WATER RESOURCES RESEARCH GRANT PROPOSAL

Project ID: 2004MA29B

Title: Acid Rain Monitoring Project - Phase IV

Project Type: Research

Focus Categories: Water Quality, Acid Deposition

Keywords: Surface waters acidification, volunteer monitoring

Start Date: 07/01/2003

End Date: 06/30/2004

Federal Funds: $0

Non-Federal Matching Funds: $20,752

Congressional District: 1st

Principal Investigators:
David A. Reckhow
University of Massachusetts

Paul Godfrey

Marie-Francoise Walk
University of Massachusetts

Abstract

Between 1983 and 1985, the Acid Rain Monitoring (ARM) Project used as many as 1000 citizen volunteers to collect and help analyze more than 40,000 samples from 2444 lakes and 1670 streams, respectively 87% and 69% of the named lakes and streams in the state, and monitored a representative 453 randomly selected and 119 special interest lakes and streams for eight successive years (1985-1993) with approximately 300 volunteers. After an eight-year hiatus, the ARM project was resumed in 2001 to determine the current state of Massachusetts surface waters and whether the 1990 Clean Air Act Amendment had resulted in improved water quality. About 200 lakes were monitored for 3 years, including 26 long-term sites.

In this current year, we will (1) Continue to sample a minimum group (26) of lakes and streams that will permit ongoing indicators of trends in the effectiveness of SO2 and NOx

regulation; (2) Continue to sample a larger group (an additional 100) of statistically representative streams to measure statewide trends in acidification (pH and ANC only); (3) Maintain the volunteer network and keep them well informed on the condition of Massachusetts surface waters so that they may participate effectively in the public debate; And (4) Complete the statistical analysis of long-term trends of surface water cidification.