

<p>1. Have you heard about aquatic nuisance species like zebra mussels and round gobies?</p> <p>If yes, where did you hear about them?</p>
<p>2. Can boaters and anglers take action to prevent the spread of ANS between waterbodies?</p> <p>If yes, what can they do?</p>
<p>3. Do you take any precautions when transporting your boat to/from different bodies of water?</p> <p>If yes, what kind of precautions do you take?</p>
<p>4. Have ANS caused problems for you or affected your recreational experience during the past year? How?</p>
<p>5. If it were available, would you like to receive more information about ANS?</p>
<p>6. What would be most effective way to receive this information?</p> <p style="text-align: center;">Mail Internet Brochures Posters/signs at public access sites</p>
<p>The last few questions are for statistical purposes only. If you'd prefer not to answer, that's ok!</p>
<p>1. Sex Male Female</p>
<p>2. What year were you born?</p>
<p>3. How many people are in your household?</p>
<p>4. What is your highest level of education?</p> <p>High School Some college Bachelor's degree Advanced/Professional Degree</p>
<p>5. Is your household income above \$60,000 per year?</p> <p style="text-align: right;">Yes No</p>

Thank you very much for participating in this survey! Here is some information about zebra mussels and round gobies. If you'd like more, please contact PA Sea Grant or the Pennsylvania Coastal Zone Management Program.

Pennsylvania Recreational Boating: Pathways to ANS Prevention

Kirstin Wakefield, PA Coastal Zone Management Program

With 83,161 miles of streams and rivers, 3900 lakes, ponds, and reservoirs, and Lake Erie and Delaware Estuary coasts right on our doorstep, Pennsylvania’s recreational boaters have an enormous potential to transfer aquatic nuisance species (ANS) accidentally between coastal and inland waters. In fact, recreational boating may be one of the most significant pathways through which ANS are introduced. Fortunately, it may also be one of the most preventable.

Pennsylvania Sea Grant, PA Coastal Zone Management Program, and the PA Fish and Boat Commission recently conducted a survey to examine boater’s awareness of ANS and assess the risk of introductions through the recreational boating pathway. The 26-question survey was mailed out to 800 registered boaters; 47% responded.

We found overall boater awareness of ANS to be very low. Although 75% of boaters were informed about zebra mussels, few had heard of Eurasian watermilfoil, flathead catfish, purple loosestrife, round gobies, or rusty crayfish that are also present in many of Pennsylvania’s waterways (Fig. 1). Because knowledge of ANS and the perceived importance of preventing the spread of ANS are strongly correlated, it’s evident we need to provide better education on ANS via the media sources boaters reported using most frequently: newspapers, magazines and newsletters, fishing regulation and boating registration pamphlets, and television programs.

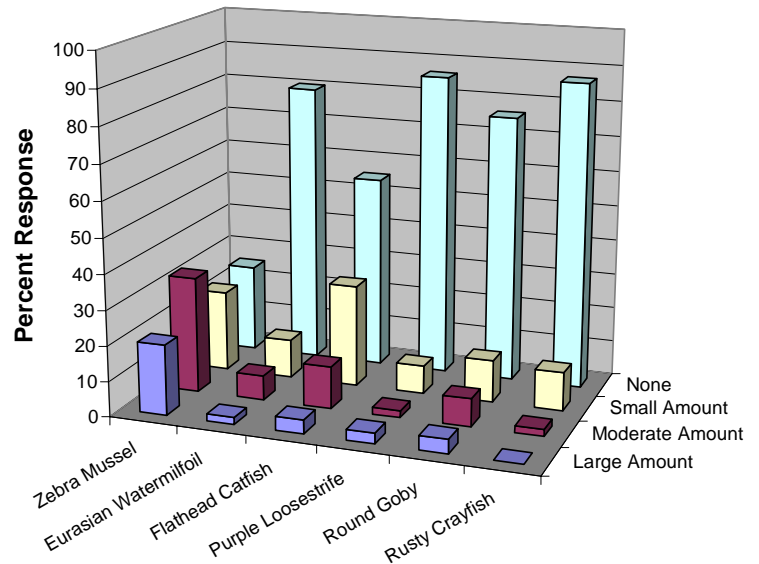


Figure 1. Amount of Information Boaters Have Heard or Read about ANS

The survey also demonstrated that Pennsylvania boaters are well traveled, increasing the potential for spreading ANS to new waterways. While the average boater took four out-of-state trips in the 2002 season, a small percent took as many as 50 trips per season! These “super boaters” may present a higher risk of introducing ANS to uninfested waterbodies if they don’t take routine precautions such as power washing the boat or letting it dry for five days between launchings. In addition, the range of states boaters visited includes Canada, Florida, Maine, and Montana (Figure 2.). This represents the potential pool of non-native species that could be transported into Pennsylvania waters.

So what exactly is the level of risk for new introductions associated with recreational boating? 56% of respondents said they don't take any special steps to prevent the transport of water or ANS between water bodies before launching the boat. This means that of the 350,000 registered boaters in Pennsylvania, 196,000 may not take any precautions to limit the spread of ANS. If each of those 196,000 boaters travels out-of-state four times and launches their boat back in Pennsylvania waters, then $\frac{3}{4}$ of a million potential introductions could occur each season!

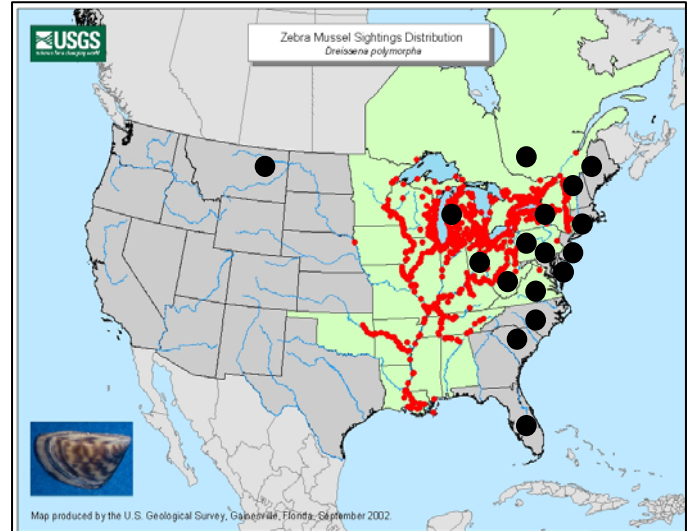


Figure 2. Pennsylvania Boaters Recreational Boating Destinations in 2002.

Interestingly, when we asked boaters why they didn't take precautions, boaters most frequently chose the response, "I don't know exactly what I'm supposed to do." The US Coast Guard's recommended actions to prevent the spread of ANS include:

- Removing visible aquatic plants, animals, and mud from boats and equipment
- Draining water from boats, live wells, bilges, and bait buckets while on land, before boating in other waters
- Avoiding release of unwanted live bait into the water
- Rinsing boats with a pressure washer, hot water (104°F), or at a carwash
- Allowing boats and equipment to dry for at least five days

If Pennsylvania boaters learn what steps to take and gain a better understanding of the connection between routine boat maintenance and ANS prevention, then the risk of future introductions will be greatly reduced. Our boaters already express a strong desire to keep ANS out of local waters; 74% said they would be very likely to take precautions in the future when boating on infested waters. Our job is to make sure boaters know exactly what precautions they can take to close this pathway to future ANS introductions.

Boaters -- Do your part. Protect your waters!

For more information on ANS, please contact Pennsylvania Sea Grant or your local Fish and Boat Commission Office.

