

# The National Aquatic Invasive Species Act

*A sound investment in the ecological and economic future  
of the Great Lakes and our nation's waters*

The Great Lakes ecosystem, a highly valued freshwater resource, is world renowned for its sport and commercial fishing, recreation and tourism, transportation and manufacturing industries. Since the 1800s, more than 160 nonindigenous aquatic nuisance species (ANS) have invaded the ecosystem from around the world, causing severe economic and ecological impacts.

Zebra mussel infestations in the Great Lakes and inland waters illustrate the severity of problems stemming from ANS introduction and spread. This nonindigenous mollusk is an efficient filter feeder that competes with native mussels and impacts fish populations by reducing food and available spawning habitat. The utility and manufacturing industries around the region, depending on Great Lakes water for production, are expending substantial time and money cleaning intake and discharge pipes clogged by the zebra mussel. The U.S. Fish and Wildlife Service estimates the economic impact to these industries to be \$5 billion dollars over the next decade.

Freshwater and marine ecosystems across the nation are plagued with a variety of ANS problems. To sustain the value of our nation's waters, particularly the Great Lakes, the doors must be shut to prevent further ANS invasions. The time has come to interrupt the most pervasive pathways of ANS introduction and spread, such as ballast mediated introductions, aquaculture releases, horticultural practices, commercial and recreational boating and angling activities, among others.

Congress has addressed the ANS issue through the Nonindigenous Aquatic Nuisance Prevention and Control Act of 1990 (NANPCA) and its reauthorization through the National Invasive Species Act of 1996 (NISA). While progress under this legislation has been made, there are a number of persistent and complex problems that still need to be addressed to prevent and control further ANS introduction and spread. To this end, the National Aquatic Invasive Species Act (NAISA) has been introduced in Congress.

The Great Lakes Panel on Aquatic Nuisance Species was established under NANPCA to identify priority issues for the binational Great Lakes region regarding ANS problems. The Panel – comprised of representatives from government (state, provincial, federal, tribal), business and industry, universities, citizen environmental groups and the larger user community – is a multijurisdictional entity representing stakeholder interests across the region. *The following consensus-based recommendations were developed by Panel members to advance ANS prevention and control in the Great Lakes ecosystem. In offering these recommendations, the Panel welcomes passage of NAISA and full funding for its implementation.*

## Priorities of the Great Lakes Panel as addressed in NAISA

**Coordination:** ANS prevention and control programs demand coordination in areas of policy and legislation, research, management, and information, education and outreach. Multijurisdictional coordination to address transboundary and ecosystem challenges between the United States and Canada is essential.

- Empower state, regional, national and international entities with the authority and resources needed to implement legislative mandates as well as incentives to operate on a cooperative basis
- Provide funding needed by the states to develop and implement comprehensive ANS state management plans that are compatible regionally and nationally
- Provide funding for regional ANS panels to continue prevention and control efforts that promote cooperation across the nation

**Prevention of ANS introductions by vessels:** Ballast water of commercial vessels is a leading pathway of ANS introductions. A mandatory ballast water exchange program for the Great Lakes, established under NISA has helped reduce ANS introductions through ballast. However, a large portion of vessels entering the Great Lakes are classified as NOBOBs (no ballast on board) and therefore are not subject to ballast exchange regulations. NOBOB vessels still pose a threat to the ecosystem. Residual water and sediment house ANS in NOBOB ballast tanks that are resuspended when the ship takes on Great Lakes water for ballast. As a result, ANS can be discharged back into the environment.

- Develop and implement ballast exchange verification requirements, whereby all ships entering U.S. waters must report to the U.S. Coast Guard on ballast water source and status, including coastwise and foreign arrivals



Zebra Mussels. Photo: Simon van Mechelen, University of Amsterdam

- Require all ships, including NOBOBs, to develop and implement management plans to ensure safe and effective means by which the ship will minimize the introduction and transfer of invasive species
- Establish performance-based ballast water standards that can be measured and enforced on a national level, providing incentives to industry to meet these standards
- Provide funding for research and development to enhance ballast water treatment technologies

**Prevention of ANS introductions through pathways other than ballast water:** ANS introduction and spread also can be attributed to smaller, water-based commercial and recreational enterprises, including the aquaculture industry, aquarium trade, biological control, recreational boating, recreational fisheries enhancement, bait business and horticultural practices. Invasive species can be introduced far and wide by these pathways, leading to aquatic invasions within inland lakes and rivers of the Great Lakes basin.

- Evaluate the relative risk of commercial and recreational pathways for introduction and dispersal of ANS and develop best management practices to target those pathways
- Implement an enforceable screening program to oversee the planned importation of live organisms reducing the risk of harmful invasions

**Early detection and monitoring, coordinated with rapid response planning:**

The success of ANS eradication and control is enhanced if invasive species are detected shortly after introduction while population densities are relatively low and have limited range. Rapid response plans are needed to orchestrate coordinated implementation of eradication and control measures, applied in an expeditiously targeted manner.

- Establish public awareness programs and communication networks to facilitate effective monitoring, early detection and rapid response programs
- Provide funding and other assistance for early detection and rapid response initiatives that will assist the region in mobilizing an emergency response network for addressing potential invasions
- Develop protocols and sampling techniques for early detection and monitoring
- Support efforts to develop, test and implement rapid response containment and eradication/control measures



Bighead carp. Photo courtesy of Mike Guerin, thejump.net

**Containment and control of ANS populations:** Every effort must be made to contain and control established ANS populations in the Great Lakes due to potentially devastating impacts, including the displacement of native species and the associated threat to biodiversity. Also, efforts need to be focused on prospective invaders, such as the Asian carp, poised for introduction into the Great Lakes through the Chicago Sanitary and Ship Canal – the sole aquatic link between the Great Lakes and Mississippi River basin.

- Develop biological, chemical, physical and/or integrated management control options that are environmentally sound and protect non-target species, especially those listed as threatened or endangered
- Increase funding for the electrical dispersal barrier system in the Chicago Sanitary and Ship Canal to cover costs of permanent operation and maintenance, monitoring and evaluation, and upgrades that include the addition of a second barrier

**Information, education and outreach:** To protect the ecological and economic health of the Great Lakes region from ANS invasions, it is critical to increase awareness and understanding of nonindigenous aquatic nuisance species, their impacts and activities that can be practiced to advance prevention and control.

- Inform state and federal legislators of ANS problems and the need for large-scale funding to implement solutions to these problems
- Implement outreach programs that promote commercial and recreational practices to prevent ANS introduction and spread, such as watercraft inspection and proper disposal of live bait, aquarium, water garden and ornamental species



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