



## AQUATIC INVASIVE SPECIES

### Objective

**Prevent harm to water quality, ecosystem function, native fish and wildlife species, the economy, and human well-being by preventing the introduction and controlling the spread of aquatic invasive species.**

This is a new annex of the Canada–United States Great Lakes Water Quality Agreement (GLWQA) that commits Canada and the United States to developing and implementing programs and other measures to eliminate new introductions of aquatic invasive species through a binational prevention-based approach informed by risk assessments.

Land-based invasive species are addressed under the GLWQA in cases where they adversely impact the waters of the Great Lakes.

### Why is action on aquatic invasive species important?

The continued introduction of aquatic invasive species is one of the most significant threats to biodiversity in the Great Lakes. Aquatic invasive species can degrade water quality by increasing turbidity, concentrating toxins, and altering nutrient and energy flows within the food web. Recent science has found that zebra and quagga mussels are trapping nutrients in the nearshore zones of the Great Lakes, contributing to degraded water quality, algae development and avian botulism. The economic impacts are significant.

Managing the impacts of aquatic invasive species, once the species are established, is a major challenge. Pre-empting further introductions, where possible, and controlling or eradicating existing aquatic invasive species through a binational prevention-based approach will provide for positive environmental and economic outcomes in Canada and the United States.

### Commitment to key activities within the 2012 Great Lakes Water Quality Agreement

- Within **two years**, develop and implement an early detection and rapid response initiative;
- Implement ballast water discharge programs that are protective of the Great Lakes Basin ecosystem (see *Discharges from Vessels Annex*);

*Aquatic invasive species affect biodiversity, water quality and the economy.*

*How they get into our lakes: ship ballast water, boat hulls, canals and diversions, intentional and illegal release, and organisms in trade (e.g., bait and aquarium fish, live food trade, and biological supply houses).*

- Implement programs to prevent the introduction and spread of aquatic invasive species, which will include:
  - proactive, binationally-coordinated risk assessments on various pathways;
  - regulations and management strategies;
  - effective barriers that prevent the spread of aquatic invasive species;
  - public education and outreach efforts;
- Assess the effectiveness of aquatic invasive species prevention programs and develop and evaluate technology and methods that increase the effectiveness of control, eradication and detection efforts;
- Determine potential aquatic invasive species habitat requirements and additional factors that would affect the establishment and spread of these species;
- Assess the ecosystem impacts of both established and high-risk aquatic invasive species to support rapid response and control programs.

### **Expected outcomes**

- Healthier aquatic ecosystems with reduced threat of impacts of aquatic invasive species;
- Enhanced prevention of new introductions of aquatic invasive species through a binational prevention-based approach;
- Research and monitoring to better inform management approaches;
- Public education and action, potentially further reducing incidents of introductions.

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