

# Invasive Plants in Pennsylvania



Invasive plants are plants which grow quickly and aggressively, spreading and displacing other plants. Invasives are usually introduced by people either accidentally or on purpose, into a region far from their native habitat.

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## What is an Invasive Plant?

**"Invasive plant"** is a name for a species that has become a weed pest, a plant which grows aggressively, spreads, and displaces other plants. Invasive plants tend to appear on disturbed ground, and the most aggressive can actually invade existing ecosystems. Invasive plants are generally undesirable because they are difficult to control, can escape from cultivation, and can dominate whole areas. In short, invasive plant infestations can be extremely expensive to control, as well as environmentally destructive. A small number of invasives are "native," meaning they occurred in Pennsylvania before settlement by Europeans but became aggressive after the landscape was altered. However, most invasive plants arrived from other continents and are often referred to as "exotic," "alien," introduced," or "nonnative" invasives. An aggressive plant freed from its environmental, pest, and disease limits, can become an invader of other ecosystems.



### Characteristics of Invasive Plants

Invasive plants are noted for their ability to grow and spread aggressively. Invasive plants can be trees, shrubs, vines, grasses, or flowers, and they can reproduce rapidly by roots, seeds, shoots, or all three. Invasive plants tend to:

- not be native to North America;
- spread, reproducing by roots or shoots;
- mature quickly; if spread by seed, produce numerous seeds that disperse and sprout easily;
- be generalists that can grow in many different conditions;
- and be exploiters and colonizers of disturbed ground.

### Impact of Invasive Plants

The primary reason to **not** landscape with invasives is that they are degrading our native environments. In fact, second only to habitat loss, invasives are a major factor in the decline of native plants. Plants like Kudzu, Purple Loosestrife, and Garlic Mustard are displacing native plants and degrading habitat for native insects, birds, and animals. Endangered, rare,

and threatened native species of plant and animals are especially at risk because they often occur in such small populations that make them particularly vulnerable.

Another reason to avoid invasives is that invasive plants, even when grown in a cultivated yard, can spread, escape, and cause landscape maintenance weeding problems for years to come. In urban and suburban areas there is a good chance that the worst weeds on your property are escaped plants, like Japanese Honeysuckle, Multiflora Rose, Japanese Knotweed, and Oriental Bittersweet. In yards, gardens, fields, and parks these plants are very expensive to control.



## What Can I Do about Invasive Plants?

The best insurance against future problems is to avoid the use of known invasive plants and educate others about the problems of invasives. This web site lists many of the plants that are invasive in Pennsylvania. Plants on this list should be avoided because they can escape cultivation and aggressively move into surrounding ecosystems. One way to avoid invasives is to choose plants that are native to your area. Natives often are adapted to a specific environmental niche, and have natural controls that keep them in balance.

**Minimize landscape disturbance.** Invasive plants thrive on bare soil and disturbed ground where the native plant community has been displaced. The key to controlling invasives is to protect healthy native plant communities.

**Use fertilizers wisely.** Proper site preparation begins with a soil test before applying fertilizer. High nitrogen levels sometimes give an advantage to invasive species that are better adapted to using plentiful nutrients for explosive growth. For soil fertility, try using organic, slow-decomposing compost and mulches

**Have a land management plan for maintenance over time.** It makes sense when designing a property to plan for future maintenance. Lawns are maintained by weekly mowing, while gardens are often hand-weeded. Meadows in Pennsylvania may need to be mowed every year. Woodlands are probably the lowest-maintenance landscape, but they too will need to be monitored and invasive plants removed.

**Scout your property annually for invasives** or other problems. The best way to control invasives is prevention, and prevention can only happen through vigilance. Listed on this web site are resources to help property owners.

**Remove invasives before they are a problem.** Effective scouting or monitoring means that problems are found while they are still small and easily controllable. For instance, do not let invasive plants go to seed. Mechanical removal through digging or cutting is preferred. Large populations of invasives may need to be stopped chemically with spot applications of herbicide by trained individuals or by homeowners carefully following label instructions.

