

Watch Out For Exotic and Invasive Species in Wisconsin's Forests

Standards Addressed

Environmental Education Standards:

- A. Questioning and Analysis: A.4.4.
- B. Knowledge of Environmental Processes and Systems: B.4.4.
- C. Decision and Action Skills: D.4.5.

Key Concepts/Content

- 🌲 To understand that the forest is an ecosystem that is a community of trees, plants, and animals that interact with one another.
- 🌲 To realize humans are a part of this ecosystem.
- 🌲 To realize human action has created some specific negative effects/impacts on these ecosystems.
- 🌲 To learn personal responsibility to avoid creating problems in the future and action to take in dealing with current problems.

Teacher Background

Several exotic and invasive plants and insects cause problems in Wisconsin's forests. Current efforts exist to keep them from domination and from upsetting the balance of the forest ecosystem.

Plants and animals such as common buckhorn and the gypsy moth are considered invasive species. Some invasive species are more damaging than others. Each has the potential to displace native plants or animals and alter the ecosystem.

Most of these invasive species were introduced from foreign countries where they were kept under control by native herbivores, predators, and diseases. When introduced into a new ecosystem, whether intentionally or accidentally, they may become very competitive with existing organisms. Often they are fast growing, efficient reproducers, and tolerant of a

wide range of habitat conditions. Indestructible seeds, ravenous appetites, and lack of predators are adaptations used to ensure their success often with severe consequences for people and the environment.

The issue of how to deal with invasive species is often controversial, costly, and sometimes impossible to control. Their introduction, spread, effects, and control are currently the subject of extensive debate and legislation.

Getting Ready

On the internet, visit the US Forest Service, Northeastern Area website at: <http://willow.ncfes.umn.edu/asianbeetle/beetle.htm>. Familiarize yourself with the information, especially the FAQs and “Wanted” poster.

Materials Needed

- ✿ Pencils, markers, crayons or any other art supplies for drawing.

Procedures

1. You may chose to have students work in pairs or small groups to complete this assignment. Ask students to visit the website and print a copy of the “Wanted” poster. Students will make their own “Wanted” posters using art supplies and display in the classroom or school.
2. Students will do research on the beetle mentioned in the website and report to their class. Why are people concerned with exotics? Where has the beetle been found? Is it easy to detect the beetle? What trees will beetles attack? What happended to the trees in Chicago?
3. Have students research and draw “Wanted” posters on other exotic and invasive species.

Research in Action

Scientists are trying to determine where in China the beetles come from. They do this by comparing DNA samples from China with captured beetles in the US. Scientists will also try to attract beetles to traps or sterilize the beetles. A new research area will use sonar equipment from submarines to listen in on trees to detect the beetle when visible holes and sawdust are not present.

Evidence of Student Understanding

1. Quality of "Wanted" Poster.
2. Teacher observation of student participation in classroom activities in research and presentation to class.

References/ Resources

- 📖 *Asian longhorn beetle website*
Northeastern Area State and Private Forestry
<http://willow.ncfes.umn.edu/asianbeetle/beetle.htm>.
- 📖 *Gypsy moth website:* http://willow.ncfes.umn.edu/pa_gypsymoth/gypsymoth.htm or http://willow.ncfes.umn.edu/fhh-94/wi_94.htm
- 📖 *EE News*, Spring 1999, vol. 15, No.3, Department of Natural Resources, Box 7921, Madison, WI 53707-7921.
- 📖 *Trees are Terrific* Ranger Rick's Nature Scope, National Wildlife Federation, 1400 16th St. NW Washington, DC 20036-2266.

