

Invasive Species in Minnesota

Education is the Key to Suppression and Control

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A growing number of invasive species have their sights set on Minnesota and the future may be very troubling. Whether we are discussing plants, insects or pathogens, the lists keep getting longer and Minnesota agencies are under increasing pressure to keep these attackers at bay. We, as stewards of the environment, must actively educate our staff, members and the general public about the challenges we face in the years ahead.

Below is just a partial list of some of the species already inhabiting the state or heading this way:

Pathogens

~ Sudden Oak Death

Animals/Insects

~ Emerald Ash Borer
~ Japanese Beetle
~ Banded elm bark beetle
~ Douglas fir beetle
~ Gypsy Moth
~ Asian Longhorned Beetle
~ Earthworms
~ Bark beetles

Plants

~ Cut-leaved Teasel
~ Mulberry
~ Canada thistle
~ Purple loosestrife
~ Eurasian watermilfoil
~ White/yellow sweet clover
~ Autumn Olive
~ Spotted knapweed
~ Garlic mustard
~ Curly-leaf pondweed
~ Japanese barberry
~ Leafy spurge

Invasive Species Facts:

~ More than 4,500 foreign species have gained a permanent foothold or taken root in the U.S. during the past century.

~ Invasive species contribute to the decline of 46% of the imperiled or endangered species in the U.S.

~ Invasive species are estimated to cost a total of \$137 billion annually in losses to agriculture, forestry, fisheries and the maintenance of open waterways in the United States.

You can help stop the introduction and spread of invasive species. Help protect native plants and animals by following these five easy guidelines (from the MN DNR website):

1. Verify that the plants you are buying for your yard, garden or golf course are not invasive. Replace invasive plants in your garden with non-invasive alternatives. Ask your local nursery staff for help in identifying invasive plants!

2. Clean your boots before you hike in a new area to get rid of hitchhiking weed seeds and pathogens.

3. Don't "pack a pest" when traveling. Fruits and vegetables, plants, insects and animals can carry pests or become invasive themselves.

4. Don't release aquarium fish and plants, live bait or other exotic animals into the wild.

5. Volunteer at your local park, refuge or other wildlife area to help remove invasive species.

Help educate others about the threat:

In the upcoming months, I will be providing information and updates on invasive species in or near our state. This month, let's take a look at Sudden Oak Death (SOD).

SOD was first reported in central California in 1995. The pathogen, *Phytophthora ramorum*, is highly lethal to a variety of oaks, including northern red oak and pin oak. Host plants include *Rhododendron* spp., *Camellia* spp., and *Viburnum* spp. During the late 90's through much of 2003, this disease remained isolated in California and Oregon, primarily due to quarantines imposed by those states. In the mid-to-latter months of 2003, Monrovia Nurseries of California unknowingly shipped infected stock of *Camellia* and *Viburnum* to every state in the U.S. including Puerto Rico. Federal and state agencies became aware of the problem in early 2004. The paper trail they followed revealed that 95% of this stock had been redistributed or sold! As of July 30, 2004, 17 states have tested positive for SOD.

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There currently is no cure for SOD. The host plant list for this pathogen is growing on a weekly basis and current research suggests that the genetic material of this pathogen is highly specialized and evolving at a rapid pace. Oregon has been unsuccessful in eradicating the disease from localized forest environments. Clear cutting and burning failed to destroy the pest; subsequent sprouts tested positive for SOD. Regions with mean winter temperatures below freezing are considered low risk, but this assumption is based on growing *P. ramorum* in culture in the laboratory only.

As you can see, the ecological and economic impact from this disease COULD be devastating. State agencies in the Midwest are taking the threat very seriously. This year, due to the urgency of the situation, survey plots have been established in Minnesota, Michigan, Wisconsin, Iowa, Illinois, and Missouri to monitor for this disease.

To stay current on SOD, check out the website: www.suddenoakdeath.org

(Editor's Note: Paul Diegnau, CGCS, is the MGCSA liaison to the Minnesota Invasive Species Advisory Council (MISAC). MISAC is co-chaired by the MN Department of Agriculture and the MN DNR.)