**Replace invasive plants with native or noninvasive species.** Invasives are good at exploiting bare soil and empty niches. When you remove an invasive plant, unless there is another plant substituted, the invasive will tend to come right back. What grows in the future depends largely on what is there now; so it is important to fill that niche with a desirable plant that will provide seed for the future.

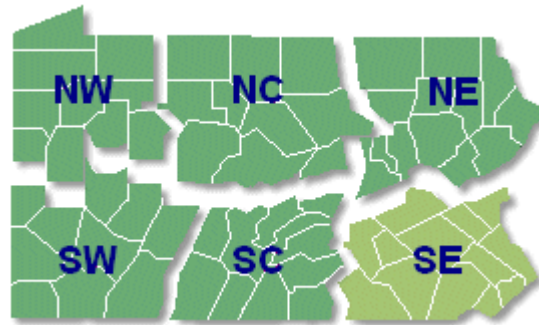
**Remove invasives first when their densities are low.** This gives the most immediate success because invasive plant control works best where there is a functioning native plant community still in place which can move right into the empty niche.

- Avoid using known invasive plants
- Minimize landscape disturbance
- Protect healthy native plant communities
- Use fertilizers wisely
- Have a land management plan for maintenance over time
- Scout (and keep scouting)

- Remove invasives before they become a problem
- Replace invasive plants with native or noninvasive species
- Remove invasives first when their densities are low

## Moderate Threats

The following species are invasive plants that are known to invade our native plant communities and are deserving of our vigilance.



**Pennsylvania Regions**

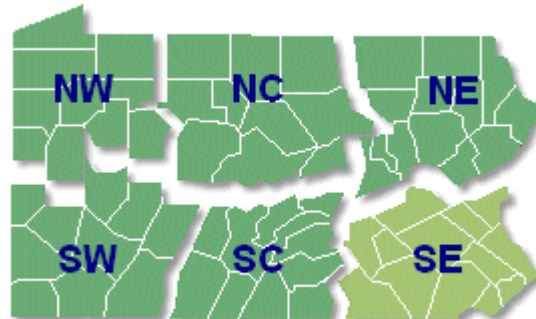
Six Pennsylvania Regions were used to show state distribution:  
**SE** = Southeast **SC** = Southcentral **SW** = Southwest  
**NE** = Northeast **NC** = Northcentral **NW** = Northwest  
 Freq. = Frequent Occ. = Occasional Rare

