPORT TO NEW ENGLAND GOVERNORS
AND EASTERN CANADIAN PREMIERS
ON ACID RAIN PROJECTS**

**Conference of New England Governors
and Eastern Canadian Premiers**

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Introduction and Background

The Committee on the Environment is pleased to submit the report on acid rain projects to the Conference of New England Governors and Eastern Canadian Premiers. This report provides an overview of the major accomplishments in the implementation of the Acid Rain Action Plan adopted by the Conference in 1998. It also outlines the priorities of the Committee on the Environment for the coming year

The major accomplishments of the last year and the recommended actions for the coming year will lead the eleven member jurisdictions of the Conference in the acquisition of valuable data and information to enhance their scientific understanding of acid rain.

Implementation of the acid rain projects is the responsibility of the Acid Rain Steering Committee, with the assistance of a number of technical work groups. The Committee on the Environment recognizes the human and financial resources committed by the Steering Committee and work group members. Success in the plan's implementation is due to the considerable personnel resource commitments from each jurisdiction.

The Committee on the Environment also recognizes the valuable contribution, both human and financial, made by Environment Canada, the United States Environmental Protection Agency, the Canadian Forest Service, and the United States Forest Service. Federal agencies play a leadership role in the implementation of regional environmental projects.

Summary of Major Accomplishments and Priorities

The Committee on the Environment is extremely pleased with the regional accomplishments implemented by its Acid Rain Steering Committee and the various work groups over the last 12 months. The central tenets outlined in resolution 26.3 adopted at the 26th Conference presented challenges for the Committee on the Environment. State and provincial environment officials, assisted by the scientific community and both federal governments, worked diligently on these issues and are committed to implementing the recommended actions outlined in this report.

Health and Environment

Resolution 26.3 called on the Province of Québec and the Committee on the Environment to hold a symposium on the impacts of acid rain and air pollution on human health. The symposium was held on May 23rd and 24th in Montreal and was an overwhelming success. A total of 150 attended the symposium, which brought together researchers, experts, and decision-makers from the fields of health and environment to share a common understanding of the stakes, issues and challenges in addressing this important health issue. The papers submitted and the presentations made at the symposium will enable states and provinces to better define the challenges that must be overcome to address the impacts of acid rain and air pollution on human health. The major conclusions of the symposium focused on the following:

- levels of ozone and fine particulate (PM2.5) are above standards in many parts of the NEG/ECP region;
- specific sources of atmospheric pollutants include wood burning, vehicle traffic, industry (boilers, smelters), nature (forest fires), and indoor pollution such as smoking, wood burning, insecticides, etc.;
- increases in particulate matters and ozone concentrations are responsible for greater mortality rates, cancers, and other cardiovascular or respiratory diseases; and
- major differences in air pollutants standards and guidelines between the United States and Canada.

The symposium also concluded that more emphasis should be placed on better science and more research and development on the causes, the effects and the relationship between air pollution and human health. Participants also noted that states and provinces need to work more closely on the management and policy direction of defining common health standards between the two countries, adopting lower standards and guidelines, adopting common health messages, and converting diesel operating vehicles to natural gas or electric.

The Committee on the Environment received a tremendous amount of information during this symposium and is committed to pursuing this issue on a regional level to obtain a greater understanding of the relationship between air pollution and human health, recommending specific actions to curb sources of air pollution, and increasing public awareness of the effects of air pollution on human health.

The Committee on the Environment recognizes that both national governments must play a leadership role in establishing the relationship between air pollution and public health. It is also felt that both national governments must take appropriate joint steps to reduce emissions causing fine particulate matters.

Integration of Fine Particulate Data

Building on the success of the real-time ozone map for New England and Eastern Canada, states and provinces have undertaken an initiative in the past year to integrate fine particulate PM2.5 data sets with the intent of generating real-time PM2.5 maps. The development of these real-time maps is to provide timely information of acute conditions to health officials and the public.

The Committee on the Environment, with the assistance of Environment Canada, the United States Environmental Protection Agency (EPA), and the Northeast States Coordinated Air Use Management (NESCAUM), produced a demo map using historical data to demonstrate how the map would be designed and how the data collected would be reported. It is envisioned that this web-based project will also be designated as a priority project for states and provinces for the coming year.

As the proposed real-time maps are generated based on the data collected within the region, there are a number of issues facing states and provinces such as the health standards and the health messages. Both countries have different Air Quality Indexes (AQI) and integration of these data sets may present a challenge to state and provincial officials. The Committee on the Environment is committed to working towards the harmonization of the health standards, ultimately leading to the adoption of common health messages targeted at the citizens of New England and Eastern Canada.

Water Quality

Water quality of lakes and rivers in the NEG/ECP region remains a high priority for the Committee on the Environment. The Committee on the Environment produced two major pieces of work that will help states and provinces assess in detail the state of lakes and rivers as it relates to acidic deposition.

The first major products are maps of critical loads of acidity and water sensitivity in the region, calculating the exceedance of sulphates and nitrates. The output is an assessment of the maximum level of acidic deposition that will not induce biological damages in the long term to sensitive lake ecosystems. The overall maps provide an index of the surface water sensitivity to acidification. These maps show that there are still highly sensitive waters found in the region that exceed high critical load values.

