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To Whom It May Concern:

New York State has experienced first hand the serious economic, social, and ecological impacts of the introduction of Aquatic Nuisance Species (ANS) into the Great Lakes and other coastal and inland waters by the discharge of ballast water from transoceanic shipping, and by other means as well. Through our participation in the Great Lakes ANS Panel and the Northeast ANS Panel and from reviewing ANS literature, we are aware of the concern by the Coast Guard about controlling ballast water introductions, and the efforts that have been expended to date to implement an effective Ballast Water Exchange (BWE) program.

The BWE program initiated in response to the Nonindigenous Aquatic Nuisance Prevention and Control Act of 1990 was necessary first step. However, it is unfortunately not the final, comprehensive solution to the problem. The Coast Guard is taking the right steps in establishing the goals and standards for a comprehensive ballast water program. The Division of Fish, Wildlife and Marine Resources (DFWMR), as the program within the New York State Department of Environmental Conservation(NYSDEC) with primary ANS management responsibilities, appreciates this opportunity to submit comments in response the questions presented in the March 4, 2002 Federal Register regarding standards for the Coast Guard's proposed Ballast Water Treatment (BWT) Program.

Q1. Should the Coast Guard adopt G1, G2, G3, or some other goal (please specify) for BWT?

It is the perception of the NYSDEC/DFWMR that none of the three goals expressed in the March 4, 2002 FR item are appropriate as the basis for an effective BWT program. Because the three draft goals are so specific, they tend to miss some aspect of the ANS issue. For example, G1 fails to address adult fish that happen to be small, as small fish are not typically included in the definition of "zooplankton". G2 is vague, can't be related to a purpose, and doesn't define what set of drinking water standards would be the basis for treatments. G3 is deficient because a quantitative description of the efficacy of BWE still is not available.

The goal should reflect both the purpose of the program and the desired state if the goal is achieved. The goal should clearly illustrate what would be accomplished if the program was completely successful. Unlike an objective or standard, a goal does not have to be measurable, quantifiable, or even fully achievable. A goal is not limited by existing technology. It should, however, show what the program could conceivably accomplish. An effective goal for a ballast water treatment program might be worded as: "Provide adequate treatment of ballast water prior to discharge to insure that nonindigenous aquatic species, to include vertebrates, invertebrates, and plants, are not introduced into the waters of the United States.

Q2. Should the Coast Guard adopt any of the standards, S1-S4 as an interim BWT standard? (You also may propose alternative quantitative or qualititative standards.)

The NYSDEC/DFWMR concurs with S2. It provides for a variety of approaches (kill, inactivate, remove), thus allowing flexibility without compromising the standard. It is comprehensive without referring to specific taxa. It could be argued that a size limit of 100 microns is not effective because it would allow zebra mussel larvae to survive. However, in actuality, the 100 micron size threshold is not so much a limit on the effectiveness of the treatment (except for filtration), it is a description of the effectiveness of sampling. Any treatment such as a biocide or deoxygenation that kills or inactivates a 100 micron organism is likely to kill or inactivate smaller organisms as well. The difference would lie in the screening and sampling techniques used to test, measure, and evaluate the efficacy of the treatment. This doesn't hold true for the "remove" component of the standard. If filtration is a chosen control methodology, it would not control smaller organisms. However, filtration does not appear to be one of the preferred technological methodologies at this time. This standard would not address spores or eggs.

S1 is overly complicated. The six "representative species" may not be adequately representative of the variety of species than can be transported in ballast water, and the selection of only six is arbitrary, as is the six particular groupings described.

S3, like S1, is unnecessarily complicated in its description of the various planktonic taxonomic groups. The use of such technical nomenclature does not insure that the proposed standard is any more inclusive than S2. Nor does it identify or describe any particular groups of organisms that could be allowed to survive (not that any should, but why specify three classes of zooplankton to be removed as opposed to simply addressing "all"?). The standard specifies remove as opposed to kill or inactivate, thus intent of the standard is unclear; e.g, is killing and/or inactivation insufficient, and killed organisms must still be removed by some post-treatment control regardless of their viability?

