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November 10, 2011

**Ephraim King**

**Director, Office of Science and Technology**

**Office of Water, U.S. Environmental Protection Agency**

**1200 Pennsylvania Ave., N.W.**

**Washington, DC 20460**

**Via Electronic Mail: [king.ephraim@epa.gov](mailto:king.ephraim@epa.gov)**

Dear Ephraim,

Thank you for taking the time to meet with the leadership of NACWA's Water Quality Committee on November 2 to discuss the pending revisions to EPA's water quality criteria for ammonia. The meeting was very helpful and provided answers to many of NACWA's questions regarding the revised criteria values. As you observed during the meeting, the new criteria for ammonia, as they are adopted into state water quality standards, will have major impacts on clean water agencies nationwide. Ensuring that the revisions are based on valid scientific information is essential. EPA has addressed many of NACWA's concerns, but as we noted during the meeting, NACWA continues to have lingering concerns about the use of nuisance invasive species data for the calculation of the final criteria values and how the criteria will be implemented.

While we have not found specific agency guidance on the use of nuisance invasive species data in the calculation of water quality criteria, Clean Water Act (CWA) section 304(a) directs EPA to develop water quality criteria and information that reflect the "latest scientific knowledge" on the effects pollutants like ammonia may have on aquatic organisms as well as "biological community diversity" and publish information on the factors necessary for the "protection and propagation of a balanced population of shellfish, fish and wildlife". The development of water quality criteria based on, in part, the protection of an invasive species does not seem consistent with the protection of balanced populations. Though the meaning of "balanced population" is not provided, in other sections of the CWA Congress directs EPA to protect "indigenous" populations (Sections 301(h)(2) (Secondary Treatment Modification Requirements); 303(d)(1)(B); 304(a)(5)(B); 320(a)(2)(A) (National Estuaries Program). NACWA is not familiar with specific EPA guidance that may provide additional insights into EPA's mandate here, but requests that EPA consider this issue further as it finalizes its criteria recommendations.

NACWA understands EPA's position that an invasive species could serve as a surrogate for an indigenous species, where data on the indigenous species is not available. Invasive species by definition, however, are not indigenous and commonly do not result in a balanced ecosystem as required by the CWA. The use of non-native species is usually only an issue when a criteria database is small and data possibly representing an important genus is not available. This is not the case for the ammonia criteria database. The ammonia criteria database is one of the largest of any database used by EPA to develop water quality criteria – including 67 genus mean acute values (GMAVs) and 9 genus mean acute-chronic ratios (GMACRs). EPA guidance on developing criteria only requires 8 GMAVs and 3 GMACRs. The probability that some unique sensitivity of an indigenous species will be missed by not using invasive species data is near zero given the amount of data available and the uncertainty common to toxicity test data. More fundamentally, developing water quality criteria that protect invasive species is illogical and indefensible. EPA's website talks extensively about invasive species and the negative impacts they can have:

*Invasive species means an alien species whose introduction does or is likely to cause economic or environmental harm or harm to human health. Invasive species are one of the largest threats to our terrestrial, coastal and freshwater ecosystems, as well as being a major global concern. Invasive species can affect aquatic ecosystems directly or by affecting the land in ways that harm aquatic ecosystems. Invasive species represent the second leading cause of species extinction and loss of biodiversity in aquatic environments worldwide. They also result in considerable economic effects through direct economic losses and management/control costs, while dramatically altering ecosystems supporting commercial and recreational activities. Effects on aquatic ecosystems result in decreased native populations, modified water tables, changes in run-off dynamics and fire frequency, among other alterations. These ecological changes in turn impact many recreational and commercial activities dependent on aquatic ecosystems.*

([http://water.epa.gov/type/oceb/habitat/invasive\\_species\\_index.cfm](http://water.epa.gov/type/oceb/habitat/invasive_species_index.cfm)); Accessed November 9, 2011

Invasive species degrade designated uses and lead to imbalances in aquatic communities. The CWA was not intended to afford invasive species any measure of protection and data for invasive species should not be used in the derivation of water quality criteria. Again, NACWA asks EPA to revisit this issue and address these concerns thoroughly in the pending criteria document.

In addition to requesting further clarification in the final criteria regarding the appropriateness of using invasive species data, NACWA also wants to stress the importance of providing strong language in the final recommendations regarding the use of recalculated criteria numbers for mussels-absent areas. In addition to stating that such recalculations are appropriate, the final criteria recommendations should include the recalculated numbers as guidance to underscore the importance of evaluating state- and site-specific conditions.

It is worth restating that these criteria, which will not account for the presence or absence of the most sensitive species as in the 2009 proposal, will result in many more clean water agencies nationwide being required to remove ammonia and other agencies that now treat to remove ammonia being required to undergo significant facility upgrades. Only plants with high dilution allowances and low background concentrations are likely to avoid control requirements. As we mentioned during our meeting, of particular concern will be removing ammonia to such low levels during the winter months.

As these criteria are implemented, it will be important to fully understand their costs, benefits and associated environmental tradeoffs. If it is necessary to make these investments to protect water quality and indigenous aquatic life, then the clean water community will certainly do its fair share. It is important, however, to keep in mind that the cost of achieving this level of protection will likely run well into the billions of dollars in capital and even more in operating costs – potentially to ‘protect’ freshwater mussels that are not present or in some cases nuisance invasive species.

It will be essential for states to look carefully at the criteria to ensure that the level of protection they pursue makes sense for their waters. While we appreciate your office’s additional focus on implementation planned for the final criteria document, the states that will be asked to examine the criteria to make refinements and evaluate the need for additional implementation flexibility are under the same economic pressures as the clean water agencies that will be required to meet the criteria. We fear that most states will simply adopt the federal criteria without making the adjustments that EPA believed were warranted to account for the presence or absence of the most sensitive species in the 2009 proposed criteria.

Thank you again for meeting with us. Please contact me if you would like to discuss our concerns further.

Sincerely,

A handwritten signature in cursive script, appearing to read "Chris Hornback".

Chris Hornback  
Senior Director, Regulatory Affairs

cc: Alex Dunn, ACWA