

From There to Here

People are often the cause of ANS moving from one place to another. There are several ways new species are introduced to PA and neighboring waters.

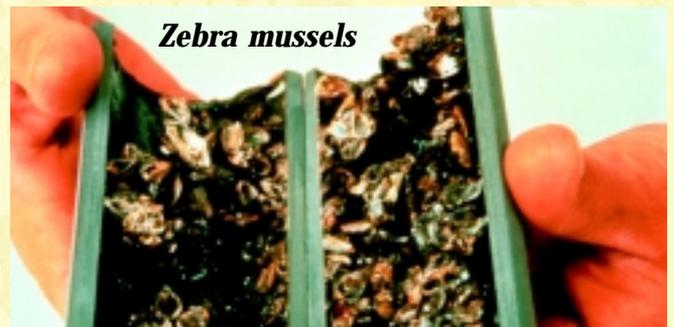
Ballast water is a major pathway for new aquatic organisms. Ships transporting goods carry water on board in tanks. Water is pumped into these tanks to help keep the ship level. This water is called "ballast." Ships take on ballast in one country, maybe from another corner of the world, and release it into ports when delivering goods. This ballast water often contains ANS as stowaways. Round gobies and zebra mussels have been introduced to the Great Lakes from other parts of the world through ballast water.



According to an article in the April 2001 issue of *Aquatic Nuisance Species Digest*, "It is estimated that every minute, 40,000 gallons of foreign ballast water are dumped into U.S. waters. It is also estimated that on any day, as many as 3,000 aquatic species, ranging in size from bacteria to fish, are moving around the earth in ballast-water tanks."

People fishing or boating in water already infested with ANS often aid in the spread of ANS to other waters. This spreading is often accidental and preventable. ANS may stow away in livewells or bilge water. Plants and zebra mussels may also cling to trailers and outboards. Launching that boat into an uninfested waterway may be all it takes to introduce ANS into that water.

Releasing pets or unused fishing bait is another often accidental way ANS are introduced. Red-eared slider turtles are the best example of this kind of release. These turtles aren't native to Pennsylvania, but through releases of pets, they are now abundant.



When an ANS invades a new ecosystem, it affects the system in one of several ways. First, the population grows, often unchecked because of the lack of predators. Biologists use the term "invasive" to describe this happening. ANS may be new predators in an ecosystem. ANS are also competitors. They compete with native species for food, shelter and living space. Often, as in the case of zebra mussels, native clams and mussels are crowded out. Zebra mussels are also efficient filter feeders. They compete with native fish and other invertebrates.

All these events affect biodiversity. In one lake in Africa, the introduction of a non-native fish in the late 1980s resulted in the extinction of more than 200 fish species found only in that Lake.

Today, with our global economy and ease of travel, people are moving ANS around the world. Laws and regulations set by Pennsylvania have little effect. They most often only reduce the spread. ANS is a global issue, one that puts the biodiversity of our state at risk.