NIH GREEN ZONE NEWSLETTER

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Invasive Species within the United States

Invasive species are estimated to cost the U.S. up to $120 billion per year in economic losses and control measures.[1] Additionally, 42% of the species listed as endangered or threatened are at risk due to invasive species.[2] According to the U.S. Government definition, invasive species are classified as species that are non-native to an ecosystem whose introduction is likely to cause harm to the economy, environment or human health.[3] It is important to distinguish invasive species from all non-native species, which do not necessarily have a negative impact on their new ecosystem. In fact, non-native species (but not invasive species) like corn, wheat, rice, poultry and cattle account for roughly 98% of the U.S. food system.[1] The negative impacts associated with invasive species generally stem from out-competing other species, thus interrupting the established food chain, decreasing biodiversity and a host of other effects.[2]

Invasive species can take the form of plants, animals and even pathogens.[4] Animal invasive species are often the most widely-known, such as the zebra mussel, the European starling, the emerald ash borer and the northern snakehead fish.[5] However, plants like kudzu, golden bamboo and purple loosestrife and pathogens like Dutch elm disease and West Nile virus are also considered invasive species.[5]

As an example of the effects of invasive species, look no further than the seemingly innocuous zebra mussel. This species was first introduced to the Great Lakes in the mid-1980s and has since rapidly colonized those bodies of water and many others in the United States.[6] The density of zebra mussels in these affected areas can be over 100,000 individuals per square meter.[6] The overwhelming numbers and feeding efficiency of zebra mussels has led to severe decreases in the population of the plankton that feed native mussels and many species of fish.[6] As a result, many native mussels have now become threatened or endangered and some fish species are showing signs of decline.[6] In addition, zebra mussels are lowering the dissolved oxygen content in their ecosystems, which affects all species that live in the water.[6] Zebra mussels also have direct financial ramifications through clogging water intake pipes from affected areas.[6] It is estimated that zebra mussels cost the Great Lakes region $5 billion per year in economic impact and efforts to control their population.[4] The zebra mussel population has also been increasing in the Upper Chesapeake Bay in recent years.[7]

All NIH campuses play a vital role in protecting the environment from invasive species. On NIH campuses, we are federally mandated by Executive Order 13112 to prevent the introduction of invasive species and control existing populations. On the Bethesda campus, plant invasive species represent the greatest threat and are handled by Mr. Brandon Hartz (our landscape architect) and the contract grounds crew. The four most prevalent invasive species are Canada thistle, porcelain berry, English ivy and amur honeysuckle. Please read our "Take Action" article to learn how to identify these plants and report any findings to Brandon Hartz immediately with as much detail about the location as possible. By increasing the number of eyes on the watch for invasive species, we can hopefully avoid future outbreaks and the associated negative impacts. Also, we should stay informed about potential new threats from invasive species, like the first spotted lanternfly being sighted in Maryland!

TAKE ACTION

How to Identify Invasive Species on NIH Campuses

Four invasive plant species currently pose the largest problem on the NIH Bethesda campus: Canada thistle, porcelain berry, English ivy and amur honeysuckle. Read inside to learn more about these plants and how you can help by identifying their presence on campus.

LEARN MORE

SPOTLIGHT

Volunteer Programs for Controlling Invasive Species

Invasive species pose a threat across the entire United States and require many volunteers to track their populations. In this article, we describe some of the groups that are dedicated to monitoring and controlling invasive species. Please consider volunteering with one of these or a similar group to make a difference against invasive species!

LEARN MORE

NEMS TRAINING

Did you know? English Ivy was first planted at the NIH to provide an attractive groundcover that would help combat soil erosion. This plant has since been classified as an invasive species, which highlights the care we must take when moving species to new ecosystems. To learn more about nature at the NIH, please visit the NEMS Training webpage to view a short (20 minute) NIH environmental awareness training video.

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