| Scientific Name                         | Common Name            | Plant Form | Pennsylvania Distribution  |
|---|------------------------|------------|--|
| <i>Aegopodium podagraria</i>            | Goutweed               | Flower     | Freq: SE; Occ: SC, SW, NE, NC, NW<br>Notes: Commonly planted in the past and escaped; spreads aggressively by roots          |
| <i>Bromus tectorum</i>                  | Cheatgrass             | Grass      | Freq: SE, SC; Occ: SW, NE, NW;<br>Rare: NC<br>Notes: Annual grass; very invasive throughout the west; spreads by seed        |
| <i>Hesperis matronalis</i>              | Dame's rocket          | Flower     | Freq: SE, SC, SW, NE; Occ: NC, NW<br>Notes: Planted in gardens; escaped and naturalized along roads; spreads by seed         |
| <i>Myriophyllum spicatum</i>            | Eurasian water-milfoil | Flower     | Freq: SE, NW; Occ: NE; Rare: SC, SW<br>Notes: Invasive in many states; aquatic   |
| <i>Ornithogallum nutans, umbellatum</i> | Star-of-Bethlehem      | Flower     | Freq: SE, SC, SW<br>Notes: Common garden plant which has widely escaped  |
| <i>Pastinaca sativa</i>                 | Wild parsnip           | Flower     | Freq: SE, SC, SW; Occ: NE, NC, NW<br>Notes: Found commonly along roadsides; widespread and abundant; spread by seed          |
| <i>Perilla frutescens</i>               | Beefsteak plant        | Flower     | Freq: SE, SC<br>Notes: Garden escape; widespread mostly along roadsides; spread by seed                                      |
| <i>Phalaris arundinacea</i>             | Reed canary grass      | Grass      | Freq: SE, SC, SW; Occ: NE, NC, NW<br>Notes: Aggressive wetland grass; native and introduced strains; widespread and abundant |
| <i>Ranunculus ficaria</i>               | Lesser celandine       | Flower     | Freq: SE; Rare: SC, SW<br>Notes: Spreads by roots and shoots; can be very aggressive in wetlands                             |
| <i>Berberis thunbergii</i>              | Japanese barberry      | Shrub      | Freq: SE, SC, NE; Occ: SW, NC, NW<br>Notes: Escaped from cultivation and invasive in many states; spread by birds            |
| <i>Berberis vulgaris</i>                | European barberry      | Shrub      | Freq: SE; Occ: SC, SW, NE, NC, NW<br>Notes: Escaped from cultivation; spread by birds  |
| <i>Elaeagnus angustifolia</i>           | Russian olive          | Shrub      | Occ: SE, SC, SW<br>Notes: Escaped from plantings and invasive in many states; spread by birds                                |
| <i>Ligustrum obtusifolium</i>           | Border privet          | Shrub      | Freq: SE, SC; Occ: SW, NE, NW; Rare: NC<br>Notes: Escaped from cultivation; seeds spread by birds                            |
| <i>Ligustrum vulgare</i>                | Common privet          | Shrub      | Freq: SE, SC; Occ: SW, NE<br>Notes: Planted very commonly in the past and escaped; invasive in many states                   |
| <i>Lonicera morrowii x tatarica</i>     | Bell's honeysuckle     | Shrub      | Occ: SE, SC, NW<br>Notes: Escaped from cultivation   |
| <i>Rhamnus catharticus</i>              | Common buckthorn       | Shrub      | Freq: SE, SC; Occ: SW<br>Notes: Becoming a problem in PA   |

|   |                  |       |                             |
|---|------------------|-------|-----------------------------|
| <i>Rhamnus frangula</i>                               | Glossy buckthorn | Shrub | Occ: SE, SC, SW, NE, NC, NW |
| Notes: Becoming a problem in PA                       |                  |       |                             |
| <i>Rubus phoenicolasius</i>                           | Wineberry        | Shrub | Freq: SE, SC; Occ: SW       |
| Notes: Common bramble; not cultivated; spread by seed |                  |       |                             |
| <i>Ulmus pumila</i>                                   | Siberian elm     | Tree  | Occ: SE, SC; Rare: SW       |
| Notes: Escaped from cultivation                       |                  |       |                             |
| <i>Akebia quinata</i>                                 | Fiveleaf akebia  | Vine  | Occ: SE; Rare: SC           |
| Notes: Escaped from cultivation                       |                  |       |                             |
| <i>Ampelopsis brevipedunculata</i>                    | Porcelain-berry  | Vine  | Occ: SE, SW                 |
| Notes: Escaped from cultivation                       |                  |       |                             |

## Serious Threats

The species below are the most serious threats or worst offenders to our native ecosystems. Many have been designed as "Noxious Weeds" by the Pennsylvania Department of Agriculture and are also a major concern to our agricultural community.



Pennsylvania Regions

Six Pennsylvania Regions were used to show state distribution:

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**NE** = Northeast **NC** = Northcentral **NW** = Northwest