The second initiative relating to the water quality of lakes and rivers in the region is the Water Acidity Regional Network to Inform Northeastern Governments (WARNING). This entails a trends analysis of more than 80 lakes and rivers. Results demonstrate that the levels of PH, alkalinity, and sulphate have decreased for most of the lakes and rivers.

As a result of the two major products on the assessment of lakes and rivers, states and provinces are committed to assessing in detail the results as outlined in the critical loads maps and the trends analysis in WARNING to recommend any specific actions to improve the health of our lakes and rivers. These detailed analyses are priorities of the Committee on the Environment for the coming year.

The Committee on the Environment will also sponsor an assessment of the biological effects of acidification during the coming year. This assessment will also include criteria for continued biological monitoring, the biological implications of acid rain, the levels at which species become damaged, and recovery times and levels.

Forest Mapping

Since the adoption of the *Acid Rain Action Plan* in 1998, states and provinces, with the support of both federal governments and the scientific community, have invested a tremendous amount of human and financial resources for the implementation of the forest mapping project. The overall objective of this initiative is the development of maps of New England and Eastern Canada demonstrating forest areas that are most sensitive to acidic atmospheric deposition. Sensitive areas are those where current or projected acidic deposition exceeds the level that would maintain sustainable forest ecosystem health and productivity for the various upland soil-vegetation associations of the region.

Specific deliverables related to the forest mapping project are to be produced in two phases. The first phase consists of products from a pilot study of specific sites in Newfoundland and Labrador and Vermont. The first phase will provide valuable information on methodology and process for implementing the second phase of the project, which includes an assessment of forest sensitivity for the whole region under study.

The forest mapping work group held two consultation sessions in the pilot jurisdictions to inform foresters on the proposed project, and to receive input on issues such as forest management scenarios and harvesting methods. Foresters from the two pilot jurisdictions expressed satisfaction on the outline of the project.

States and provinces are committed to the production of maps for the two pilot jurisdictions in the coming year, which will form the basis for initiating the second phase of the forest mapping project. Implementation of the second phase will require significant resources. States, provinces, the federal governments, and the scientific community will work together to ensure that the project moves forward. The Committee on the Environment recognizes the invaluable cooperation of both federal governments for the realization of this important project, thus ensuring the productivity and the health of our forests.

Public Outreach and Communications

The NEG/ECP public outreach and acid rain communication efforts continue to play a pivotal role in increasing public awareness of the sources, causes and impacts of acid rain on the citizens of New England and Eastern Canada. As outlined in resolution 26.3, state and provincial departments of environment proceeded with the implementation of the *Acid Rain Communications Plan*. The plan outlines a number of initiatives that states and provinces can undertake jointly or individually to increase public awareness.

The acid rain communications work group has been actively engaged in a number of public outreach and communication products over the last year. The report *Data Without Borders*, released at the 26th NEG/ECP Conference, has been widely distributed by states and provinces and provided the first major public account of the NEG/ECP acid rain activities.

During the past year, the work group has also worked on numerous communications pieces such as radio and television advertisement templates on acid rain that states and provinces will be able to use at their discretion. As part of its commitment to support states and provinces to increase public awareness, the work group is also working on products such as speaker and media kits.

Priorities for the coming year in the area of public outreach and communication will focus on the distribution of the newspaper report on acid rain and follow-up on actions outlined in the *Acid Rain Communications Plan* adopted by the Conference in 2001. One of the major projects recommended is the development of an NEG/ECP environment website to ensure that all the environment reports and products developed under the aegis of the NEG/ECP are readily and easily accessible to the public.

The communications work group will also continue to serve as a central function to all the NEG/ECP acid rain work groups by providing them with support and advice as it relates to their communications needs. This will ensure that the NEG/ECP develops a uniform message when dealing with the public and releasing acid rain related reports and products.

Implementation of the acid rain communication efforts would not have been possible without the financial support of the Massachusetts Department of Environmental Protection. The Committee on the Environment would like to thank Massachusetts for its ongoing support for these projects.

Recommendations

1. That the NEG/ECP direct its Committee on the Environment and its Acid Rain Steering Committee to assess the recommendations identified during the *Symposium on Air Pollution and Public Health*.
2. That the NEG/ECP work with the Canadian and United States' federal governments to:
 - increase funding of air pollution and health research, such as the Super Sites and PM Centers in the United States and the Toxic Substance Research Initiative in Canada;
 - intensify their discussions leading to the adoption of new annex to the 1991 *Air Quality Agreement*, setting specific objectives concerning fine particulate matter; and
 - take all economically feasible measures to reduce emissions and transport of air pollutants that contribute to downwind public health and environmental effects with respect to fossil fuel burning sources.
3. That the NEG/ECP endorse the critical loads assessment and the trends analysis of New England and Eastern Canada lakes and rivers and direct its Committee on the Environment to conduct an in-depth analysis of the results.
4. That the NEG/ECP proceed with the integration of fine particulate data with the intent of producing real-time maps to inform the public and health officials with timely information relating to air quality, develop common health standards, and a health message.
5. That the NEG/ECP approve the acid rain newspaper report for release at its 27th Conference.