

Why Should I Care About Invasive Plants?

**HOW INVASIVE PLANTS IMPACT
HUNTING, FISHING, BOATING,
GARDENING, HIKING, BIKING,
HORSEBACK RIDING, AND
OTHER RECREATIONAL ACTIVITIES
IN THE MIDWEST**



Invasive plants are spreading on almost all private and public lands in the Midwest.

SO WHY SHOULD YOU

- Invasive plants, if left unchecked, will limit many uses on lands now and for future generations.
- Invasive plants can harm the natural heritage of our wetlands, prairies, forests, lakes, and rivers.
- Invasive plants can decrease your ability to enjoy hunting, fishing, mushroom collecting, bird watching, and other recreational pursuits.
- The longer we wait, the more expensive it will be to control invasive plants.

You can be a part of the solution by being aware of invasive plants and taking action to prevent their spread.



To learn more, please read on!

Jody Shimp, Illinois DNR

Kudzu taking over a forest in Illinois

Cover photo by Christopher Jordan

First of all, what is an invasive plant?

An **invasive plant** is defined as a plant that is not native and has negative effects on our economy, environment, or human health. Not all plants introduced from other places are harmful. The term “invasive” is reserved for the most aggressive plant species that grow and reproduce rapidly, causing major changes to the areas where they become established.



Lee Casebere, Indiana DNR

Purple loosestrife invading a stream bank

What is the Midwest Invasive Plant Network?

The **Midwest Invasive Plant Network (MIPN)** was formed to help reduce the impact of invasive plant species in the Midwest. This network is composed of people from federal, state, and local governments, universities, industry, non-profit organizations, and the general public, who are concerned about invasive plants. Together we are working to address the threats of invasive plants through prevention, early detection and rapid response, control and management, research, and education.

Invasive plants are a major threat on a national scale. Across the U.S., invasive plants are estimated to occur on 7 million acres of our national park lands, and at least 1.5 million acres are severely infested. In addition to federal lands, state and private lands are also plagued with invasive plants and may have even higher infestation rates. This problem is an expensive one. The economic cost of invasive plants is estimated at more than \$34 billion per year, and the costs continue to grow. Now is the time to act to reduce the threat of invasive plants in our region.

If I am a logger or forester, why should I care?

Invasive plants can greatly impact the health and regeneration of forest lands. For example, garlic mustard can rapidly spread into the understory of hardwood stands, and has been documented to suppress other understory plants, which may reduce tree seedling establishment. Japanese barberry, an invasive shrub, not only crowds out other plants, but also alters soil conditions to its benefit. Deer avoid eating this spiny shrub, which means they browse more on native trees, slowing the growth of seedlings or even killing them.

Dense thickets of Japanese barberry or other invasive shrubs like Asian bush honeysuckle displace native plants and wildlife dependent on those plants and also create tangles that make it difficult to walk through the forest.

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In addition to herbs and shrubs, trees can also be invasive. Tree-of-heaven is an invasive Asian tree species that can grow 3 feet per year and reaches up to 60 feet tall, quickly overtopping and shading out our native trees in forest openings. Tree-of-heaven can also cause intestinal and heart problems in people exposed to its sap.

Most invasive plants depend on some kind of disturbance to get established in the forest. Forest management activities, such as timber har-

vesting, create opportunities for invasives to get established and spread. Invasive plants present in small numbers prior to forest management activity may explode in growth following management activity.

Since loggers and foresters rely on the long-term supply of forest resources, it is in their best interest to ensure the healthy regeneration of forest stands to native tree species.



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What can you do to minimize the introduction and spread of invasive plants?

- Learn to identify invasive plant species and watch for them. The sooner invasive plants are detected, the easier and cheaper it is to control them. Management costs escalate when invasive populations are allowed to spread.
- Initiate control of invasive species before harvest activities take place. Invasive plant populations quickly explode after disturbance to the forest canopy and soils; decreasing their cover before harvest is a good way to avoid this dramatic increase.
- Require the cleaning of timber harvesting equipment before it comes onto a new job site to prevent the movement of seeds of invasive species caught on tire treads and undercarriages.

If I am a hiker, cyclist, or horseback rider . . .

