

What is an Invasive Plant?

- An “invasive” plant is a non-native plant that infests natural areas and causes environmental or economic harm, or harm to human health. Of the roughly 2,900 plant species growing outside of cultivation in Indiana, approximately 33% are non-native but only a small fraction of those non-native species are invasive. Invasive plants degrade and destroy thousands of acres of our natural plant communities in Indiana. Each year millions of dollars are spent to control them.
- Many of these invasive species have been used in landscaping, but to reduce further infestations most are being considered for a rule that would make it illegal to buy, sell, or plant them in Indiana. We encourage you to look for alternatives (see back panel for more information).

Why Should I Care?

- Invasive plants cost money. A 2012 survey of 120 agencies and landowners in Indiana found we spent \$5.7 million to manage these species and protect our natural areas. Nationally, agricultural and control costs due to invasive plants are estimated at \$15 billion per year. Each year the cost grows.
- Invasive plants hurt wildlife by crowding out the plants our native animals need for food and cover.
- Most invasive shrubs and trees are little used by native insects. This reduces habitat for beneficial pollinators and predatory insects, as well as reducing the amount of food available for birds to feed their nestlings.
- Invasive plants destroy habitat for rare wildflowers and animals, threatening two-thirds of all endangered species.
- Invasive plants can become weedy in a home garden, crowding out other landscaping.
- Invasive plants can also decrease your ability to enjoy hunting, fishing, mushroom collecting, bird-watching, and many other recreational pursuits by crowding forest floors and choking waterways, making use of these areas difficult.

Garlic Mustard

F, O

Alliaria petiolata

Description: Biennial; first year rosettes of kidney-shaped leaves overwinter; second year plants grow up to 4-feet tall with triangular sharp-toothed leaves and small, white 4-petaled flowers in a cluster at top of stem; fruits are upright, thin, cylindrical pods; plant has garlic odor.

Problem: Displaces wildflowers; poisons the soil, inhibiting fungi that are important to tree and plant growth; has leaf chemicals that kill native butterfly larvae that feed on the plant.



Habitat codes (found in upper right corner of species descriptions): **F:** Forest, **O:** Open Land, **W:** Wetland

Purple Loosestrife

W

Lythrum salicaria

Description: Perennial with stout stems to 7-feet tall; stems are square or octagonal; leaves clasping, lance-shaped, opposite, rarely alternate or whorled; rose-purple flowers with 5-6 petals clustered in terminal spikes.

Problem: Decreases wetland bird nesting and foraging, changes water chemistry, and crowds out native species.



Callery (Bradford) Pear

F, O

Pyrus calleryana

Description: Deciduous tree to 30-feet tall; leaves alternate, ovate, smooth, finely toothed and wavy-edged, shiny green above and paler below; flowers white, 5 petals, in dense clusters, unpleasant odor; small, round, brown fruits.

Problem: Produces large number of fruits which are spread by starlings; can establish densely in forest understory and outcompete native trees.



Japanese Honeysuckle

F, O

Lonicera japonica

Description: Woody, semi-evergreen, climbing vine; leaves opposite and oval, smooth margin, sometimes lobed; flowers white, fragrant, in pairs, and turn yellow with age; fruits are black berries.

Problem: Vines cover native plants and out-compete them for light; root system outcompetes native plants for water and nutrients.



Other Invasives in Indiana

The official list of invasive plants found in Indiana is at <http://www.entm.purdue.edu/iisc/invasiveplants.php>. Many of these plants are illustrated in this brochure, but additional plants from the list that are threatening Indiana natural areas are listed below. Avoid planting these, and learn to recognize and eliminate them before they spread. The habitat where they most often occur is indicated.

