UNITED STATES ENVIRONMENTAL PROTECTION AGENCY
Region 1
5 Post Office Square, Suite 100
Boston, MA 02109-3912

December 22, 2011

Mr. David Courtemanch
Maine Department of Environmental Protection (DEP)
17 State House Station
Augusta, Maine 04333-0017

Dear Mr. Courtemanch,

Thank you for the opportunity to provide comments on the draft rule titled Chapter 583 Nutrient Criteria for Surface Waters (06-096 CMR 583). The rule proposes nutrient criteria for fresh water rivers, streams, lakes and impoundments in Maine. We have reviewed the version of the draft rule that you emailed to me on October 19th.

We commend you and your colleagues for the years of hard work in collecting and analyzing phosphorus and response indicator data, developing the criteria, explaining the proposal to stakeholders (including EPA) at numerous meetings, and incorporating their feedback into the version that we are addressing in this letter. The adoption of numeric nutrient criteria will set clear thresholds that are important for the protection and restoration of waters across Maine.

The draft rule contains nutrient criteria consisting of a combination of numeric chemical and biological response indicator values and implementation procedures for assessment, listing, and application of the numeric criteria in National Pollution Discharge Elimination System (NPDES) permits. It sets new numeric values for total phosphorus, Secchi disk depth, and water column chlorophyll *a* for all fresh waters. Numeric values for percent substrate covered by algal growth are also set for non-impounded rivers and streams. Additionally, numeric values for patches of bacteria and fungi are set for all rivers and streams. The draft rule also incorporates existing criteria for dissolved oxygen, pH and aquatic life in the suite of response indicators values and links them to nutrients, which adds rigor and enhances the protectiveness of the nutrient criteria. Furthermore, the draft rule sets forth a procedure for the development of site-specific total phosphorus values.

Importantly, the draft rule establishes the criteria for protection of designated uses from nutrients as one in which the total phosphorus numeric value is met and/or where <u>all</u> response indicator values applicable to the waterbody class are met. Establishing criteria that integrate these elements into a single criteria expression recognizes the varying susceptibility of waterbodies to cultural eutrophication based on site-specific characteristics.

Further, the draft rule establishes, as a minimum requirement, that the total phosphorus value for each waterbody class be used for all permitting. We note that the rule clearly

provides that until a site-specific total phosphorus value is adopted and approved by EPA, the statewide total phosphorus value will apply for permitting purposes even when the response indicator values are met. Although not specified in the draft rule, EPA understands that nutrient Total Maximum Daily Loads (TMDLs) may necessitate more stringent total phosphorus NPDES permitting limits in order for the permits to be consistent with the TMDL waste load allocations (WLA).

Recommended Technical Edits

To ensure the rule reflects the above and our understanding of Maine's proposal after our discussions and your presentation at the State/EPA workshop on October 5, 2011, we offer the following recommendations:

1. To make assessing waterbodies for impairment purposes more transparent and ensure the assessment method and the water quality standards are consistent:
    a. We recommend a minor reorganization of the language in the rule to combine the total phosphorus values and all response indicator values, using an "and/or" construct, into one nutrient criterion per waterbody class. EPA understands that the total phosphorus and response indicator values, together, comprise the nutrient criteria. This stems from our full reading of the draft rule and from our many discussions with you and your colleagues at DEP.
    b. To align the draft with the changes in 1.a (above), we recommend clarifying that box B in your draft standard, currently labeled "indeterminate," reflect the fact that the water body is not impaired for listing purposes.
2. We understand that where data are not sufficient to support a conclusion on any one of the biological response indicator values, the State will use the numeric total phosphorus value for listing purposes. Therefore, EPA recommends clarifying the requirement to measure and meet <u>all</u> applicable response indicator values before ascertaining that the waterbody meets the criteria where total phosphorus concentrations exceed the numeric value established.

Additional Recommendations

1. EPA recommends that you include duration and frequency components for all the causal and response values in the nutrient criteria. Having those components explicit in the rule will assist with listing decisions and permitting decisions.
2. Although it is clear that permit writers will use the total phosphorus value for deriving water quality-based effluent limits, it would be useful to clarify that both total phosphorus and response indicator values are used in a reasonable potential analysis.
3. We encourage you to continue to provide supplemental documentation on how the criteria were developed when submitting the final rule. We believe this enhances reproducibility, transparency and defensibility.
4. We encourage you to clearly establish that the criteria will provide for the attainment and maintenance of the water quality standards of downstream waters.

Based upon extensive conversations with your staff, we understand that the draft rule, in combination with the recommendations described above, reflect the approach the state of Maine intends to take as it moves forward with this action. With this understanding, the EPA concludes that your combination of numeric chemical and biological response indicator values applicable to each class of fresh water could, as a whole, establish a water quality criterion which represents the quality of water intended to protect the designated uses for that class. EPA also concludes that constructing a nutrient-related water quality criterion that integrates the options of meeting the total phosphorous value and/or all response indicator values is reasonable and protective.

We further conclude that the total phosphorus and response indicator values are supported by scientific data available to date. We support DEP's plan to continue reviewing additional data, as it becomes available, on both total phosphorus and response indicators and to adjust the values in the future, if warranted, to ensure that the values are set at appropriate levels.

In conclusion, we think your approach, when combined with our recommended technical edits to the rule, is consistent with the Clean Water Act and its implementing regulations. We would be happy to meet with you to discuss our comments and recommendations in greater detail. Please feel free to contact me at 617-918-1561 if you have any questions.

Sincerely,

Stephen J. Silva
Chief, Water Quality Branch

cc. Tom Danielson