Invasive plants can affect your ability to enjoy natural areas, parks, and campgrounds. Hikers, cyclists, and horseback riders all enjoy well-maintained trails, and invasive plants can grow over trails to the point that the path cannot be followed or can be difficult to navigate through. Dried and dying knapweed plants catch in bicycle chains, slowing the rider and stirring up dust as they are dragged.



The Nature Conservancy

Ron Leonetti



Native prairie plants

Natural scenic beauty sought by recreationalists is degraded by invasive plants, which often form single-species stands, displacing attractive native flowers. The annual trek to see spring wildflowers or hunt for mushrooms may be disappointing when none can be found in a sea of garlic mustard.

Favorite camping spots taken over by spiny or dense shrubs can make it hard to find a good spot for a tent. Treating these infestations can eat up a natural area's budget, leaving little funding for trail maintenance and other improvements.

Some invasive plants can have nasty effects on your health. Wild parsnip or giant hogweed sap on skin exposed to sunlight can result in burns, blistering, and skin discoloration. The sap from leafy spurge

Why should I care?

causes eye irritation. Spines on invasive thistles can become lodged in skin and cause irritation.

Many invasive plant seeds, such as those of burdock with its spiny seed balls, hitchhike on fur, increasing the effort needed to groom the horse or family dog after a hike. Some invasive plants, such as leafy spurge, are toxic to horses and mules.

Recreationalists can be vectors for invasive plant spread. Here are some things you can do to reduce the spread of invasive plants:

- Learn to recognize invasive plant infestations and avoid passing through them.
- Report any infestations to the local land manager.
- Check for seeds or plant parts and clean equipment, boots, animals, and gear between trips, or preferably when leaving an infested area.
- Dispose of seeds in a plastic bag in a trash can.
- Always use weed-free hay and feed for your animals.



Leafy spurge

Barry Rice, The Nature Conservancy



Boot brush station at entrance to nature preserve

The Nature Conservancy

If I am a boater or angler, why should I care?

From the Great Lakes to the Mississippi River, the lakes and rivers of the Midwest provide stunning scenery and vital habitat for a wide variety of aquatic species. The spread of invasive plants threatens both the beauty of these areas and their ability to sustain fish and wildlife populations.

One common underwater invader is Eurasian watermilfoil, an aggressive plant that reduces native plant diversity and degrades fish habitat. Studies have shown that Eurasian watermilfoil supports fewer aquatic invertebrates, a vital source of food for fish, than native plants do. It also reduces oxygen levels in the water, leading to fish stress and fish kills, and clogs water intakes on motors causing engines to overheat.

Michigan Sea Grant: www.miseagrant.umich.edu



Photo courtesy Ottawa National Forest

Examples of the havoc that Eurasian watermilfoil can wreak on water recreation

One of the most widespread invasive plants in wetlands, lakeshores, and riverbanks is purple loosestrife, an extremely aggressive plant that replaces diverse native plant communities with just a single species, greatly reducing the quality of wildlife habitat.

Invasive plants can also increase the risk of flooding and soil erosion leading to cloudy water, lower water quality, and silted spawning beds. Thick stands of invasive plants such as curlyleaf pondweed, Eurasian watermilfoil, and other submerged and floating aquatic plants can impede navigation for anglers and boaters. In addition to invasive aquatic plants, boaters and anglers need to be aware of invasive aquatic animals such as zebra mussels, spiny waterfleas, round gobies, and Asian carp that also impact lakes and rivers of the Midwest.

Barry Rice, The Nature Conservancy



Zebra mussels

Boaters and anglers have the opportunity to help prevent the spread of aquatic invasive plants by following a few simple steps.

- Remove visible plants, animals, and mud from your boat before leaving a waterbody.
- Drain all water from your boat, motor, bilge, live well, and bait containers before leaving a water access.
- Clean and dry boats and equipment before entering another waterbody.
- Dispose of unwanted bait in the trash, and never release plants and animals into a waterbody unless they came from that waterbody.

If I am a hunter, why should I care?

Midwestern natural areas support a great diversity of wildlife that hunters rely on and enjoy. However, invasive plants are in the process of degrading and even destroying many of these habitats.

