

## 2011 New York Sea Grant Aquatic Invasive Species Education Series

### **Native or Invasive?**

#### **Part I: Invasives threaten native species**

By New York Sea Grant Resource Educators  
Greg Chapman and Stacy Furgal

*This article is the first in a three-part series exploring the impacts of aquatic invasive species. Part I introduces the impact of invasive species on the Lake Ontario ecosystem; Part II focuses on the importance of native fish species; Part III highlights native and invasive aquatic plants.*

Public awareness of aquatic invasive species and their negative impacts on the environment and recreation is on the rise. Anglers, landowners, recreational boaters and others who enjoy our lakes and streams have felt the impact of some invasive species already. Learning to recognize invaders before they overwhelm an area is a crucial part of reducing their impact. Understanding native species, their role in the environment, and the threat of invasive species to them is equally as important.

So, what exactly is an “invasive species?” In broad terms, it can be defined as a non-native species that does, or likely will, cause economic or environmental harm, or harm to human health.

More than 185 non-native plants and animals have entered the Great Lakes and St. Lawrence River ecosystems in the past 200 years, according to Cornell Cooperative Extension Invasive Species Program Director Chuck O’Neill.

The results of aquatic invasive species becoming established in a new ecosystem can be very costly. According to the US Fish and Wildlife Service, the economic impacts of zebra mussels over the next decade could be in the billions of dollars for the Great Lakes region alone.

Zebra mussels, for example, are highly efficient filter feeders and have significantly increased water clarity in Lake Ontario. Visually this may be appealing and good for freshwater diving enthusiasts. The effect, however, is a result of the suspended plankton being consumed – meaning less food will be available for other plankton-eating organisms such as native juvenile fish.

Invasive aquatic plants are impacting many of New York’s lakes and streams. One example is water chestnut, an aquatic plant that forms dense mats that limit light penetration, makes boating and recreating difficult, and has little to no value as food or habitat for fish and wildlife.

Water chestnut and other aquatic invasive plants often displace native plants, many of which serve as food, breeding habitat and shelter for native fish and wildlife. With so much of the plant growing above the water, water chestnut releases oxygen into the atmosphere rather than into the water as many submerged aquatic plants do. This reduces the amount of dissolved oxygen available for fish and other organisms.

For these reasons and many more, it is important for citizens to be on the lookout for aquatic invasive species, and to appreciate the presence of our native aquatic plants and animals. It should be easier to spot the arrival of a new aquatic invasive species if you already recognize the types of native organisms expected in a particular habitat.

Part II of this series will focus on the Lake Ontario region's native and invasive fish species. Part III explores the native-invasive aquatic plants competition.

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*New York Sea Grant is celebrating its 40<sup>th</sup> anniversary of "Bringing Science to the Shore" this year. Learn more at [www.nyseagrant.org](http://www.nyseagrant.org).*

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