

Colorful Alternatives



Lobelia cardinalis



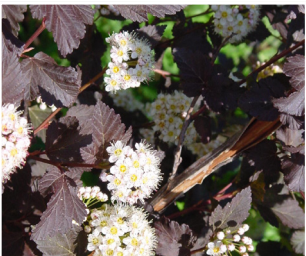
Aronia melanocarpa 'Elata'



Sesleria autumnalis



Liatris spicata



Physocarpus 'Diabolo'



Amelanchier 'Regent'



Thuja 'Brabant'



Cotinus cogg. 'Royal Purple'



Phlox 'Volcano'



Amelanchier canadensis

Further Reading

To find additional photos, full descriptions, and cultural information for the suggested alternatives, please refer to the following references:

The Midwestern Native Garden: Native Alternatives to Nonnative Flowers and Plants

Adelman, C. and Schwartz, B., 2011
Ohio University Press

Native Alternatives to Invasive Plants

Colston Burrell, C. 2006.
Brooklyn Botanic Garden, Brooklyn, NY.

Missouri Botanical Garden PlantFinder

www.mobot.org/gardeninghelp/plantfinder/Alpha.asp

The National Invasive Species Council – Invasive Species Definition Clarification and Guidance

www.invasivespeciesinfo.gov/docs/council/isacdef.pdf

Landscape Alternatives App



MIPN.org
Midwest Invasive Plant Network

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Midwest Invasive Plant Network

**Play
Clean
Go**

Landscape Alternatives for Invasive Plants of the Midwest



Rosa 'Knock Out'



Weigela 'Wine and Roses'



Itea 'Little Henry'



Helleborus 'Royal Heritage'

Although invasive plants are almost always not native to a region, it is important to note that most non-native species are not invasive. In some rare cases, native species have become invasive. We use the following definitions:

Native (indigenous)

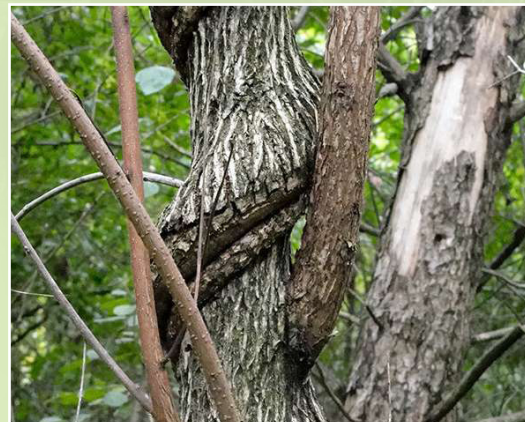
A species that was present in North America prior to European settlement or has arrived since through natural means of dispersal.

Non-native (exotic, alien, introduced)

A species that was brought to North America by humans, either deliberately or accidentally.

Invasive

A species, usually non-native, that is able to reproduce and increase its distribution, resulting in harm to ecological, economic, and/or human health.



Credit: David Zaya

Invasive species inflict harm in a number of ways, such as by shortening the lifespan of trees. The photo above shows invasive oriental bittersweet girdling a young tree and leaving a permanent spiraling groove in the bark, which will kill the tree before it matures.

Everybody loves a beautiful garden

Gardeners love plants that are adaptable, tough, and fast-growing. It's even better if that plant produces showy fruits that attract birds or is an annual that self seeds so it doesn't need to be replanted every year. Unfortunately, many of these plant traits desirable to gardeners can also increase the likelihood that a plant will escape cultivation and invade natural areas.

Invasive plants threaten our environment and economy. They pose an enormous threat to our native plants, animals and ecosystems; their toll on the environment is second only to habitat destruction. Invasive plants can also alter communities by changing hydrology or soil chemistry. According to the most widely referenced research (Pimental et al. 2005), invasive plants cause \$25 billion in damages each year in the United States alone.

Native plant cultivars

People have introduced the vast majority of invasive species, either accidentally or deliberately. In this brochure, we focus on ornamental plant species that have become invasive in at least part of the Midwest. For several of the invasive species listed in this brochure, there are cultivars available that produce fewer fruit and may be marketed as less invasive. Research by Knight, et al., 2011, demonstrates that these cultivars may still be invasive and that the only safe option is choosing sterile plants (both self-sterile and cross-sterile) that cannot produce viable seed or reproduce asexually.

When plants escape cultivation

The invasive plants listed in this brochure have escaped cultivation and are causing harm in one or more states in the Midwest. Several alternatives are provided for each invasive species. This includes both native species and non-native species that currently show no signs of becoming invasive.