For example, invasive plants such as Russian olive have taken over roadsides and natural areas in many parts of the Midwest, creating undesirable habitat for birds and mammals. Native vegetation supports a much greater variety of birds than areas infested with the invasive Russian olive.



Wild turkeys

The Nature Conservancy



Russian olive

The Nature Conservancy

Invasion of common reed in wetland areas and along lake shores has a negative effect on water birds, including ducks and geese. Diverse native vegetation in wetlands and on lake shores generally results in higher waterfowl populations.

Invasive plants reduce the number and variety of forest wildlife, primarily by reducing the availability of food and suitable cover. For instance, invasive species like Asian bush honeysuckle can

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Common reed

shade out oak tree seedlings and saplings and, over time, reduce the oak component of a forest. Fewer acorn-producing trees mean lower food availability and reduced habitat quality for wildlife such as white-tailed deer, squirrel, grouse, and turkey.



Gigi LaBudde, Bison Belly Futures

Hunter in a patch of multiflora rose

Invasive species can also turn an enjoyable stroll through the fields, woods, or wetlands while hunting into a painful trip through a tangled thorny mess in areas invaded with multiflora rose, an invasive plant with thorns that easily rip through clothes and skin. Other invasive plant species can also form dense tangles that are difficult to push through, even if they are not armed with thorns.

Invasive plants threaten our native ecosystems by altering the natural communities that wild animals depend upon to produce food and cover. If invasive plants win, the native plants and wildlife lose, and so do the people who enjoy them.

Here's what you can do to help:

- Clean your boots and gear after a hunting trip to make sure you aren't carrying invasive plant seeds to new locations.
- Don't plant invasive plants for wildlife. Native species provide much better food and cover for native wildlife.
- Learn to identify the invasive plants in your area and report any new sightings to local land managers.

If I am a gardener, why should I care?

Invasive plant species not only threaten our natural areas, they may invade your garden! Landscaping shrubs like Asian bush honeysuckle seed so freely into maintained landscapes that it is a continual challenge to rip them out before they take over and displace other species you lovingly planted in your garden.

These aggressive species will also move from your land onto your neighbor's land, decreasing both their enjoyment of their land and their enjoyment of having you as a neighbor.

Just because a plant is not spreading in your own garden, that doesn't mean that the seeds from your plants aren't spreading elsewhere. Purple loosestrife seeds, for instance, may wash from your yard into storm sewers and nearby waterways and germinate in moist areas like creek banks and lake shores.

Here are some things you can do to help.

- Avoid using invasive species in your garden. Until you are able to get rid of invasive plants that may already be planted in your yard, be responsible and remember to remove and destroy seed heads of invasive plants. Also, don't share invasives with other gardeners.
- If you are worried that your garden will lose its luster after removing invasives, it is easy to find non-invasive or native alternatives for invasive landscape plants. Before choosing a native plant alternative, first think about the characteristics of the invasive plant you are replacing. For example, if you like the showy fruits of Asian bitter-sweet, try replacing it with American bittersweet. If you like Japanese honeysuckle for its vining habit, consider replacing it with a summer late-blooming vine like leatherflower vine. If you like purple loosestrife for its vibrant magenta flowers, try planting purple coneflower or one of the many native species of blazing stars instead.



Ellen Jacquart, The Nature Conservancy

Invasive plants to watch for:

John M. Randall, TNC



Asian bush honeysuckles (Amur honeysuckle, *Lonicera maackii*; Morrow's honeysuckle, *Lonicera morrowii*; Tatarian honeysuckle, *Lonicera tatarica*; and Bell's honeysuckle, *Lonicera x bella*)

There are three species of bush honeysuckles and one hybrid from Asia that are aggressive

invaders in the Midwest. All four species are multi-stemmed shrubs reaching 2-6 meters in height. They have opposite, entire leaves, paired, showy flowers, and red or yellow fleshy berries. These species have been widely planted throughout the Midwest for landscaping and wildlife habitat and are highly invasive in forests. Bush honeysuckles prevent regeneration of forest trees and herbs and also provide poor habitat for nesting birds. Bush honeysuckles are difficult to control once they have reached high densities, so it is important to control new infestations as quickly as possible.

