Aquatic Invasive Species

Regional Priorities for the Great Lakes

March 2007

Background

Throughout history, human settlement and trade have caused the introduction of non-native aquatic invasive species (AIS), often to the detriment of native ecosystems. As of 2006 more than 180 aquatic invasive species have become established in the Great Lakes causing economic loses and environmental impacts estimated at $5.7 billion annually. The number continues to grow. Within the last year VHS (viral hemorrhagic septicemia) has caused fish kills in lakes Ontario, Erie and Lake St. Clair and is moving to other lakes. A small shrimp (*Hemimysis anomala*), also known as a "Bloody red shrimp" because of its voracious feeding habits, has recently been found in Lake Michigan.

Zebra mussels on beach. Photo courtesy Michigan Sea Grant.

Mechanisms of introduction and spread include ballast water discharge from ships, canals and waterways, organisms in trade, recreational activities and aquaculture. The proliferation of AIS is plugging up water intake pipes, covering once sandy beaches with sharp-edged mollusk shells, wreaking havoc with parts of the food chain, and threatening multi-billion dollar tourism, sport and commercial fishing businesses.

This fact sheet prepared by the
Great Lakes Commission

The Great Lakes Commission is an interstate compact agency that works on behalf of the eight Great Lakes states to advance restoration, protection and sound management of the Great Lakes-St. Lawrence River Basin.

Contacts:
Tim Eder, Executive Director,
teder@glc.org
Jon MacDonagh-Dumler,
Government Affairs,
jonmacd@glc.org

Great Lakes Commission
Eisenhower Corporate Park
2805 S. Industrial Hwy., #100
Ann Arbor, MI 48104-6791
734-971-9135 • 734-971-9150 (fax)
www.glc.org

In 1990, Congress passed the Nonindigenous Aquatic Nuisance Prevention and Control Act (NANPCA, 16 U.S.C. 4701 et seq.) to address the problem of AIS. NANPCA was reauthorized through the National Invasive Species Act of 1996 (NISA). However, existing legislation is not adequate to halt the introduction and spread of AIS from all pathways.

Congressional Priorities for AIS

- **Dispersal Barrier:** Pass legislation and provide funding to prevent the Asian carp and other invasive species from entering the Great Lakes by authorizing the U.S. Army Corps of Engineers (USACE) to complete the construction of, and provide at full federal coast for the permanent operation of, two dispersal barriers in the Chicago Sanitary and Ship Canal. A temporary barrier and a partially completed permanent barrier are currently the only line of defense protecting the lakes from Asian carp.
- **National Aquatic Invasive Species Act:** Pass and fund legislation introduced by Sens. Levin and Collins (S. 725), which would curb introductions and spread of AIS from ballast water and many other pathways.
- **Sea Lamprey Control:** Appropriate full funding to the Great Lakes Fishery Commission for its Sea Lamprey Control Program that protects a multibillion-dollar sport fishery.

Funding History and Committee Jurisdiction

Committees of Jurisdiction

Senate Committee on Environment and Public Works
Senate Appropriations Subcommittee on Energy and Water Development

Senate Appropriations Subcommittee on State Foreign Operations and Related Programs
House Committee on Transportation and Infrastructure
House Appropriations Subcommittee on Energy and Water Development
House Appropriations Subcommittee on State Foreign Operations and Related Programs

FY2006 Appropriations
Aquatic Nuisance Species Dispersal Barriers: $0.400M (USACE)
National Ballast Water Guidelines and Prevention Program: $4.0M
Ballast Technology Demonstration Program: $0.25M (USFWS); $3.5M (NOAA)
State Management Plans (USFWS) and Regional ANS Panels: $1.075M (USFWS); $0.300M (Panels)
Sea Grant Research: $2.963M

Progress to Date

Dispersal Barriers: Operation of a demonstration barrier in the Chicago Sanitary and Ship Canal began in 2002; progress, however, has slowed as authorization for this project expired in 2002. USACE received authorization for $400,000 of emergency funding in June 2006, which is not enough for completion of the barriers or their operation and maintenance.

U.S. Coast Guard Ballast Water Management Program: In 2004 and 2005, the U.S. Coast Guard (USCG) established a national mandatory ballast water management program for all vessels equipped with ballast tanks that and voluntary best management practices for vessels entering the Great Lakes that declare No Ballast Onboard (NOBOB). Ballast water discharge treatment standards are under development, but are not yet in place for ships in the "ballasted" or "no ballast" conditions.

Great Lakes Panel on Aquatic Nuisance Species: Established under NANPCA in 1991 as a multijurisdictional entity, the Great Lakes Panel has promoted information and education, research and policy responses to AIS problems in the region; these management tools are also used as models in other regions of the country.

State Management Plans for AIS Prevention and Control: NANPCA encourages development of state management plans (SMPs) to implement AIS prevention and control programs by providing cost-share funding for those states with plans approved by the national ANS Task Force. States operating with approved SMPs include: New York (1993), Michigan (1996), Ohio (1997), Illinois (1999), Indiana (2003), Wisconsin (2003), Pennsylvania (2007). Implementation status varies among the states.

Benefits to the Great Lakes Region

Funding and implementation of AIS prevention and control programs will advance management in the following areas:

- *Ballast water programs:* Mandatory ballast water control and management regulations for both ballast and NOBOB vessels;
- *State management plans:* Implementation of SMPs which aid in the prevention of AIS introduction and spread through recreational and commercial pathways other than ballast water;
- *Public education:* Outreach methods that target specific recreational and commercial groups;
- *Policy regulation and enforcement:* Mechanisms to ensure compliance with AIS programs at state, tribal and federal levels;
- *Watercraft inspection:* Educational programs to inform large numbers of boaters and anglers on best management practices for AIS removal and other prevention methods;
- *Early detection, monitoring and rapid response:* Innovative management strategies to enhance the capacity to anticipate, prevent and respond to new aquatic invasions before established as reproducing populations;
- *Predictive modeling:* Use of life history analysis and computer modeling to identify potential new invaders and their range;
- *Pathway and vector analysis:* Research to provide valuable information on the relative risk of geographic routes of introduction or spread and their mechanisms; and
- *Risk assessment:* Analysis on a quantitative basis to help managers determine the "invasiveness" of verified new species and identify their potential impacts on local industry, ecosystem and human health.

Links for More Information

- ***Great Lakes Aquatic Invasions*** **booklet:** www.glc.org/ans/aquatic-invasions
- **Great Lakes Panel on Aquatic Nuisance Species:** www.glc.org/ans/panel
- **National Aquatic Nuisance Species Task Force:** www.anstaskforce.gov/default.php
- **U.S. Coast Guard:** www.uscg.mil/hq/g-m/mso/ans.htm and www.uscg.mil/hq/g-m/mso/vrag.htm