

Aquatic Invasive Species Update

Prepared by Sarah LeSage, Aquatic Biologist and Aquatic Species Program Coordinator

The aquatic invasive species (AIS) issue:

Michigan's aquatic ecosystems are under assault by AIS that are already here and are threatened by new invasions. The introduction of AIS into the Great Lakes and inland state waters is a source of biological pollution that threatens not only the ecology of the region and states' water resources, but also the economic, societal and public health conditions of the region and states. These aquatic invasive species (AIS) compete with native species for food and habitat, and can directly or indirectly kill or displace native species, degrade habitat and alter food webs. AIS can also have significant economic effects on waterfront property values, tourism, utilities and other industries.

AIS enter Michigan waters through various vectors such as maritime commerce (e.g., ship ballast water and hull fouling), fishing and aquaculture, canals and diversions, the trade of live organisms, and tourism and development activities. Currently, 182 AIS are *known* to have been successfully introduced into the Great Lakes watershed since the 1800's.

A few highlights of what the State of Michigan is doing to combat aquatic invasive species (not a comprehensive list):

- **Ballast Water Control**

The largest number of AIS introduced into the Great Lakes Basin coincides with the expansion of the St. Lawrence Seaway in 1959, which allowed greater transoceanic shipping traffic. Ballast water from ocean-going ships is regulated by both the United States Coast Guard and the USEPA. The State of Michigan challenged the USEPA permit that includes ballast water regulation and argued the USEPA unlawfully failed to regulate the discharge of oceangoing vessels in the Great Lakes in a manner that satisfies Water Quality Standards and protects waters from AIS in its permit. Michigan entered a legal settlement agreement with USEPA in February 2011. The USEPA intends to issue the next federal draft permit by 11/30/11 and a final permit by 11/30/12. In addition, Michigan has a state permit for ocean going vessels. This permit expires 1/1/12 and the DEQ is currently working on drafting the next permit. For more information contact Sara LeSage, DEQ Water Resources Division at lesages@michigan.gov or (517) 241-7931.

- **Asian Carps (Bighead and Silver Carps)**

The introduction of Asian carp poses a significant risk to the Great Lakes Ecosystem. Asian carps may enter the Great Lakes via migration through waterways that connect the Mississippi River watershed to the Great Lakes

watershed or through other pathways such as illegal transport and release of the bait industry. In October 2010, the DNR published the “Proposed Plan for the Prevention, Detection, Assessment, and Management of Asian Carps in Michigan Waters.” This document is a plan for Michigan to address potential monitoring and assessment needs for Asian carp. Michigan participates in the Asian Carps Regional Coordinating Committee, which is comprised of federal, state, and local agencies as well as other agencies/organizations. This committee prepares “The Asian Carp Control Strategy Framework” that outlines the actions that will be implemented to control Asian carp migration. Legal actions by Michigan and other Great Lakes States to prevent further migration of fish began in December 2009. Most recently, in late August 2011, there was a court ruling against Michigan and co-plaintiff states that denied our motion for immediate actions to close the Chicago locks. The court case will now go to trial. For additional information see the DNR Fisheries Division website www.michigan.gov/dnrfisheries or contact Fisheries Division at (507) 373-1280

- AIS State Management Plan and Great Lakes Restoration Initiative Funding
Michigan’s first AIS plan was approved in 1996 and then updated in 2002. The plan is currently under revision again. The comprehensive AIS State Management Plan update outlines new actions that need to be implemented, in addition to existing efforts that need to be maintained and enhanced, in order to adequately prevent the introduction of new AIS, prevent the spread of AIS, and abate the harmful effects of AIS in Michigan waters, including the Great Lakes, connecting channels, rivers and streams, inland lakes and wetlands. This Plan identifies strategic actions in categories including legislative and policy, regulation (including compliance, enforcement and inspection), information and education, research and monitoring, and early detection and rapid response. Non-native, aquatic biological organisms including microorganisms (pathogens), invertebrates, algae, aquatic vascular plants, fish, and parasites that may become invasive in Michigan waters and cause harm to the ecosystem, environment, economy, or human health are considered using a vector and pathway approach. Development of the updated plan will include incorporation of input from stakeholders. The final updated plan is expected in 2012.

The State of Michigan has received funding from the federal Great Lakes Restoration Initiative to address priority AIS actions. Michigan’s work plan for this GLRI grant focuses on establishing a more formal, cohesive AIS Program, updating the AIS state management plan, and implementing priority activities in the plan. A full time AIS Program Coordinator was established as well as an inter-departmental AIS Program with representatives from each of the state agencies with environmental or natural resource responsibilities: DEQ Water Resources Division and Office of the Great Lakes; DNR Fisheries Division, Wildlife Division, Parks and Recreation Division, and Law Enforcement Division; DARD Pesticide and Plant Pest Management Division, and MDOT Project Planning Division. For more information contact Sarah Le Sage, DEQ Water Resources Division at lesages@michigan.gov or (517) 241-7931.

- Aquatic Plant Control

Some types of plants are AIS, including Eurasian Watermilfoil. Excessive AIS plant growth can affect aquatic ecosystems as well as interfere with recreational and economic interests. A number of strategies may be employed to control nuisance plants including biological, chemical, and mechanical methods and permits may be required to conduct some types of removal. In particular, permits are required to chemically control nuisance aquatic plants, algae and swimmers' itch. Program staff regulate the use of pesticides through the permit process. Each application for a permit must undergo a thorough review to assess the environmental impact to the water body, and any human health and safety issues. Program staff also review new chemical products proposed for use in Michigan waters, survey Michigan lakes to determine the composition of the native plant community and any presence of exotic plant species, and seek to educate riparian property owners about the management of aquatic plants and a variety of related lake management issues. For more information, see the DEQ-Aquatic Nuisance Control Program web page at the following: www.michigan.gov/deqinlandlakes ; call (517) 241-1554; or email deq-wrd-anc@michigan.gov.

- Menominee River Watershed Zebra and Quagga Mussel Monitoring Project

In recent years, zebra mussels have become established in several lakes in Michigan's western UP, and many more lakes are susceptible to an invasion of non-native mussels because of suitable water chemistry and the transport of boats between lakes. Quagga mussels are another invasive species with potential to invade lakes. Native mussels will feel the greatest and most immediate impact of zebra or quagga mussel infestation, yet we know very little about the native mussels that inhabit Michigan's inland lake systems.

A two-year project is ongoing in the Menominee River Watershed and north-Eastern Wisconsin that addresses zebra mussels in lakes and streams through education, research, and management. Funding for that effort comes from the Wisconsin DNR. As a companion project, the Michigan DEQ initiated monitoring in 2011 for zebra and quagga mussels as well as native mussels in lakes in the Menominee River Watershed. Information about zebra mussel and quagga mussel populations resulting from this project will be available for use by agencies and local interest groups in the future to target education efforts preventing the further spread of these invasive species. For more information contact Sarah LeSage, DEQ Water Resources Division at lesages@michigan.gov or (517) 241-7931.

- Proposed Aquatic Invasive Species Bills in the Michigan Legislature

Three bills (508-510) were introduced in the Michigan Senate in June, 2011. The bills would create an AIS Advisory Council that would make recommendations/prepare reports on the AIS State Management Plan update, organisms in trade, and ballast water regulation. For more detailed information see the bill analysis at www.senate.michigan.gov/sfa/

- Terrestrial Invasive Species contact DNR Wildlife Division