Buckthorns (common buckthorn, *Rhamnus cathartica*; glossy buckthorn, *Frangula alnus*)

Both species of buckthorn are deciduous shrubs that can reach up to 8 meters in height. They have elliptical leaves and produce abundant small, fleshy fruits that are black when ripe. Buckthorns were introduced to North America for use in hedgerows and for wildlife habitat. Glossy

John M. Randall, TNC



buckthorn primarily invades wetlands and wet prairies but is also found in some forested areas. Common buckthorn is an invader of forested areas. Buckthorn fruits are consumed by a variety of birds and mammals, which aid in their dispersal. These shrubs form dense thickets that prevent woody

seedling regeneration and may inhibit herbaceous understory growth in some areas. Common buckthorn has also been identified as an overwintering host for soybean aphids, a pest of soybean crops.

Invasive plants to watch for:

Garlic mustard (*Alliaria petiolata*)

Garlic mustard, an invader of forests across the eastern U.S., is a biennial herb that was introduced from Europe in the 1860's. During its first year of growth, the plant forms a low-growing cluster of distinctive kidney-shaped leaves. It grows up to 40 inches tall in its second year, and can be recognized by its 4-petaled, white flowers and triangular stem leaves with toothed edges.

Ellen Jacquart, TNC



Garlic mustard plants produce copious seeds, with as many as 3,000 seeds per plant. These seeds can survive for up to 10 years in the soil, creating a lasting problem at invaded sites. Garlic mustard alters the chemistry of the soils where it grows by adding chemicals to the soil that prevent the growth of other plant species. In invaded areas, garlic mustard forms a single-species carpet on the forest floor.

Purple loosestrife (*Lythrum salicaria*)

Purple loosestrife is easily recognized by its purple to magenta flowers composed of 5 to 6 petals, and its square stems. This species was introduced as an ornamental from Europe, where it is a minor component of wetland vegetation. Here in North America, purple loosestrife has escaped cultivation and is abundant in wetlands and other wet areas

Mike Norris, TNC



(streambanks, lakeshores, and ditches) in almost every state in the U.S. Purple loosestrife forms dense single-species stands that cause a decline in plant diversity and affect wildlife by reducing food and habitat for waterfowl and spawning grounds for fish. A single plant can produce 2.5 million seeds annually, and these seeds can be transported great distances by humans, animals, water, and wind. Fireweed is a common native plant that is often mistaken for purple loosestrife, but can be distinguished by having flowers with four petals and round stems.

Invasive plants to watch for:

Asian bittersweet (*Celastrus orbiculata*)

This woody vine was introduced from Asia for ornamental purposes. It is easily recognizable by its showy red fruits surrounded by papery yellow seed coats and is often used for wreaths and other decorations. Asian bittersweet closely resembles the native American bittersweet but can be distinguished by the position of its flowers and fruit; American bittersweet bears flowers and fruit only at the ends of vines, whereas the Asian species produces fruit all along the vine. Asian bittersweet grows quickly, and vines can reach up to 4 inches in diameter and nearly 60 feet in length. Trees and shrubs can be damaged

or killed by the vine, which constricts sap flow, weakens limbs and trunks making them more susceptible to wind and ice damage, and shades out leaves growing underneath it. Asian bittersweet is also able to hybridize with American bittersweet, altering the genetic make-up of the species and further reducing rare native populations.



Eileen Jacquart, TNC

Multiflora rose (*Rosa multiflora*)

Multiflora rose was intentionally introduced to North America as an ornamental because of its abundant, fragrant flowers, and has also been used for living fences and erosion control. This thorny shrub has become a menace in pastures, along roadsides, and in forested areas. It creates impenetrable thickets, reducing growth of other plant species in

natural areas. Multiflora rose is tolerant of a wide range of habitat conditions and grows aggressively once established. Multiflora rose can be distinguished from native roses by the presence of fringed stipules (small, green, leaf-like structures at the base of each leaf); stipules on native roses are not fringed.



