

Invasive Exotic Plants

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 Problem

Invasion by exotic species is thought to be second only to habitat loss as a threat to biodiversity. Not all exotic species are invasive, however. Corn, wheat, and oats are some examples of non-native plants which are not invasive and currently comprise the basis of the U.S. agricultural industry.

For centuries, people have been moving plants and animals around the world for use as ornamentals, food, medicines and construction materials. Invasive species have been introduced in a number of ways. Some were introduced intentionally; for example, purple loosestrife as an ornamental, Kudzu for erosion control and multiflora rose to improve wildlife habitat. One of the most important examples of an unintentional introduction is that of the chestnut blight fungus which changed the entire forest composition of the eastern U.S.

Characteristics of Invasive Exotic Plants

- Ability to grow under many different conditions
- Ability to quickly colonize disturbed ground
- Rapid maturation
- Reproduces rapidly by roots and shoots. If spread by seed, produces numerous seeds that disperse and germinate quickly.
- Has roots and rhizomes with large food reserves
- High photosynthetic rates – “greens up” earlier than native plants in the spring, thus gaining a competitive advantage
- Lacks natural predators, pathogens and parasites

Impacts of Invasive Exotic Plants

- Displacement of native species
- Reduction of host plants for native insects and other wildlife
- Replaces nutritious native plant foods with lower quality sources
- Prevents seedling establishment of native trees and shrubs
- Changes natural ecological processes such as plant community succession
- Disrupts native plant-animal associations such as pollination, seed dispersal and host-plant relationships

Pennsylvania's Noxious Weed Law

The PA Noxious Weed Law states that is illegal (accompanied by appropriate fines and penalties) to propagate, sell or transport the following plants within the Commonwealth:

1. Marijuana (*Cannabis sativa*)
2. Canada thistle (*Cirsium arvense*)
3. Multiflora rose (*Rosa multiflora*)
4. Johnson grass (*Sorghum halepense*)
5. Mile-a-minute weed (*Polygonum perfoliatum*)
6. Kudzu (*Pueraria lobata*)
7. Bull or Spear thistle (*Cirsium vulgare*)
8. Musk or Nodding thistle (*Carduus nutans*)
9. Shattercane (*Sorghum bicolor*)
10. Jimsonweed (*Datura stramonium*)
11. Purple loosestrife (*Lythrum salicaria*)
12. Giant hogweed (*Heracleum mantegazzianum*)
13. Goatsrue (*Galega officinalis*)

This list contains only those weeds thought to currently pose the greatest threats to human health, agricultural production and natural ecosystems. It does not include the many other plants known to be problematic and invasive. Additions or changes to this list require an act of the PA Legislature. Further information on the PA Noxious Weed Law may be found at the PA Department of Agriculture's website - www.agriculture.state.pa.us

Additional Information and Resources

PA DCNR Invasive Exotic Plant Management Tutorial
www.dcnr.state.pa.us/forestry/invasivetutorial/

The Nature Conservancy – Weed Management Methods
<http://tncweeds.ucdavis.edu>

Center for Invasive Plant Management
www.weedcenter.org

National Invasive Species Council
www.invasivespeciesinfo.gov

Mid-Atlantic Exotic Pest Plant Council
www.ma-eppc.org

Note: Information on this page was adapted from the DCNR Invasive Exotic Plant Tutorial for Natural Lands Managers by the Mid-Atlantic Plant Pest Council, Lisa L. Smith, Principal Investigator.