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New England Interstate Water Pollution Control Commission

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Testimony of Ms. Bethany Card
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United States House of Representatives
Committee on Transportation and Infrastructure, Subcommittee on
Water Resources and Environment
Regarding
Development and Implementation of Numeric Nutrient Criteria Under the Clean Water Act and State Water Quality Standards Programs

Good Morning Chairman Gibbs and Members of the Subcommittee:

My name is Bethany Card and I am the Water Quality Division Director for the New England Interstate Water Pollution Control Commission (the Commission). I have been working with our compact member states, on their Clean Water Act Programs for 12 years. I am also the co-chair of the Association of State and Interstate Water Pollution Control Administrators' (ASIWPCA) Legal Affairs Task Force. The Commission has been a long standing member of ASIWPCA and has frequently served a leadership role for the Association.

Established by an Act of Congress in 1947, the New England Interstate Water Pollution Control Commission is a not-for-profit interstate agency that utilizes a variety of strategies to meet the water-related needs of our member states—Connecticut, Maine, Massachusetts, New Hampshire, New York, Rhode Island, and Vermont. NEIWPCC serves and assists our states by coordinating

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activities and forums that encourage cooperation among the states, developing resources that foster progress on water and wastewater issues, representing the region in matters of federal policy, training environmental professionals, initiating and overseeing scientific research projects, educating the public, and providing overall leadership in water management and protection.

NEIWPCC is a leader in forming strong bonds between the New England and New York state environmental agencies, and is unique in its ability to bring diverse interest groups together, create forums for collaboration, and educate with innovative products. For well over six decades, the Commission has managed interstate water conflicts by means of sound science, coordination, and adaptation. I am pleased to provide testimony to you today on the great progress the Northeast states have made in incorporating nutrient management efforts and criteria into their water quality standards initiatives.

The Northeast states recognize that nutrient pollution is a significant environmental problem that impacts many waterbodies in our region and nationwide. Initiatives such as the Long Island Sound and Lake Champlain Total Maximum Daily Loads (TMDLs) and the Massachusetts Estuaries Project provide concrete examples of our commitment to reducing nutrient inputs to our waters. We appreciate EPA's continued focus on this issue and fully support EPA Regions 1 and 2 and their attention on how nutrient issues in the Northeast are distinct from those in other parts of the country. Furthermore, all of our states have put significant effort and resources into the process of developing numeric nutrient criteria and the states have no intention of abandoning their efforts to develop and establish these criteria. However, we have continuing concerns with the direction EPA is taking regarding two components of the nutrient criteria development process: independent applicability of numeric

nutrient criteria and the necessity of nitrogen and phosphorus criteria for all waters. I'd like to elaborate on these two areas for you now.

A number of Northeast states have advanced numeric nutrient criteria development to the point of initiating the rulemaking process within their state to establish these criteria as part of their Water Quality Standards. The technical approach favored by many states bases criteria on strong scientific evidence using stressor-response relationships, where nitrogen and phosphorus are the stressors and environmental indicators are the response (e.g. chlorophyll-a, water clarity, and indices of biological health). The relationship between nutrients and environmental responses is based on many site-specific factors and varies from waterbody to waterbody. Environmental responses consolidate the many site-specific factors that must be considered for efficient application of criteria, and therefore are the most appropriate indicators of a waterbody's impairment status.

Because of the story that can be told by environmental response indicators, both Maine and Vermont are proposing criteria for freshwater that are based on a decision framework that takes into account both causal variables (nitrogen and phosphorus) and environmental responses relevant to each waterbody. While EPA has argued that single number criteria approaches should be used, no such uniformity of condition exists in the natural world. Because nutrients are not toxic contaminants with threshold responses, conditions demonstrated by acceptable environmental responses that are reflective of a range of nutrient conditions are the most appropriate way to determine if designated uses are being supported, and therefore are the most appropriate way to apply criteria. While ambient concentrations of phosphorus and nitrogen may be helpful in screening potential impairments, under this preferred approach, a waterbody would be considered impaired only if one or more measured environmental response criteria did not

meet limits, regardless of whether the established phosphorus or nitrogen criteria were exceeded. In the case that all measured environmental response criteria are met, the waterbody would not be considered impaired, even if nitrogen or phosphorus concentrations were above the state's numeric criteria.