Katherine Howe, MIPN

Invasive plants to watch for:

Common Reed (*Phragmites australis*)

Common reed, often referred to by its Latin name as *Phragmites*, is a very tall grass, often reaching up to 3 or 4 meters in height. Grass blades are 1-5 cm in width and seed heads are large, showy, and feathery in appearance. This plant spreads clonally and is an aggressive invader of wetlands. A stand of common reed can extend its boundaries by as much as 50 feet within one season. Common reed invasion can have major impacts on wetlands by reducing the quality of the habitat for invertebrates that fish and migratory waterfowl rely on for food. Although common reed is actually native to the Midwest, the aggressive, invasive varieties are non-native in origin and can be distinguished from the native strains by a variety of characteristics, including darker leaves, much more rigid stems, and dense seedheads.

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Japanese knotweed (*Polygonum cuspidatum*)



Britt Slattery, USFWS, www.forestimages.org

Japanese knotweed is a large herbaceous perennial that forms dense thickets, especially in riparian areas, and can reach up to 10 feet in height. Distinguishing characteristics of this plant include stems with swollen joints that are covered by a membranous sheath, sprays of small greenish-white flowers, and small, winged fruits. Japanese knotweed is remarkably resilient, tolerating floods, drought, shade, high temperatures, and high salinity. Floods can further the spread of this species by carrying plant fragments downstream, which can root and sprout, forming new infestations.

Invasive plants to watch for:

Canada thistle (*Cirsium arvense*)

Canada thistle is an aggressive invader in prairies, savannas, and dunes, as well as a pest in pastures and agricultural fields. This species, which was introduced accidentally as a contaminant in crop seed, invades natural areas both by vegetative reproduction through rhizomes and by seed, which can be carried very long distances by wind and water. Canada thistle competes with other plants for water and nutrients, causing reductions in plant diversity and crop yields. It is avoided by cattle and eaten infrequently by deer. Before initiating control efforts for Canada thistle, it is important to make sure you can recognize the differences between this species and native thistles, which are much less aggressive and are often rare.



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Spotted knapweed (*Centaurea biebersteinii*)

Spotted knapweed is a biennial or short-lived perennial with pinkish-purple, thistle-like flowers and stem leaves that are covered with downy grayish hairs. It is believed to have been introduced from Europe in the 1890's as a contaminant in alfalfa or hay. Since its introduction to North America, this species has become one of the most problematic and widespread invasive plants in the western U.S. and is now spreading throughout the Midwest. Knapweed thrives in disturbed areas and spreads quickly once established. Cattle will not eat spotted knapweed because it has a bitter taste. Knapweed is especially troublesome because of its ability to release toxic chemicals from its roots; these chemicals reduce growth and germination of neighboring plants.



John M. Randall, TNC

Invasive plants to watch for:

Crown vetch (*Coronilla varia*)

Crown vetch is a low-growing, herbaceous perennial vine with clusters of small, pea-like white to purple flowers. It has been widely planted along roads and waterways for erosion control but spreads easily into adjacent fields, prairies, and forest edges. This species has a rapid growth rate and is difficult to control, making it a great concern to landowners and land managers. Infestations of crown vetch reduce the abundance of native plants and the wildlife species that depend on them. Crown vetch also alters soil chemistry by adding nitrogen to the soil, which has the potential to affect invaded areas even after the species is removed.

Lee Casebere, Indiana DNR



Eurasian watermilfoil (*Myriophyllum spicatum*)

Eurasian watermilfoil was introduced to the United States in the 1940's and has since spread to almost every state. This submersed aquatic plant can be identified by its feather-like leaves arranged in whorls of four around a long stem. Stems produce several branches which form a dense, floating mat on the water surface. Eurasian watermilfoil reproduces vegetatively; a single stem fragment can take root and form a new colony, growing on almost any substrate. Dense mats of Eurasian watermilfoil reduce plant diversity and the quality of fish spawning habitat as well as interfering with swimming, boating, and other recreational activities.

