

# Invasive Species



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Invasive species affect each of our lives, all regions of the U.S., and every nation in the world. Society pays a great price for invasive species - costs measured not just in dollars, but also in unemployment, damaged goods and equipment, power failures, food and water shortages, environmental degradation, increased rates and severity of natural disasters, disease epidemics, and even lost lives. Stimulated by the rapid global expansion of trade, transport, and travel, invasive species and their costs to society are increasing at an alarming rate.

For centuries, people have



Figure 1: Nutria

moved organisms around the world. Plants and animals, and their products, are imported into the U.S. to be used, for instance, as food, construction materials, ornamental plants, livestock, and pets. Organisms that have been moved from their native habitat to a new location are typically referred to as “non-native,” “nonindigenous,” “exotic,” or “alien” to the new environment. Most U.S. food crops and domesticated animals are non-native species, and their beneficial value is obvious - for instance, managed livestock are examples of non-native species which are not invasive. Many other non-native species are simply benign. However, a small percentage cause serious problems in their new environments and are collectively known as “invasive species”.

An “invasive species” is defined as a species that is 1) non-native (or alien) to the ecosystem under consideration and 2) whose introduction causes or is likely to cause economic or environmental harm or harm to human health. The means and routes by which invasive species are imported and introduced

into new environments are called “pathways.” Some non-native organisms that are



Figure 2: Purple Loosestrife

intentionally imported escape from captivity or are carelessly released into the environment and become invasive. While most importations are legal, smuggling of invasive species also occurs. Some invasive species arrive as hitchhikers on commodities such as produce, nursery stock, and livestock. Other invasive species are stowaways in transport equipment, such as packing materials or a ship’s ballast water.

One report indicates that the economic cost of invasive

species to Americans is an estimated \$137 billion every year (Pimentel et al. 2000). The Formosan termite costs an estimated \$300 million in property damage annually in New Orleans (Bordes pers. comm.). Habitat loss due to invasive species is estimated to be approximately 2 million acres per year in the United States.

Up to 46% of the plants and animals Federally listed as endangered species have been negatively impacted by invasive species (Wilcove et al. 1998). While purple loosestrife has beautiful purple flowers, it also diminishes waterfowl habitats, alters wetland structure and function, and chokes out native plants. The Asian longhorned beetle, which probably arrived in solid wood pallets made in China, is causing the destruction of valuable city trees and could spread to natural forests. The nutria, a large rodent native to South America originally imported for a private zoo, now exists in the wild and is devastating large portions of

***“Working with others to provide the scientific understanding and technologies to support the sound management and conservation of our Nation's biological resources.”***



Figure 3: Asian longhorned beetle

wetland ecosystems.

The newly introduced West Nile virus, an invasive virus which is transmitted to humans by mosquitoes that feed on the blood of infected animals, now threatens people and animals in 12 eastern States and the District of Columbia. Cholera and some of the microorganisms that can cause harmful algal blooms along the U.S. coast are moved in the ballast water carried by large ships. Imported red fire ants cause painful and potentially deadly stings to humans, livestock, and pets in the southern U.S.

Farmers, ranchers, scientists, State officials, and many others have urged the Federal government to consider invasive species issues a priority and to develop a coordinated national effort to address the problem. In response, the President issued Executive Order 13112 on Invasive Species in February 1999. The order established the National Invasive Species Council a group of eight

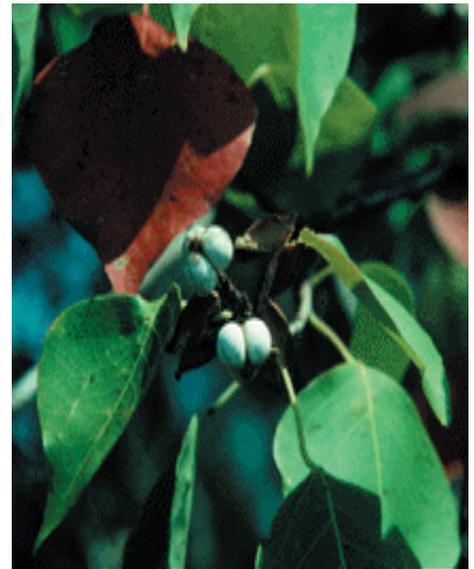


Figure 4: Chinese Tallow

departments, which has developed a national plan for managing the invasive species problem.

To learn more, you may wish to refer to the following web site:

[www.invasivespecies.gov](http://www.invasivespecies.gov)

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