NH Envirothon 2026 Current Environmental Issue:

Nonpoint Source Pollution

Introduction

Many communities in New Hampshire are looking for ways to ensure that the quality of their rivers, lakes, ponds, streams, estuaries, and wetlands is protected from the impacts of nonpoint source pollution. Unlike point source pollution, which comes from pipes or other easily identifiable sources, nonpoint source pollution comes from many different sources that are spread across the landscape and are often difficult to identify and quantify. Sources of this type of pollution include urban stormwater runoff from developed lands, sediment from improper construction management practices at active development sites, chlorides from deicing products applied to parking lots, roads, and sidewalks, failing culverts, bridges, and dams causing habitat and hydrologic modifications, nutrients from residential septic systems and lawns and turfgrass management, bacteria and nutrients from livestock and agricultural runoff, and atmospheric deposition. In New Hampshire, two of the most problematic nonpoint source pollutants impacting our water are sodium chloride from winter salt applications to roads and parking lots, and excessive nutrient loading that triggers the formation of cyanobacteria blooms in lakes and ponds. Nutrients like phosphorus and nitrogen, along with algae and cyanobacteria, naturally occur in lakes, ponds, and streams and are essential for lake and pond health. Under natural conditions, algae and cyanobacteria concentrations are regulated by limited nutrient inputs that keep them from growing too rapidly. However, human disturbances, such as erosion, overapplied fertilizers, polluted stormwater runoff, excess animal waste, and inadequately treated wastewater, can increase nutrient inputs to lakes and watershed tributaries that feed them. Excess nutrient loading in human-impacted lakes and ponds, combined with a warming climate, has increased the prevalence of harmful algal blooms in lakes and ponds across New Hampshire. High levels of chlorides in streams, rivers, lakes, and ponds, kill zooplankton, an important component of aquatic food webs. Zooplankton eat algae, and are then eaten by aquatic insects, small fish, and other animals moving up the food chain. Without the presence of healthy levels of zooplankton, populations of cyanobacteria are more likely to increase, as are invasive species that can tolerate high levels of salinity.

The Challenge

For this year's Current Environmental Issue, you and your team will **choose a body of water in your community** and evaluate what nonpoint source pollutants may be impacting water quality. You should first establish any regulations or site standards that have been adopted to limit nonpoint source pollution to this body of water. You will then look at sources for nonpoint source pollutants in the watershed and suggest ways to decrease those sources and in turn their impact. Lastly, you will devise a method to inform your community on your results of this study.

The following learning objectives will help to guide your research and activities:

1) Define nonpoint source pollution with real world examples from urban and rural settings.
2) Explain what is meant by a "watershed" and describe watershed ecology.
3) Describe nutrient (carbon, nitrogen, and phosphorus) cycles and how changes in these cycles impact nonpoint source pollution.
4) Recognize the major sources of nonpoint source pollution impacting surface waters.
5) Compare the effects of land use types (suburban, urban, rural) on nutrient loading to water bodies.
6) Describe local and state regulations that address nonpoint source pollution.
7) Identify methods used to assess and quantify nonpoint source pollution in a watershed.
8) Recognize best management practices and stormwater control measures to control nonpoint source pollution.
9) Identify examples of community-based solutions to nonpoint source pollution (in your community).
10) Construct a plan to mitigate nonpoint source pollution in your chosen body of water.
11) Demonstrate a plan to share your results with your community through various types of outreach.

Resources

NCF-Envirothon Mississippi, Current Environmental Issue Study Resources, Part A 2026 2026-Current-Issues-Part-A.pdf

New Hampshire Nonpoint Source Management Program Plan: 2025-2029, Watershed Management Bureau, NH Department of Environmental Services, r-wd-24-20.pdf

New Hampshire Department of Environmental Services, *Cyanobacteria Harmful Algal Blooms*, *Conducting monitoring, public communication and educational outreach efforts.* **Cyanobacteria Harmful Algal Blooms | NH Department of Environmental Services**

New Hampshire Department of Environmental Services - *Lake Information Mapper, https://nhdes.maps.arcgis.com/apps/webappviewer/index.html?id=1f45dc20877b4b959239b8a4a60ef540*

New Hampshire Department of Environmental Services, Alteration of Terrain permitting, Land Development | NH Department of Environmental Services

New Hampshire Department of Environmental Services, *Road Salt Reduction* Road Salt Reduction | NH Department of Environmental Services

University of New Hampshire Cooperative Extension – *Protecting Water Resources and Managing Stormwater*, **Resource002615_Rep3886.pdf**

University of New Hampshire Stormwater Center, - *New Hampshire Stormwater Manual, February 2025. https://extension.unh.edu/stormwater-center/nh-stormwater-manual*

United States Environmental Protection Agency – *Handbook for Developing Watershed Plans to Restore and Protect Our Waters, March 2008. https://www.epa.gov/nps/handbook-developing-watershed-plans-restore-and-protect-our-waters*

Wisconsin Salt Wise - https://www.wisaltwise.com/

2026 NH Envirothon Current Environmental Issue Team:

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NH Department of Environmental Services

John McCarthy
Director, NE Rural Community Assistance Program, retired
US EPA Environmental Finance Advisory Board, retired

Presentation Guidelines

1. All five team members must participate in the presentation.

2. Each team will have exactly 15 minutes to make their presentation, followed by 5 minutes of questions by the judges.

3. Any videos in the presentation must be produced solely by the NH Envirothon team making the presentation. The total amount of video in the presentation cannot exceed 2 minutes.

4. All resources should be properly cited at the end of your presentation.

Evaluation of Presentations

1. Grading Rubric available on NH Envirothon website.

2. Panel of 3-4 judges will hear the presentation and then ask questions.

3. Before answering questions, huddle and come to a consensus.