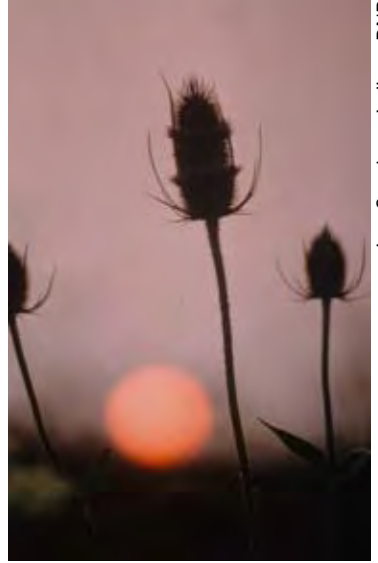
Ian Shackelford, Ottawa National Forest



Invasive plants to watch for:

Cutleaf teasel (*Dipsacus laciniatus*)

This species may have been introduced from Europe as early as the 1700's, yet its abundance in the Midwest has increased rapidly in the past 20-30 years. Its range is believed to have expanded along highway corridors, with seeds spread by mowing equipment. Cutleaf teasel is also commonly used in flower arrangements. When these arrangements are discarded or left behind in cemeteries, they can cause new infestations. Once established, cutleaf teasel can expand rapidly into prairies, excluding native vegetation. Teasel has a unique inflorescence that makes it readily identifiable when flowers or seed heads are present.



Lee Casebere, Indiana DNR

Japanese stiltgrass (*Microstegium vimineum*)

Japanese stiltgrass is an annual grass that thrives in forested areas with moist soils and along streambanks and ditches. It often makes its way into forests along trails or old logging roads and from there can rapidly spread into the forest understory, completely wiping out all other plants within just a few years. Stiltgrass has broad leaf blades that can be identified by the presence of a pale, silvery stripe of hairs along the middle of the leaf on the upper leaf surface. Japanese stiltgrass is abundant in the southern part of the Midwest region and is rapidly moving northward.



Jody Shimp, Illinois DNR

Myths and Facts about Invasive Plants

MYTH #1: Invasive plants aren't really a concern in the Midwest. They're more of a problem in places like California and Florida.

FACT: While invasive plants may have received more attention and publicity in other parts of the country, invasive plants are just as big a problem here as they are in other regions. It is estimated that 18% of the plants in national parks in the Midwest are non-native species, many of which are highly invasive. The percentage of invasive plants is even higher in areas with greater disturbance from human activity, such as roadsides or pastures.

MYTH #2: Species move around and expand their ranges naturally. When people introduce a new species, it's no different than the natural process of species movement.

FACT: People are moving far more species at a much faster rate than any natural colonization or range expansion. By bombarding our ecosystems with many new, aggressive species over a short time span, we are exposing them to conditions that would never occur without human intervention.

MYTH #3: All non-native species are bad.

FACT: Many non-native species do not cause problems in the areas where they are introduced and can be important for agriculture, horticulture, medicine, or other uses. The species of concern are those that become invasive, taking over native ecosystems and crowding out native species. It is often difficult to know in advance if a new species that is introduced will become invasive, so great caution should be used when importing or planting new species.



Ellen Jacquart, TNC

Reed canary grass invading a wetland

Myths and Facts about Invasive Plants

MYTH #4: I live in an urban area, so it doesn't matter if I plant invasive species. They won't be able to spread to natural areas from my yard.

FACT: Even if you don't live near a natural area, your yard could be a source of invasive plants. Seeds of invasive plants can be carried in many ways—by birds eating fruits and depositing the seeds elsewhere, by water carrying seeds from your yard into sewers that lead to rivers or streams, or by car tires or shoe treads when you travel to parks, nature preserves, or recreational areas. The best way to prevent the spread of invasive plants is to not plant them in the first place.

MYTH #5: Cutting, hand-pulling, or mowing are the best ways to control invasive plants.

FACT: This is true in some instances. Small infestations of some species, such as garlic mustard, can be removed by hand-pulling. However, hand-pulling for large infestations leaves large patches of disturbed soil, and often seeds from the seed bank will germinate and re-colonize areas where garlic mustard has been removed. Properly-timed cutting or mowing can also control some species, however, perennials such as Canada thistle should not be cut or pulled. Removing only part of the plant will only stimulate growth and produce more plants. Combining cutting with herbicides can be an effective method of treatment for many species.

Ottawa National Forest



Hand-pulling invasive plants



Sody Shimp, Illinois DNR

Using herbicide to control invasive plants

Myths and Facts about Invasive Plants

MYTH #6: Biological control methods such as insects are the answer to invasive plant problems.