Freq. = Frequent Occ. = Occasional Rare

| Scientific Name   | Common Name          | Plant Form | Pennsylvania Distribution               |
|---|----------------------|------------|---|
| <i>Alliaria petiolata</i>   | Garlic mustard       | Flower     | Freq: SE, SC, SW, NW; Occ: NE           |
| Notes: Invasive in many states; spreading aggressively in woodlands by seed       |                      |            |   |
| <i>Carduus nutans</i>   | Musk thistle         | Flower     | Freq: SE, SC, SW, NE, NC, NW            |
| Notes: PA noxious Weed  |                      |            |   |
| <i>Cirsium arvense</i>  | Canada thistle       | Flower     | Freq: SE, SC, SW, NE, NC, NW            |
| Notes: PA noxious Weed  |                      |            |   |
| <i>Cirsium vulgare</i>  | Bull thistle         | Flower     | Freq: SE, SC, SW, NE, NC, NW            |
| Notes: PA noxious Weed  |                      |            |   |
| <i>Datura stramonium</i>  | Jimsonweed           | Flower     | Freq: SE, SC, SW; Occ: NE               |
| Notes: Sometimes cultivated; spreads by seed, PA Noxious Weed                     |                      |            |   |
| <i>Galega officinalis</i>   | Goatsrue             | Flower     | Rare: SE                                |
| Notes: PA and Federal Noxious Weed, on location in SE PA                          |                      |            |   |
| <i>Heracleum mantegazzianum</i>   | Giant hogweed        | Flower     | Rare: NW                                |
| Notes: PA and Federal Noxious Weed, sap can cause burning blisters                |                      |            |   |
| <i>Lythrum salicaria</i> , <i>L. virgatum</i>                                     | Purple loosestife    | Flower     | Freq: SE; Occ: SC, SW, NE, NC, NW       |
| Notes: Garden escape which has become invasive in many states; PA noxious Weed    |                      |            |   |
| <i>Microstegium vimineum</i>  | Japanese stilt grass | Grass      | Freq: SE; Occ: SC                       |
| Notes: Annual grass; invasive in many states; spreading through woodlands by seed |                      |            |   |
| <i>Phragmites australis</i>   | Common reed          | Grass      | Freq: SE; Occ: SC, SW, NE, NW           |
| Notes: Native and introduced strains; wetland grass which can form huge colonies  |                      |            |   |
| <i>Polygonum (Falopia) cuspidatum</i>   | Japanese knotweed    | Flower     | Freq: SE; Occ: SC, SW, NE, NW; Rare: NC |
| Notes: Invasive in many states; difficult to control; spreads by roots and seeds  |                      |            |   |
| <i>Sorghum bicolor ssp. drummondii</i>  | Shattercane          | Grass      | Freq: SE; Occ: SC, NC                   |

Notes: Grass; PA noxious Weed

|   |                       |       |                                     |
|---|-----------------------|-------|-------------------------------------|
| <i>Sorghum halepense</i>  | Johnson grass         | Grass | Freq: SE; Occ: SC, SW, NE, NW       |
| Notes: Grass; PA noxious Weed; spreads by roots and seeds                                 |                       |       |                                     |
| <i>Elaeagnus umbellata</i>  | Autumn olive          | Shrub | Freq: SE, SC; Occ: SW; Rare: NE, NW |
| Notes: Escaped from plantings and invasive in many states; rapidly spread by birds        |                       |       |                                     |
| <i>Lonicera maackii</i>   | Amur honeysuckle      | Shrub | Occ: SE, SC, NW                     |
| Notes: Escaped from plantings; seeds spread by birds                                      |                       |       |                                     |
| <i>Lonicera morrowii</i>  | Morrow's honeysuckle  | Shrub | Freq: SE, SC, SW; Occ: NE, NC, NW   |
| Notes: Escaped from plantings and invasive in many states; seeds spread by birds          |                       |       |                                     |
| <i>Lonicera standishii</i>  | Standish honeysuckle  | Shrub | Occ: SE                             |
| Notes: Escaped from plantings; seeds spread by birds                                      |                       |       |                                     |
| <i>Lonicera tartarica</i>   | Tartarian honeysuckle | Shrub | Freq: SE, SC, SW; Occ: NE, NW       |
| Notes: Escaped from plantings; seeds spread by birds                                      |                       |       |                                     |
| <i>Rosa multiflora</i>  | Multiflora rose       | Shrub | Freq: SE, SC, SW; Occ: NE, NC, NW   |
| Notes: Invasive in many states; seeds spread by birds; PA noxious Weed                    |                       |       |                                     |
| <i>Acer platanoides</i>   | Norway maple          | Tree  | Freq: SE; Occ: SE, SW               |
| Notes: Commonly planted and escaped; invasive in many states; wind spreads prolific seeds |                       |       |                                     |
| <i>Ailanthus altissima</i>  | Tree-of-heaven        | Tree  | Freq: SE, SC; Occ: SW               |
| Notes: Invasive in many states; wind spreads prolific seeds                               |                       |       |                                     |
| <i>Celastrus orbiculatus</i>  | Oriental bittersweet  | Vine  | Freq: SE, SC, SW; Rare: NE, NW      |
| Notes: Escaped from cultivation and invasive in many states; spreading rapidly (by birds) |                       |       |                                     |
| <i>Lonicera japonica</i>  | Japanese honeysuckle  | Vine  | Freq: SE, SC; Occ: SW, NE           |
| Notes: Invasive in many states  |                       |       |                                     |
| <i>Polygonum perfoliatum</i>  | Mile-a-minute vine    | Vine  | Freq: SE; Rare: SW                  |
| Notes: Range expanding; PA Noxious Weed   |                       |       |                                     |
| <i>Pueraria lobata</i>  | Kudzu                 | Vine  | Freq: SE; Rare: SW                  |
| Notes: Invasive in many states; PA Noxious Weed   |                       |       |                                     |