Based on the final criteria established by EPA for the state of Florida, and feedback provided to the states of Maine and Vermont by EPA Region 1, we understand that EPA is not supportive of response-based approaches unless they include numeric nutrient criteria for both nitrogen and phosphorus where each criterion must be applied independently from any environmental response criteria in order to determine a waterbody's impairment status. By taking this position, a waterbody could be determined to be in violation of water quality standards even when a biological impairment does not exist. In addition, by requiring both nitrogen and phosphorus criteria to be incorporated into state water quality standards and applied independently, technological controls could be required to remove both nutrients even though the production of growth in most water body systems are controlled by the most limiting nutrient (i.e., typically phosphorus in freshwater and nitrogen in marine waters). This added burden could result in significant increases in sludge production, treatment, energy usage and increased overall costs, despite not being necessary to control eutrophication in most cases. We recognize that there are some publicly owned treatment works (POTWs) that discharge to both freshwater and marine systems, but this is the exception and not the rule.

Last year, EPA Region 1 suggested a framework that allows for a waterbody exceeding a numeric causal criterion but meeting acceptable levels for environmental response variables to be listed as "indeterminate" for its attainment status. The states appreciate the Region's continued dedication to finding a solution that is workable for both parties, but still have the same

fundamental objection that a waterbody that is meeting environmental response criteria should not be listed as impaired even if it exceeds a numeric nutrient criterion. We understand that EPA has concerns about implementing response-based criteria, but we believe this is best addressed through permitting, not standards development. Further, the Northeast states have solid experience in crafting defensible and robust permits with effluent limits derived from these same response-based criteria. We are committed to working with both of our EPA regions to continue implementing these valid and defensible limits using already endorsed EPA methodologies.

In summary, the scientific and environmental communities have not agreed that there is sufficient scientific evidence or a viable legal or policy basis for the imposition of independent applicability of numeric nutrient criteria. In addition, the Northeast states do not agree that numeric criteria for both nitrogen and phosphorus are necessary for all waterbodies. Numeric criteria should only be required for the limiting nutrient in a system unless dual limitation is demonstrated. Lastly, the Northeast states have amply demonstrated that using environmental response variables to develop nutrient criteria is a scientifically valid approach that is highly protective of water quality. Many years of data collection and analysis have gone into development of these criteria. Furthermore, in their review of EPA's *Technical Guidance on Empirical Approaches for Numeric Nutrient Criteria Development*, EPA's Scientific Advisory Board (SAB) recognized that a stressor-response approach is a legitimate, scientifically-based method for developing numeric nutrient criteria when it is applied appropriately, such as part of a tiered weight-of-evidence approach. The approaches being proposed by the Northeast states fall in line with this recommendation by the SAB, especially with respect to the potential range of acceptable nutrient concentrations, and their site-specificity, that a weight-of-evidence approach supports.

The Northeast states are very appreciative of the assistance provided by EPA Regions 1 and 2 throughout the nutrient criteria development process and have every intention of continuing to be innovative in their efforts to protect water quality from nutrient pollution while also proceeding with the scientific work that will build the foundation of their numeric nutrient criteria. Our states also plan to continue to address nutrient impairments through NPDES permitting, TMDLs, and adaptive watershed management, while criteria are being developed and put in place.

To further demonstrate their commitment to this effort, the New England States and New York have been using a workgroup process to more clearly articulate their individual and collective positions regarding the areas of concern that I have shared with you today. It is our intent to reach out to our EPA Regions 1 and 2 counterparts to continue the dialogue on how best to incorporate response variables into numeric nutrient criteria, determine how and when phosphorus and nitrogen criteria are needed for fresh and marine waters respectively, while remaining diligent and cautious about impacts to downstream waters. Water quality protection is of the utmost importance to our state environmental agencies. We believe that EPA should embrace a more flexible path for developing and implementing numeric nutrient criteria so that states will be empowered to use the most appropriately-targeted tools to begin implementing these important criteria in earnest.