

Policy Position of the Great Lakes Panel on Aquatic Nuisance Species

*A Binational Canadian-United States Ballast Water Research Strategy**

BACKGROUND

A previous policy position adopted by the Great Lakes Panel on Aquatic Nuisance Species on December 4, 1996, "Research Guidance for the Prevention and Control of Nonindigenous Aquatic Nuisance Species in the Great Lakes," included, as the first of four general recommendations, the Panel's recommendation to:

Enhance research on prevention efforts to provide a better balance with research on established species (proactive versus reactive). Findings from the 1995 research inventory indicated that 51 percent of all projects received examined the ecosystem effects of species already present, while only 5 percent of the total expenditures was on prevention of introductions.

Discharge of ballast water from transoceanic shipping is well recognized as a major vector for new introductions of aquatic nuisance species. Also well recognized is the need to improve current technology for the control of exotics in ballast water. The Marine Board of the U.S. National Research Council has determined that "...there are no off-the-shelf technologies specifically designed for treating ballast water that are suitable for use on board ship without some redesign and modification."

In their *1996-1997 Binational Report* to the International Joint Commission under the Great Lakes Water Quality Agreement, the U.S. and Canadian agencies responsible for controlling ballast water set forth a comprehensive, binational research strategy which focuses on these U.S. Marine Board recommendations, while also addressing urgent requirements to (1) review the safety of ballast exchange in current ship designs, (2) explore immediate operational measures to address the problem of NOBOBs (vessels with No Ballast On Board), and (3) develop practical measures for confirming exchange in addition to measurement of salinity. This is a strategy developed by the U.S. and Canadian federal agencies. However, it takes account of the associated work being sponsored by the Great Lakes Protection Fund, the Michigan Office of the Great Lakes, and other agencies around the world.

POLICY POSITION

To advance implementation of its December 1996 policy position (see "Background") the Great Lakes Panel on Aquatic Nuisance Species recommends that its member agencies and organizations support the following research action plan:

(1) Evaluation of Exchange

A) Review the two technical reports on the safety of ballast pump-down exchanges for all relevant classes of vessels, including both large vessels calling at North American saltwater ports, and smaller but narrower vessels entering the St. Lawrence Seaway. Perform studies to determine hull stress, bending moment, seakeeping characteristics and overall safety of exchange. Evaluate potential increase in fatigue cycles to hull components due to additional ballast exchanges at sea.

B) Develop and support ongoing efforts to develop field-type tests and protocols that confirm that ballast exchange has taken place at sea. Two types of tests should be considered, including i) a simple and real-time field test to be used on board a vessel by both the operators and applicable government agencies; and ii) a scientifically reliable and enforceable test to allow both scientific validation and enforcement action.

* Adopted by the Great Lakes Panel, February 1998.

(2) Evaluate Near-Term Options for NOBOB Vessels

A) Evaluate the threat posed by slop and sediment in the bottom of NOBOBs as well as the practicality and effectiveness of short-term operational measures such as “partial exchange,” or Aswish and spit, @ in controlling organisms in the slop and sediment. Support demonstration projects to validate these and other relevant methods.

B) Conduct modeling to evaluate flow-through methods (top-down and bottom-up) for effectiveness of water and sediment displacement and potential biological effectiveness. Evaluate the costs of retrofitting existing systems for the two alternatives as well as the costs of incorporating changes into new ships at the design stage. Support demonstration projects of the alternatives to validate results.

C) Support studies for shipboard heating or shoreside heating of smaller quantities of water and “hot shotting” individual tanks. Provide realistic refit costs for both shoreside and shipboard systems and provide realistic vessel delay times to perform the operation ashore.

(3) Biocide Studies

Relevant U.S. and Canadian agencies and organizations should work together to assure efficient consideration of permit applications for field tests of potential biocide treatments for ballast residuals. Studies must demonstrate that candidate chemicals can be stored and disposed of in an environmentally sound manner and break down into environmentally sound, harmless byproducts before any discharge into the Great Lakes.

(4) Support of Ongoing Research

U.S. and Canadian agencies and organizations are encouraged to support and participate in initiatives (e.g., Great Lakes Ballast Demonstration Project, and Canadian Dept. of Fisheries and Oceans and Michigan Office of the Great Lakes biocide research) that examine specific approaches to ballast water management or critical, associated needs.