F: Forest **O:** Open Land **W:** Wetland

Flowers:

Canada Thistle, <i>Cirsium arvense</i>	O
Lesser Celandine, <i>Ranunculus ficaria</i>	F
Japanese Chaff Flower, <i>Achyranthes japonica</i>	F, O
Plumeless Thistle, <i>Carduus acanthoides</i>	O
Crown Vetch, <i>Securigera varia</i>	O
Dame's Rocket, <i>Hesperis matronalis</i>	F, O, W

Grasses:

Common Reed, <i>Phragmites australis australis</i>	O, W
Reed Canarygrass, <i>Phalaris arundinacea</i>	F, O, W

Vines and Groundcovers:

Periwinkle, <i>Vinca minor</i>	F, W
English Ivy, <i>Hedera helix</i> and <i>H. hibernica</i>	F
Japanese Hops, <i>Humulus japonicus</i>	F, O, W
Kudzu, <i>Pueraria montana</i>	F, O
Porcelain Berry, <i>Ampelopsis brevipedunculata</i>	F
Sweet Autumn Clematis, <i>Clematis terniflora</i>	O
Wisteria, <i>Wisteria sinensis</i> and <i>W. japonica</i>	F

Shrubs:

Bicolor Lespedeza, <i>Lespedeza bicolor</i>	F, O
European Black Alder, <i>Alnus glutinosa</i>	F, O
Privet, <i>Ligustrum obtusifolium</i> , <i>L. vulgare</i>	F
Highbush Cranberry, <i>Viburnum opulus v. opulus</i>	F, W
Jetbead, <i>Rhodotypos scandens</i>	F

Trees:

European Black Alder, <i>Alnus glutinosa</i>	F, O
Princess Tree, <i>Paulownia tomentosa</i>	F
Sawtooth Oak, <i>Quercus acutissima</i>	F, O
Siberian Elm, <i>Ulmus pumila</i>	O
Tree of Heaven, <i>Ailanthus altissima</i>	F, O
White Mulberry, <i>Morus alba</i>	F, O, W

What Can We Do?

- Avoid using invasive plants in your garden; ask your nursery for native, non-invasive alternatives, and do the research to ensure that the plants you are purchasing and installing are not considered invasive in your ecoregion.
- Scout your property for invasive species, and remove them before they become a problem. Plant appropriate non-invasive native species as necessary to replace the invasive species you remove.
- Alert people in your neighborhood and work place about the problem of invasives and what species to watch for.
- Volunteer to help remove invasives at local parks and natural areas.
- Report invasive plants through Report IN (website below)

For More Information

Identification and Control:

<http://www.invasive.org/>

Indiana Invasive Species Council:

<http://www.entm.purdue.edu/iisc/>

Report IN—Reporting Invasive Species in Indiana:

<http://www.eddmaps.org/indiana/>

Landscaping with Non-Invasive Plants:

<http://www.inpaws.org/landscaping/>

Credits

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INVASIVE PLANTS IN INDIANA

PRETTY...



AWFUL!

Callery (Bradford) Pear

Multiflora Rose F, O

Rosa multiflora

Description: Multi-stemmed, thorny shrub to 15-feet tall; leaves alternate, pinnately compound with 7-9 leaflets and feathery stipules at the base of the leaf stalk; large clusters of ½-1 inch wide white to pink flowers; many ¼ inch round red fruits.

Problem: Forms dense thorny thickets that invade pastures and crowd out native species.



Asian Bush Honeysuckle F, O, W

Lonicera maackii, *L. morrowii*, *L. tatarica*, *x bella*, *x muendeniense*, and *x xylosteioides*

Description: Shrub to 15-feet tall; leaves opposite, simple, oval to oblong with smooth margin, *L. maackii* with short pointed tip; flowers in pairs, fragrant, white in *L. maackii* and *L. morrowii*, pink to purplish red in *L. tatarica*, variable in the hybrids; berries red, orange, or yellow.

Problem: Dense shrub growth shades out plants on the forest floor; it reduces the growth and regeneration of trees, reduces nesting bird success, and increases ticks and tick-related illnesses.



Common and Glossy Buckthorn F, O, W

Rhamnus cathartica and *Frangula alnus*

Description: Shrub or small trees. Common buckthorn leaves (left) subopposite with toothed margin and distinctive parallel veins; flowers greenish, inconspicuous with 4 petals; fruit (lower left) black. Glossy buckthorn leaves (right) alternate with smooth margin, glossy and oval; leaves have distinctive parallel veins; stem has speckled appearance; flowers greenish, inconspicuous with 5 petals; fruit (lower right) red to purplish black.

