Clean Ocean Action

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Ocean Advocacy Since 1984

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February 18, 2010

Gary J. Brower, Esq.
Attn. DEP Docket Number 21-09-11/754
Office of Legal Affairs
New Jersey Department of Environmental Protection
401 East State Street, Floor 4
P.O. Box 402
Trenton, NJ 08625-0402

RE: Surface Water Quality Standards; Proposed Amendments to Nutrient Policies

Dear Mr. Brower,

Clean Ocean Action (COA) is a broad-based coalition of 125 conservation, environmental, fishing, boating, diving, student, surfing, women's, business, service, and community groups, and also represents concerned citizens and businesses. Our goal is to improve the degraded water quality of the marine waters off the New Jersey/New York coast. COA has reviewed the proposed amendments to nutrient policies and submits the following comments.

COA strongly supports the extension of Narrative Nutrient Water Quality Criterion to Marine Waters. We are pleased that the proposed amendments address our previously submitted comments to New Jersey Department of Environmental Protection (NJDEP) requesting this extension of the criterion to all state waters. It was disappointing that the extension of the nutrient narrative criterion had not been included in the April 2009 proposed amendments to the state's Surface Water Quality Standards. We trust that once this extension of narrative nutrient criterion is adopted, assessment methods for coastal and near-shore ocean waters will be included in the 2012 Methods Document for the New Jersey Integrated Water Quality Monitoring and Assessment Report. Again, we strongly support the extension of the existing narrative nutrient criterion to marine waters.

COA is very concerned about how the narrative nutrient criterion will be assessed and implemented and the timeframe in which this will happen. The proposal's section titled "Assessment Methods and Implementation" refers to the Nutrient Criteria Enhancement Plan (NCEP) and ongoing programs to develop aquatic life indices for marine waters. The NJDEP is working in cooperation with Rutgers University and the U.S. Environmental Protection Agency (EPA) on these indices. The proposal also states that,

"*The Department will develop appropriate methods to assess compliance with the narrative nutrient criterion for the near-shore ocean and estuarine waters*."

However, neither this proposal nor the NCEP have provided a sufficient plan that explains how the methods to assess compliance with the narrative nutrient criterion for all state marine waters will be developed. This is essential because the criterion cannot be implemented without adequate assessment methods. Also, further study appears to be needed that will require more funding and more time before the methods under development can be used to assess nutrient impacts. In the meantime, nutrient impacts in marine waters will likely continue to harm marine life and not be formally recognized.

Nearshore ocean waters. What are the next steps that need to be taken to determine whether low dissolved oxygen (DO) conditions and benthic impacts in nearshore ocean waters are nutrient-related? What other sources of impairment will be considered? What further studies will be needed? How will NJDEP determine whether nutrient-related impacts are due to pollution and not natural conditions? Why has the full process for assessing nutrient impacts in nearshore ocean waters not been explained in the NCEP or this proposal?

Estuaries. The multimetric indices underdevelopment for estuaries will apply only to the Barnegat Bay-Little Egg Harbor Estuary system, where the indices are being studied, and not all of NJ's estuarine waters as suggested in this proposal. Once developed for this estuarine system, additional investigation will likely be needed to extend the biotic indicators to other estuaries and back bays as the indices may have geographically specific considerations. The state dollars must maximize the effectiveness of the current study effort so that the developed indices can serve as a model and be applied to other estuaries in a timely manner.

While COA does support the proposed multimetric approach for nutrient assessments that will allow for a more comprehensive evaluation of marine waters, it is unclear how and where this approach will be implemented based on the proposal. The proposal states that,

"In addition, the Department is working with the USEPA and Rutgers University to develop a benthic indicator for estuarine waters, similar to the benthic macroinvertebrate indicator used for freshwater wadeable streams, by 2012 and is also developing other metrics for submerged aquatic vegetation, phytoplankton and macroalgae to allow for a more comprehensive evaluation in near-shore ocean waters."

Will multimetric methods be developed and applied for both estuaries and near-shore waters? We are only aware of efforts to develop such an approach for the Barnegat Bay estuary system.

We have previously recommended using NOAA's Assessment of Estuarine Trophic Status (ASSETs) methods for assessing nutrient impairments in estuarine waters.[1,2] The Assessment of Estuarine Trophic Status (ASSETS) tool was developed by NOAA for use in the National

[1] Bricker, S., B. Longstaff, W. Dennison, A. Jones, K. Boicourt, C. Wicks, and J. Woerner. 2007. Effects of Nutrient Enrichment in the Nation's Estuaries: A Decade of Change. NOAA Coastal Ocean Program.

[2] Bricker, S.B., J.G. Ferreira, and T. Simas, 2003. An integrated methodology for assessment of estuarine trophic status Ecological Modelling 169: 39–60

Estuarine Eutrophication Assessment Program.[3] It includes random sampling locations within pre-designated salinity zones (high, medium, and low) and assesses influencing factors, such as physical, hydrologic, and anthropogenic dynamics and pressures. It is well known that the nitrogen loadings to a system are more critical for evaluating biotic response than nitrogen concentrations within a system.[4] The overall eutrophic condition is determined from data for five primary and secondary symptoms. Primary symptoms: excessive concentrations of chlorophyll a (phytoplankton), macroalgae and epiphytes. Secondary symptoms: low DO, loss of submerged aquatic vegetation, and occurrence of nuisance/toxic blooms. Additional information from the local studies and assessments of relevant nutrient-tolerant biota should also be included in assessing the overall eutrophic condition once completed.

We recognize that for nearshore ocean waters or deep estuaries not all of the ASSETs indicators and methods would be applicable. For example, submerged vegetation may not be common in deep waters or in high wave energy environments. However, the overall comprehensive nutrient assessment approach of ASSETs is also needed for deep estuaries and ocean waters.

In conclusion, COA supports the extension of the narrative nutrient criterion to all state waters. We also support a multimetric approach for nutrient assessments. However, the proposed "Assessment Methods and Implementation" section and NCEP raise several critical concerns. The method development and implementation of the criterion appear to be overstated and not adequately planned, or at least explained, for statewide implementation. We request a meeting with NJDEP to discuss these concerns and ask that Heather Saffert at 732-872-0111 be contacted to arrange a meeting date.

We thank you in advance and look forward to your written response and meeting with you.

Sincerely,

Cindy Zipf
Executive Director

Heather Saffert, Ph.D.
Staff Scientist

[3] S.B. Bricker, J.G. Ferreira, and T. Simas, 2003. An integrated methodology for assessment of estuarine trophic status, *Ecological Modeling* 169: 9–60

[4] Heisler, J. et al. in press, 2008. Eutrophication and harmful algal blooms: A scientific consensus. Harmful Algae http://www.whoi.edu/science/cohh/whcohh/publications/index.htm