Q3. Please provide information on the effectiveness of current technologies to meet any of the possible standards?

NYSDEC/DFWMR has nothing to add about the effectiveness of existing technologies that is not already available in the ANS management literature. However, the following comments are submitted regarding BWT technologies in general:

- Recent literature shows that the use of nitrogen gas to deoxygenate ballast water is not only reasonably effective for killing ballast water organisms, it effectively reduces corrosion of the ballast water system, reducing overall maintenance costs for the vessel. Implementation of such a control technology should be immediately encouraged because it has immediate and measurable benefits for both vessel owner/operators and the environment. Control technologies should be researched with the full participation of the shipping industry to seek other solutions that will similarly produce mutual benefits. The control technology becomes an incentive for implementation in and of itself.

- An interim standard should not be adopted that accommodates existing technology. The standard that is ultimately adopted should reflect as closely as possible to programmatic goal; i.e., zero discharge of viable ANS. A program of increasingly more stringent standards reflecting improvements in control technology is counterproductive. Instead, a standard consistent with the program goal should be established, but implementation of the standard be kept consistent with available technology. This is often the practice in the area of water quality standards. It is not unusual to adopt a water quality standard for a compound that is below the analytical detection limit for that compound. The implementation of the standard, via NPDES permitting for example, reflects the best available treatment technology, even if it does not result in the full achievement of the standard. As best available technology improves, it can be required via implementation without revising the standard.

- Creative alternatives to strict "treatment" should be considered. For example, port facilities in industrialized nations may already have the capability of supplying treated ballast water from municipal drinking water supplies. Rather than imposing the costs of ballast water treatment on individual vessel owner/operators, nations that benefit from maritime commerce can undertake to provide a source of treated ballast water at port facilities if not already available from municipal drinking water systems. Ships that can certify their ballast water was from a "clean" source would be exempt from discharge requirements, providing no additional fresh (i.e., low salinity) ballast water had been taken on.

- It is interesting to note that while port facilities to treat ballast water have been discussed in the literature, there doesn't appear to be any corresponding discussion of the costs, benefits, of effectiveness of port facilities providing clean ballast water instead.

- Multiple treatments will be the most effective in accomplishing the goal.

Q4. General comments on how to structure any cost-benefit or cost effectiveness analysis that evaluates the above four possible standards.

The costs of an effective BWT program should be compared with the costs of remediating ANS species impacts. The zebra mussel introduction is a good source of cost data. Control technologies that benefit vessels, such as nitrogen gas deoxygenation would ultimately pay for themselves. Installation of sources of clean ballast water at ports would shift the costs to national governments. Development of such facilities in developing nations could be supported through international grants.

Q5. What impact would the above four standards have on small businesses that own and operate vessels?

Standards themselves do not impact large or small business owners. The method of implementation carries the impact. As stated in response to Question 4, above, implementation of a control technology such as nitrogen gas deoxygenation coupled with low interest loans would ultimately benefit small business owners. Similarly, developing a program of providing clean ballast water from a port facility could have little or no impact. A ballast water fee might be charged to vessels that obtain ballast water from such a port facility, but that fee would probably be significantly less than the costs of retrofitting a vessel with a control technology.

Q6. What potential environmental impacts would the goals or standards carry?

As with costs, it is not the goals and standards that impose environmental impacts, it is the method of implementation that generates those risks. For example, the use of a biocide to treat ballast water presents the risk that the biocide could remain toxic and impact aquatic life in the harbor when ballast water is discharged. However, discharging ballast water that was obtained from a clean source would not have any adverse environmental impact. Various control technologies need to be carefully evaluated before implementation for their potential environmental impacts.

Thank you for the opportunity to provide comments on the Coast Guard's proposed BWT program goals and standards. If you wish to discuss any of the comments provided here, please contact Mr. Timothy Sinnott, at (518) 402-8970 or via e-mail at txsinnot@gw.dec.state.ny.us.

Sincerely,

Gerald A. Barnhart
Director
Division of Fish, Wildlife & Marine Resources