

# Recommendations of the Policy Statement on Ballast Water Management

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## Introduction

The introduction and spread of aquatic nuisance species (ANS) pose a significant risk to the environmental and economic health of the Great Lakes-St. Lawrence system. Such species, which often compete with, prey upon and displace native species, are a threat to the integrity of the ecosystem and many water-dependent sectors of the economy.

Ballast water discharges (water and entrained solids) from ocean-going commercial vessels are a primary means for the introduction of these species to the Great Lakes-St. Lawrence system. Open-ocean ballast water exchanges are intended to eliminate such species from ballast tanks, but appear to be ineffective against eggs, spores and other "resting stages" that can survive changes in salinity, sometimes by lodging in sediment in the bottom of ballast tanks.

Furthermore, nearly 80 percent of oceangoing commercial ships entering the Great Lakes system are in a "no ballast on board" (NOBOB) condition, which exempts them from open-ocean ballast exchange requirements. However, even "empty" ballast tanks contain residual water and sediment that may harbor organisms that can be discharged when new water is added to the tanks and later expelled. Refilling and emptying ballast tanks is also believed to be a mechanism for expand-

ing the range of ANS already present in the Great Lakes - St. Lawrence system.

In the spring of 2000 the Great Lakes Panel on Aquatic Nuisance Species convened a committee to address the effectiveness of current U.S. regulations and Canadian guidelines in combating the introduction and spread of ANS. The committee was charged with the development of a policy statement on ballast water management for the Great Lakes -St. Lawrence system, which was finalized in March 2001.

The committee identified three major policy elements to guide development of a ballast water management program for the Great Lakes - St. Lawrence region. Each element is composed of three sections: an issue description, panel findings and a list of recommended actions.

First, science-based criteria must be established to develop standards upon which regulations and guidelines are based. These criteria will provide benchmarks by which ballast water exchange, management practices and treatment technologies can be evaluated with the ultimate goal of eliminating ANS discharges.

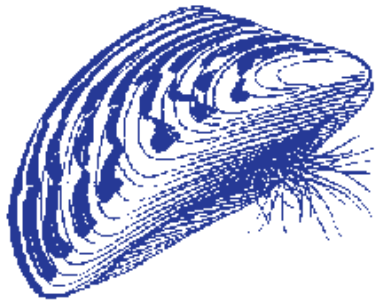
Second, a systemwide ballast water management program should be developed, consisting of policies, regulations,

guidelines and options for management practices and treatment technologies. The program must ensure the safety of vessels and crew, and be scientifically based, environmentally sound and economically viable. Furthermore, it must be accompanied by the application of compatible regulations or guidelines at national and international levels.

Third, research efforts on ANS prevention and control issues are in need of substantially increased funding. Research priorities include ballast water management practices and treatment technologies, the efficacy of ballast exchange under different conditions, ship design and engineering, assessment of NOBOB vessels as vectors for ANS introductions, the economic and environmental effects of ANS introductions, and the economic costs of prevention/control efforts.

The following pages list the specific recommendations of the Policy Statement on Ballast Water Management. The entire policy statement is available through the Great Lakes Commission or online at: [www.glc.org/ans/3-16-bwmpolicyposition.pdf](http://www.glc.org/ans/3-16-bwmpolicyposition.pdf).





zebra mussel

## Policy statement objective

*To eliminate ballast-associated ANS introductions into waters of the Great Lakes-St. Lawrence system, and reduce ANS dispersal between the lakes through the regional development and application of a timely, effective, scientifically based, environmentally sound and economically viable binational ballast water management program.*

## Recommendations

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### ***I. Establishment of criteria for ballast water management practices/treatment technologies***

1. Urge the U.S. and Canadian governments (at the state/provincial, federal and binational levels), in consultation with relevant maritime interests, to establish an efficient and effective binational program for development of ballast water criteria with consistent application of regulations/guidelines throughout the Great Lakes-St. Lawrence system. The development of these criteria should be conducted in close cooperation with the Ballast Water and Shipping Committee of the ANS Task Force, as well as binational organizations, such as the International Joint Commission.

2. Ensure that in developing the program, governments:

**a)** Use research to assess and quantify the existing narrative criteria, "at least as effective as ballast water exchange," before providing it as guidance as alternative methods of ballast water management are reviewed.