## Other Sources

Recognition of the problem of invasive plants is growing, at the same time as damage to native ecosystems is mounting. Identifying invasive plants and understanding the potential damage they can cause is essential to stopping their spread and protecting native vegetation. Recent publications specifically on invasive plant control and a good field guide can help identify and avoid planting invasive plants. Try to learn as much as possible about this issue. The Internet is an excellent way to access the rapidly growing body of information on this topic.

### Books

"*Invasive Plants, Weeds of the Global Garden.*" 1996. Brooklyn Botanical Garden, 1000 Washington Avenue, Brooklyn, NY 11225.  
ISSN #0362-5850

Bright, Chris and Stake, Linda. 1998. *Life Out of Bounds: Bioinvasion in a Borderless World.* WWNorton: Worldwatch.  
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Brown, Lauren. 1979. *Grasses, An Identification Guide.* Boston: Houghton Mifflin.  
ISBN #0-395-27624-1

Darke, Rick. *The Color Encyclopedia of Ornamental Grasses.* Timber Press.  
ISBN #0-88192-4644

Devine, R.S. 1999. *Alien Invasion, America's Battle with Non-native Animals and Plants.* National Geographic Society.  
ISBN #07922274490

Hoffman, Randy and Kearns, Kelly, eds. 1997. *Wisconsin Manual of Control Recommendations for Ecologically Invasive Plants.* WIBER, WIDNR, PO Box 7921, Madison, WI 53707

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*Natural Areas Journal*. Natural Areas Association (NAA), 320 South Third Street, Rockford, IL 61104-2063  
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Newcomb, Lawrence. 1977. *Newcomb's Wildflower Guide*. Boston: Little, Brown, and Co. ISBN #0-316-60441-0

Petrides, G.A. 1988. *A Field Guide to Eastern Trees*. Boston: Houghton Mifflin; Peterson Field Guide Series, No. 11. ISBN #0-395-90455-2

Rhoads, A.F. and Klein, W.M. 1993. *The Vascular Flora of Pennsylvania*. Philadelphia, PA: American Philosophical Soc. ISBN #0-87169-207-4

## Internet

Brooklyn Botanic Garden [www.bbg.org](http://www.bbg.org)

Morris Arboretum PA Flora Project [www.upenn.edu/paflora](http://www.upenn.edu/paflora)

Plant Conservation Alliance, Alien Plant Working Group [www.nps.gov/plants/alien](http://www.nps.gov/plants/alien)

Natural Areas Association [www.naturalarea.org](http://www.naturalarea.org)

New England Wild Flower Society [www.newfs.org/invasive/invasive.htm](http://www.newfs.org/invasive/invasive.htm)

U.S. Department of Agriculture, Invaders Database System Noxious Weeds in the U.S. & Canada  
[invader.dbs.umt.edu/noxious\\_weeds](http://invader.dbs.umt.edu/noxious_weeds)

VA Dept. of Conservation and Recreation, Invasive Alien Plant Species of Virginia  
[www.dcr.state.va.us/dnh/invproj.htm](http://www.dcr.state.va.us/dnh/invproj.htm)

