



Can We Stop Aquatic Hitchhikers? Yes, Here's How – A Primer on AIS Prevention and Control Methods

by New York Sea Grant Launch Steward Clinton A. Whittaker, Jr.

Aquatic invasive species (AIS) are non-native species that can cause harm to the environment, economy or human health. AIS are an increasing problem threatening ecosystems all across the U.S. Locally in New York State, Oneida Lake and the eastern and southern shores of Lake Ontario are being affected by AIS, including Eurasian water milfoil and European water chestnut.



*This citizen assists a water chestnut pull on Oneida Lake.
Photo: Nick Spera, NYSG Launch Steward*

AIS can reduce property values, disrupt ecosystems, and cause trouble for anglers and recreational boaters. AIS typically outcompete native species, ultimately reducing species richness and abundance; increase organic and decaying material in the aquatic environment; and change food webs. European water chestnut, for example, can create oxygen dead zones, making areas unsuitable for fish. Eurasian water milfoil and curly leaf pondweed create dense mats of foliage that make boating impossible. When these mats grow and/or float along shorelines and beaches, they can ruin recreational hotspots and have the potential to decrease property values.

The design and implementation of an AIS control plan depends on a number of factors, including the species, its characteristics, the size of the AIS population, and location. Property owners and resource managers commonly use a combination of control methods in their AIS control plan. Those methods include prevention, and physical, mechanical, chemical and biological means. See the reverse side of this profile sheet for more detail on each method.

It is possible to contain, suppress, and, in some rare cases, eradicate AIS infestations as they pop up, but management takes time and money. Because some control methods can be expensive and labor intensive, education measures, such as the New York Sea Grant Launch

Steward Program, are important as cost-effective ways of engaging the public in the prevention of AIS. For more information on AIS and the Launch Steward Program, contact New York Sea Grant Coastal Community Development Specialist Mary Penney at mp357@cornell.edu, 315-312-3042, www.nyseagrant.org.



**STOP AQUATIC
HITCHHIKERS!**

The statements and views expressed in this publication are those of the New York Sea Grant Launch Stewards who are student authors. 9/2013

AIS Control Methods

Prevention

- Uses outreach and education
- Typically less expensive than other methods
- Goal is to keep pristine area waters clean & contain AIS to infested areas only
- Example: NYSG Launch Steward Program teaches **Clean, Drain, Dry** practices: how to look for, remove & dispose of AIS from motorized/non-motorized vessels before entering/leaving waterbodies



NYSG Launch Steward Brittney Rogers shows James Monica and Devon Simons curly leaf pondweed (AIS) removed from their boat.

Photo: Megan Pistolese, NYSG Launch Steward

Physical Control

- Uses manpower to physically remove AIS; inexpensive if volunteers are used
- Requires a multi-year commitment
- Example: Water Chestnut hand pulls on Salmon River and Oneida Lake

Mechanical Control

- Uses machinery, e.g., aquatic weed harvesters
- Requires a multi-year commitment
- Expenses: machine upkeep, fuel, operational manpower
- Example: Wayne County Soil & Water Conservation District weed harvesting program for Sodus Bay



Mechanical weed harvester on Sodus Bay. Photo: Mary Penney, NY Sea Grant

Chemical Control

- Uses herbicides to control AIS vegetation
- Requires a multi-year commitment
- Nondiscriminatory, can kill non-target species
- Example: Cayuga Lake Inlet *Hydrilla* control program

Biological Control

- Introduces a natural predator of an AIS species into the infested environment
- Requires a number of years (sometimes decades) to conduct extensive research under controlled conditions before a biological control agent can be used
- Requires pre-release research to avoid predation on non-target species
- Example: Root-mining weevil and leaf-eating beetle species to control purple loosestrife at Black Pond and Sandy Pond



FOR MORE INFORMATION

New York Sea Grant
Launch Steward Program
315-312-3042
www.nyseagrant.org



**STOP AQUATIC
HITCHHIKERS!**

Prevent the transport of nuisance species.
Clean all recreational equipment.
www.ProtectYourWaters.net