**b)** Develop standard assays or protocols for screening the biological effectiveness of treatment technologies;

**c)** Develop scientifically defensible, enforceable and real-time field techniques to confirm that ballast treatment(s) has taken place, and establish protocols to follow if the treatment(s) did not occur; and

**d)** Incorporate tests for all life

stages, including resting stages and cysts, of potential ANS where possible, considering the day-to-day shipping operations and capabilities.

3. Ensure that established criteria are integrated with the development of ballast water management practices and treatment technologies.

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### ***II. Scope, consistency and coordination of laws and programs***

#### **A. Regional approach to ballast water management**

1. Ensure that the development and implementation of a ballast water management program takes place at least at the Great Lakes-St. Lawrence system-wide level. As part of this process, urge states and provinces, in cooperation with federal, regional and binational entities, to take an active role in the regional development of consistent and coordinated U.S. and Canadian regulations/guidelines.

2. Develop and implement a regional ballast water management program that is efficient, effective, scientifically based and environmentally sound, yet seeks to avoid placing the Great Lakes-St. Lawrence maritime transportation system at a competitive disadvantage.

3. Urge Canadian Foreign Affairs and the U.S. State Department to negotiate

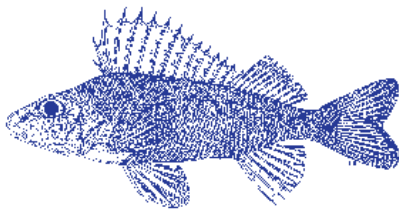
an agreement to ensure binational dedication and accountability in achieving the objectives of a regional ballast water management program.

4. Ensure that state, provincial and local policymakers are aware of the importance of regional cooperation during the development and implementation of a ballast water management program.

5. Offer the ballast water management program for the Great Lakes-St. Lawrence system as a model to all coastal regions and applicable waterways of the United States and Canada to maximize effectiveness of ANS prevention and control efforts on a national scale. As part of this model program, consideration should be given to existing federal (e.g., Clean Water

Act) and state/provincial legislation for use in strengthening ballast water management efforts.

6. Urge Canadian and U.S. IMO delegates to expedite development and application of international regulations/guidelines that are consistent with those established for the Great Lakes-St. Lawrence system.



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## **B. Application of regulations/guidelines to all vessels, including NOBOBs**

1. Apply new legal regimes based on incrementally achievable criteria with the goal of zero ANS discharge.

2. Expedite development of ANS discharge policies, regulations/guidelines, best management practices and treatment technologies that apply to all commercial vessels operating in the Great Lakes-St. Lawrence system that use ballast water regardless of the port of origin or jurisdiction.

3. Develop and implement, in the short term, regulations/guidelines applicable to NOBOBs, such as best management practices and best available technologies.

4. Develop regulations/guidelines that require new ship construction to incorporate best available technology for ballast water management at the time of contract signing. Encourage the Canadian and U.S. IMO delegates to participate in the development of these provisions.

5. Develop regulations/guidelines and/or incentive-based policies that will facilitate the implementation of ship design that improves efficiency of ballast water management in all new vessel construction.

## **C. Cooperation and coordination**

1. Ensure that government jurisdictions, the maritime industry, research scientists and other interest groups work in a cooperative and coordinated manner, with the guidance of the Great Lakes Panel and other appropriate regional/binational entities, to achieve the objectives of a regional ballast water management program for the Great Lakes-St. Lawrence system.

2. Coordinate ballast water management program initiatives among the Great Lakes Panel representatives, the International Joint Commission, the Ballast Water and Shipping Committee of the ANS Task Force, the Canadian Marine Advisory Council and the Council of Great Lake Governors.

3. Develop a coordinated and targeted information/education program to convey ballast water management initiatives and needs to policymakers, elected officials, stakeholders and other interested parties both within and beyond the Great Lakes-St. Lawrence system.

4. Urge all parties involved in the development and application of a ballast water management program for the

Great Lakes-St. Lawrence system to participate in the development of comprehensive national and international ballast water management programs.

5. Ensure that the Great Lakes Panel, in cooperation with other regional interests, works with the U.S. Congress

on reauthorization of the National Invasive Species Act. Broad-based, binational participation and expertise provides the Panel with a unique, regional perspective on ballast water management issues that should play an instrumental role in the reauthorization process.

## **III. Technology options and research needs**

### **A. Evaluation of ballast water management practices/treatment technologies**

1. Evaluate ballast water management practices and treatment technologies, including ballast water exchange, in terms of crew safety, effectiveness, real-world technical viability, environmental acceptability, economic feasibility, practicality and enforceability.