Problem: Common buckthorn is the overwintering host for soybean aphid and alternate host for oat crown/leaf rust; changes nutrient cycling and reduces leaf litter layer. Glossy buckthorn reduces growth and survival of young trees.



Burning Bush F, O

Euonymus alatus

Description: Deciduous shrub to 15-feet tall and wide; opposite leaves oval to obovate and finely toothed, 1-3 inches long and ½ to 1¼ inches wide, stalkless or nearly so; leaves turn bright red in fall, pink in shade; green to brown stems often have 2-4 prominent corky wings; small green flowers with 4 petals.

Problem: Creates dense thickets in forest understory, displacing native plants.



Japanese Barberry F

Berberis thunbergii

Description: Shrub; leaves small, round to ovate, green or reddish purple, and in clusters around a spine; cross section of stem is bright yellow; yellow, umbrella-shaped flowers in clusters of 2-4; fruit small, pendant, bright red, and egg-shaped.

Problem: Significantly increases tick populations and tick-borne illnesses; changes soil microbial community and nutrient cycling.



Autumn Olive F, O

Elaeagnus umbellata

Description: Deciduous shrub to 20-feet tall; leaves alternate, oblong, dark green above, and silvery underneath; stems often have thorn-like shoots; flowers are fragrant, cream turning to yellow, and tube-shaped with four spreading lobes; fruit reddish-pink and speckled.

Problem: Increases soil nitrogen, which increases invasion by other non-native species.



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Norway Maple F

Acer platanoides

Description: Deciduous tree; leaves opposite and palmate with 5-7 lobes, can be purple-leaved; widely spreading winged fruit; milky sap in petioles which are 3-4 inches long; gray bark.

Problem: Regenerates prolifically under forest canopy and displaces native trees, shrubs and herbs.



Asian Bittersweet F, O

Celastrus orbiculatus

Description: Woody, deciduous, climbing vine; leaves alternate, ovate to round, abruptly sharp-pointed and glossy; small greenish flowers occur in clusters in the leaf axils; yellow, papery coat surrounding capsule splits to reveal red-orange fruit in leaf axils in fall. American Bittersweet (*C. scandens*) is similar but fruit reddish, with orange papery coats, and in terminal clusters, not in leaf axils.

Problem: Climbs up and overtops trees, making them more vulnerable to windthrow; twining stems girdle or kill trees; hybridizes with native bittersweet, with the hybrids out-competing the native species.



Wintercreeper F, O

Euonymus fortunei

Description: Evergreen, woody, clinging vine; dark green or variegated thick, egg-shaped opposite leaves with toothed margins; stems narrow, warty, with rootlets; flowers green-white on long stalks; fruits pinkish to red capsules that split open to expose orange fruits.

Problem: Outcompetes native vegetation by depleting soil moisture and nutrients, blocking sunlight, and by forming a dense vegetative mat that impedes the growth of seedlings of native species.



Japanese Stiltgrass F, O

Microstegium vimineum

Description: Annual, sprawling grass to 4-feet tall; leaves pale green, lance-shaped, 1-4 inches long, with a silvery stripe on midrib; small flower spikes appear in late summer.

Problem: Grows densely, displacing native plants; increases heat and duration of forest flames, killing tree seedlings.



Chinese Maiden Grass O

Miscanthus sinensis

Description: Perennial to 8-feet tall; long leaves have silver midrib; flower spikes 8-10 inches long, persist into winter as silvery plumes.

Problem: This common landscaping plant can spread easily out of plantings, displacing native vegetation.



Japanese and Giant Knotweed F, O

Reynoutria japonica, *R. sachalinensis*, and *R. x bohemica*

Description: Rhizomatous perennial to 10-feet tall; aggressively spreads by rhizomes; stems hollow with membranous sheath surrounding stem above swollen nodes; leaves alternate, oval, and pointed at tip; flowers are small greenish-white, in clusters in leaf axils.

Problem: Forms dense thickets; causes serious damage to building foundations, decreases wildlife habitat, increases erosion and sedimentation.

