Introduction to Woodland Invasive Plants

Kelly Kearns, Invasive Plants Coordinator
Natural Heritage Conservation, WI DNR
608-267-5066  kelly.kearns@wisconsin.gov
• Basics of invasive plants
  • How can I tell if it is invasive?
  • What problems do they cause in woodlands?
    • Alter/degrade wildlife habitat
    • Kill or weaken trees
    • Create dense midstory
    • Reduces access for recreation and management
    • Reduces wildflowers
    • Human health hazards

• Identification of some common invasives and aggressive natives
  • Trees
  • Shrubs
  • Vines
  • Understory plants (just a few examples)

• Resources for more information
Invasive Plants are non-native species that become established in natural plant communities and wild areas and replace native vegetation and cause ecological harm.
How do I know if a plant is invasive?

• Is it dominating the site?

• Does it appear to be spreading quickly and eliminating other plants?

• Is there evidence of insects or other organisms feeding on it?

• Do you know it to be invasive from elsewhere?
From This . . .

(One plant amidst the wildflowers)
To This !! In just a few years

(Garlic mustard will take over)
Shoot and root growth – 1 year

Canada thistle

644 ft of roots and 336 ft of shoots

Restricted
Ecological Impacts of Invasive Plants

• Displace native vegetation and limits tree regeneration
• Alter soil nutrients, structure and organic matter
• Degrade wildlife habitat
• May completely alter ecosystems
Eurasian Bush Honeysuckle
(*Lonicera spp.*)

- Leaves out early
- Attracts nesting birds
- Nests have near 100% predation
- Slows growth of mature trees
Common buckthorn (*Rhamnus cathartica*)
- fruits cause bird diarrhea resulting in a net energy loss
- leaves high in nitrogen, increasing weedy species
Native trees and shrubs support high abundance and diversity of arthropods, which in turn support diversity of birds.

- Non-natives support very few arthropods
Garlic Mustard (*Alliaria petiolata*)

- Decreases beneficial mycorrhizae
- Slows tree growth
- Prevents regeneration of native trees
Economic Impacts of Invasive Plants

• Long-term forest production declines

• Agricultural cost of controls and loss of production

• Shoreline damage

• Structural damage

• Reduction in property values (limits uses)
Reed canary grass (*Phalaris arundinacea*)
- Preventing tree regeneration
Japanese hops (*Humulus japonica*)
- Annual vine smothers other vegetation
- Dies back in winter exposing the shore to erosion

*Prohibited/Restricted*
Japanese knotweed (*Polygonum cuspidatum*)
- Breaks through asphalt, concrete and building foundations
- Forms large dense stands

*Restricted*
HEALTH IMPACTS OF INVASIVE PLANTS

• Human health concerns from dermally toxic and allergenic plants

• Children, pets and livestock eating toxic plants

• Pets and humans impacted by increases in Lyme’s disease
Poison Ivy (**Toxicodendron radicans**)
Wild Parsnip *Pastinaca sativa*

*Fields + sunny roadsides*

**WARNING:** Phytophotodermatoxic

Photo: WDNR  
Photo: www.wildliferanger.co.uk  
Photo: www.digitaljournal.com

Restricted
Giant Hogweed
(Heracleum mantegazzianum)

Prohibited
Poison Hemlock
(Conium maculatum)

Toxic to mammals that ingest it

Prohibited/
Restricted
Invasive shrubs increase Lyme’s Disease

• Barberry and Amur honeysuckle infestations increase deer ticks infected with Lyme’s disease
Regulated Categories of Invasives

**Prohibited** - Not yet in the state or established in pioneer stands only

*Please report if found to invasive.species@wi.gov*

**Restricted** - Already established in the state

*No need to report*
<table>
<thead>
<tr>
<th>Classification</th>
<th>Regulations</th>
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<tbody>
<tr>
<td><strong>Prohibited</strong></td>
<td>No person may transport (import/move), possess, transfer (buy/sell) or introduce a prohibited species without a permit. The department may order or conduct the control effort.</td>
</tr>
<tr>
<td><strong>Restricted</strong></td>
<td>No person may transport (import/move), transfer (buy/sell) or introduce a restricted species without a permit. Control encouraged but not required.</td>
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Invasive Shrubs and Trees

• Prolific fruits dispersed by birds
• Leaf out early and hold their leaves late
  • Especially invaders of woodlands
• Many form thickets
• Most resprout if cut, unless stump-treated

Goal – Minimize seed formation, + remove tops and kill roots
Black Locust
(Robinia pseudoacacia)
Common buckthorn
(Rhamnus cathartica)
Morrow honeysuckle 
(*Lonicera morrowii*)

Tartarian honeysuckle 
(*Lonicera tatarica*)

Bell’s honeysuckle 
(*Lonicera x bella*)

Restricted
Amur honeysuckle (Lonicera maackii)

Leslie J. Mehrhoff, University of Connecticut, Bugwood.org
Chuck Bargeron, University of Georgia, Bugwood.org
Courtney LeClair, WI DNR
James H. Miller, USDA Forest Service, Bugwood.org

Prohibited/Restricted
Multiflora rose (*Rosa multiflora*)

Use as root stock for ornamental roses exempted

Restricted
Autumn olive (*Elaeagnus umbellata*)

Nancy Loewenstein, Auburn University, Bugwood.org

Courtney LeClair, WI DNR

Leslie J. Mehrhoff, University of Connecticut, Bugwood.org

Restricted
Japanese Barberry - *Berberis thunbergii*

Restricted
Prickly ash
*Zanthoxylum americanum*

Aggressive (and obnoxious) native
Native Raspberries and Blackberries

(Rubus species)

Black-cap raspberry (Rubus occidentalis)

Common blackberry (Rubus allegheniensis)

Red raspberry (Rubus idaeus)

Sometimes aggressive natives
Invasive Vines

• Most are spread widely by birds that eat their prolific fruits.
• Grow along ground or climb trees, fenceposts, etc.
• Most resprout if cut, unless stump-treated
• Difficult to mow

Goal – Remove tops and kill roots
Oriental bittersweet
(*Celastrus orbiculatus*)

Native American bittersweet

Restricted
Black swallow-wort
*Vincetoxicum nigrum*

Prohibited/Restricted
Poison Ivy (Toxicodendron radicans)

Dermally toxic
native
Virginia Creeper/Woodbine
(*Parthenocissus quinquefolia*)

**Aggressive native**
Herbaceous Plants (grasses and forbs)

- Many species throughout state 59/145 regulated invasive plants
- Multiple growth forms – annuals, biennials, perennials
- May spread by seed or vegetatively
- Control technique varies by species and site
Garlic Mustard  
(*Alliaria petiolata*)

- Decreases beneficial mycorrhizae
- Slows tree growth
- Prevents regeneration of native trees
- Decreases forest litter depth

Restricted
Japanese Hedgeparsley

*Torilis japonica*
Information Sources

- WI DNR  dnr.wi.gov/invasives
- Midwest Invasive Plant Network  www.mipn.org
- Invasive Plants Association of Wisconsin  www.ipaw.org
- WI First Dectectors Network  https://fyi.uwex.edu/wifdn/
  Factsheets, videos, control methods