2. Evaluate how vessel structure, age, operating conditions, crew capabilities and other factors affect ballast water technologies and management approaches.

3. Consider the use and effectiveness of combinations of ballast water treatments.

4. Assess the effectiveness of best management practices and non-chemical treatment methods (e.g., ultraviolet treatment) for ballast water management.

5. Develop protocols for the use of biocides as a treatment option for ballast management, particularly in regard to NOBOBs, and evaluate their use

in terms of environmental implications; effectiveness; physical effects on vessels; health and safety risks; and consistency with the stated policies of federal, state, provincial and regional Great Lakes-St. Lawrence entities.

6. Evaluate the potential of shore-based ballast water treatment facilities at critical choke points in the Great Lakes-St. Lawrence system as one component of a ballast water management program.

## B. Research funding and coordination

1. Establish secure, dedicated, long-term, federal funding that will provide sufficient support for research, ballast water sampling and monitoring, and demonstration projects for ballast water management practices and technologies.

2. Develop and utilize mechanisms to expedite sharing and widespread dissemination of results, such as a single Internet site, that cross-links research topics with projects, researchers and funding organizations.

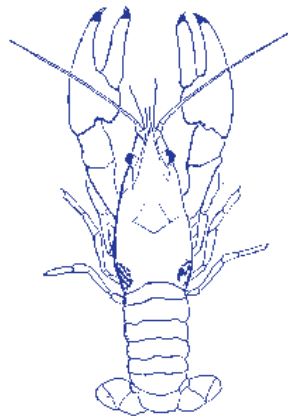
## C. Management of NOBOBs

1. Evaluate the potential for NOBOBs to introduce and spread ANS and assess the economic and environmental risks such introductions pose. Include in this evaluation identification of all life stages of organisms, including resting stages and cysts, that are present in NOBOBs.

2. Determine the utility, environmental implications and desired duration of short-term management approaches to

7. Implement full-scale application on commercial vessels of promising ballast water management/treatment technologies that have shown potential in demonstration projects to minimize ANS discharges.

8. Develop and implement a ballast water sampling program using water quality and/or biological criteria as benchmarks to measure improvements that occur with various treatment methods.



*rusty crayfish*

NOBOBs, including partial exchange, best management practices, and physical and chemical treatment.

3. Evaluate, in conjunction with the marine industry and federal authorities, long-term approaches including technological alternatives, new ship design and other management options that address the ANS problems associated with NOBOBs.

## D. Estimation of costs and economic impacts

1. Evaluate the costs of retrofitting existing vessels and incorporating ballast water treatment technologies into new vessels.

2. Compare the potential environmental impacts and economic costs of ANS invasions against the cost of development and implementation of ballast water treatment measures.

3. As promising management options/technologies are identified by research, assess the potential implementation costs to guide development at the full-scale level.

4. Examine the potential to modify trade patterns of lakers and ocean going vessels in the Great Lakes-St. Lawrence system to minimize the discharge of foreign ballast. Evaluate the potential economic impacts of ballast water measures in terms of varying vessel types, types of commodities and volume, differing ballasting systems and alternative transportation modes.

5. Examine the economic impacts of requiring all ships to stop at a certain point for ballast water treatment (e.g., shoreside treatment).

6. Identify and evaluate options to mitigate the financial burden of ballast water management requirements for the shipping industry (e.g., tax credits, federal funding).

## E. Assessment of human, fish and wildlife health risks from pathogens

1. Assess the nature and scope of the public health risks posed by potential ballast water pathogens.

2. Conduct a fish and wildlife pathogen risk assessment to expand knowledge of this issue.

3. Assess the nature and scope of public health risks already present in the waters of the Great Lakes-St. Lawrence system as a framework by which to compare/assess shipborne risks.

### The Great Lakes Panel on Aquatic Nuisance Species

*Chartered under U.S. federal law, the Great Lakes Panel on Aquatic Nuisance Species is responsible for advancing aquatic nuisance species (ANS) prevention and control efforts in the Great Lakes-St. Lawrence system. The panel – a binational body comprised of representatives from government (state, provincial, federal, tribal), business and industry, universities, citizen environmental groups and the larger user community – convenes and coordinates stakeholders and provides guidance on research initiatives, policy development and information/education programs on a regional basis.*