FACT: There is no one miracle fix for controlling invasive plants. Relying on a single control method is unlikely to be successful. The best approach is an integrated management plan tailored to specific sites and species that includes a combination of methods appropriate to the situation, such as chemical control (herbicides), biological control (insects or pathogens), mechanical control (pulling or cutting), and prescribed burning.



Scott Namestnik, JF New

***Galerucella* beetle used for biocontrol of purple loosestrife**

MYTH #7: Biological control is a bad idea, because it involves the release of non-native insects or pathogens that could damage native plants in addition to the targeted invasive plants.

FACT: In years past, some biological control efforts were poorly planned, and as a result, there were some unintended negative consequences of releasing non-native organisms to control invasive plants. These days, however, biological control agents are highly regulated and extensively tested prior to their release in the U.S. Scientists conduct careful experiments in quarantine facilities to determine whether potential biological control agents have the ability to feed or develop on plants native to the U.S. If the potential biological control agent does not feed on native plants and shows itself to be specific to the target invasive plant species, it can then be approved for release. Biological control agents should always be carefully monitored after their release to watch for any unanticipated effects on native ecosystems.

How you can help . . .

- Learn how to identify the invasive plants that are in your area.
- Make sure that seeds are not stuck to your clothes or gear. You don't want to introduce or spread these plants to other areas!
- Do not camp or travel through areas infested with invasive plants, if they can be avoided.
- Clean mud or dirt off your vehicle, pets, and even your hiking boots before going onto public lands.
- Wash your boat before going to a new lake, river, or stream.
- Drive on established roads and ride or hike on designated trails.
- Don't plant invasive species on your land. Find native or non-invasive alternative species to plant instead. Ask your local nursery to stock native plant species.
- Volunteer to help inventory or control invasive plants. Early detection and eradication of small infestations and prevention of new infestations are the most cost-effective ways to manage invasive plants. We need your help locating and eradicating the invasive plant species that have been described on the previous pages. Be on the lookout and help wipe out invasive plants.
- Pass it on! Tell your friends and family about this problem.
- Visit the Midwest Invasive Plant Network's website for more information on invasive plants in our region.

mipn.org

Purple loosestrife plants



Superior National Forest

Additional Resources in Your Area

Illinois

Illinois Department of Natural Resources, (217) 785-8688

<http://dnr.state.il.us/lands/education/ExoticSpecies/exoticspintro.htm>

Chicago Wilderness (847) 242-6424, www.chicagowilderness.org/

Indiana

Indiana Dept. of Natural Resources, Division of Entomology & Plant Pathology, Exotic & Invasive Pest Species Program, (317) 232-4120
www.in.gov/dnr/invasivespecies/

Iowa

Iowa Department of Natural Resources

- Aquatic Nuisance Species Program Coordinator, (515) 432-2823

www.iowadnr.com/fish/news/exotics/exotics.html

- Invasive Species & Forest Health Coordinator, (512) 233-1161

www.iowadnr.com/forestry/

Michigan

Michigan Dept. of Agriculture, (517) 241-2977, www.michigan.gov/mda/

Michigan Invasive Plant Council, <http://forestry.msu.edu/mipc/>

Minnesota

Minnesota Dept. of Agriculture, www.mda.state.mn.us/pestsweeds.htm

Minnesota Department of Natural Resources, (651) 259-5131

www.dnr.state.mn.us/invasives/index.html

Missouri

Missouri Dept. of Conservation, (573) 751-4115, www.mdc.mo.gov/nathis/exotic/

Ohio

Ohio Department of Natural Resources

- Wildlife Mgmt. and Research Group, Division of Wildlife, 1-800-WILDLIFE

- Division of Nature Preserves www.dnr.state.oh.us/dnap/invasive/

Ohio Invasive Plants Council, www.mipn.org/ohio

Wisconsin

Plant Conservation Program Manager, Bur. of Endangered Resources, Wisconsin Dept. of Natural Resources, (608) 267-5066, www.dnr.state.wi.us/invasives/

Invasive Plants Association of Wisconsin, www.ipaw.org



The mission of the Midwest Invasive Plant Network is to reduce the impact of invasive plants in the Midwest. To learn more about our work, please visit our website (www.mipn.org) or contact us at info@mipn.org.