Landscape Alternatives (listed below each invasive species)

KEY: NS = native species NC = native cultivar E = exotic/not native to U.S. H = hybrid

Barberry, Japanese *Berberis thunbergii* Red fall color, tolerant of urban conditions

| | | |
|---------------------------------------------------------|----|------------------------------------------------------------------------------|
| <i>Buxus</i> spp. (Boxwood 'Glencoe' or 'Green Velvet') | E | Dense, evergreen foliage; small round leaves; fragrant |
| <i>Ribes alpinum</i> 'Green Mound' (Alpine currant) | E | Dense foliage; lobed leaves; yellow fall color |
| <i>Fothergilla major</i> (Large fothergilla) | NS | White flower clusters; red to orange fall color |
| <i>Cotoneaster divaricatus</i> (Spreading cotoneaster) | E | Small, pale pink flowers; red to purple fall color |
| <i>Ilex verticillata</i> (Winterberry holly) | NS | Bright red berries in dense clusters; persist through winter; attracts birds |
| <i>Physocarpus opulifolius</i> 'Diablo' (Ninebark) | NC | Dark, reddish-purple leaves; pinkish-white flowers |
| <i>Rosa knockout</i> (Knockout roses) | E | Brilliant flower color; disease resistant |

Barberry, Japanese (purple) *Berberis thunbergii* Purple foliage, tolerant of urban conditions

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|----------------------------------------------------------------------------------------------------|----|----------------------------------------------------|
| <i>Cotinus coggygria</i> (Smoke bush) | E | Airy pink flowers; purple fall foliage |
| <i>Physocarpus opulifolius</i> 'Diablo', 'Summer Wine', 'Coppertina', and 'Center glow' (Ninebark) | NC | Dark, reddish-purple leaves; pinkish-white flowers |
| <i>Rosa rubrifolia</i> (Redleaf rose) | E | Purplish-red foliage; pink flowers |
| <i>Weigela florida</i> 'Wine and Roses' (Weigela 'Wine and Roses') | E | Dark burgundy-purple foliage and rosy pink flowers |

Bittersweet, Oriental *Celastrus orbiculatus* Attractive red and orange fruit

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|--------------------------------------------------|----|-----------------------------------------|
| <i>Celastrus scandens</i> (American Bittersweet) | NS | Similar leaves, fruit, and growth habit |
|--------------------------------------------------|----|-----------------------------------------|

Buckthorns, common/glossy *Rhamnus cathartica*, *R. frangula* Hedge or border plantings

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|-------------------------------------------------|----|-----------------------------------------------------------|
| <i>Carpinus caroliniana</i> (American hornbeam) | NS | Small tree; orange to red fall color |
| ① <i>Corylus americana</i> (American hazelnut) | NS | Shade-tolerant; edible nut |
| <i>Rhamnus alnifolia</i> (Dwarf alder) | NS | Shiny, ovate leaves; red to black berries |
| <i>Thuja occidentalis</i> (American arborvitae) | NS | Dense, evergreen foliage; good as a screen or hedge plant |
| <i>Thuja plicata</i> (Western arborvitae) | NS | Dense, evergreen foliage; good as a screen or hedge plant |



Burning bush *Euonymus alatus*² Red fall color, red fruit

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|-------------------------------------------------------------------------|----|--------------------------------------------------|
| <i>Aronia arbutifolia</i> (Red chokeberry) | NS | Brilliant red fall color; red berries |
| <i>Aronia melanocarpa</i> (Black chokeberry) | NS | Brilliant red fall color; black berries |
| <i>Fothergilla major</i> (Large fothergilla) | NS | White flower clusters; red to orange fall color |
| <i>Fothergilla</i> 'Mt. Airy' and 'Blue Shadow' (Fothergilla cultivars) | NC | Abundant white flowers; red to purple fall color |



Norway maple *Acer platanoides* Shade tree, tolerant of urban environments

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|--------------------------------------------|------|--------------------------------------------------|
| <i>Acer miyabei</i> (Miyabei maple) | E | Small to medium tree; yellow fall color |
| ④ <i>Ginkgo biloba</i> (Ginkgo, male only) | E | Shade tree; tolerant of urban environments |
| <i>Acer freemanii</i> (Hybrid maple) | NS/H | Fast-growing; yellow to red fall color |
| <i>Tilia cordata</i> (Littleleaf linden) | E | Good street tree; tolerant of urban environments |

Olive, Russian *Elaeagnus angustifolia* Small tree, silver foliage Olive, Autumn *Elaeagnus umbellatus* Large shrub, silver foliage

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|-------------------------------------------|----|-----------------------------------------------------------------------------------|
| <i>Shepherdia argentea</i> (Buffaloberry) | NS | Silver-green leaves; silver stems; red to yellow fruit good for wildlife |
| <i>Salix sericea</i> (Silky willow) | NS | Silver, lance-shaped leaves |
| <i>Salix elaeagnos</i> (Rosemary willow) | E | Stems and undersides of leaves silver-gray; leaves look like long rosemary leaves |
| <i>Cornus sericea</i> (Redosier dogwood) | NS | Bright red stems; small white flowers; good for hedges or mass plantings |
| <i>Elaeagnus commutata</i> (Silverberry) | NS | Silver foliage; very tolerant of dry conditions |

Privet *Ligustrum vulgare*, *L. obtusifolium* Hedge or border plantings

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|-------------------------------------------|----|------------------------------------------------------------------------------|
| ⑤ <i>Viburnum prunifolium</i> (Black haw) | NS | Small white flowers in dense clusters; dark blue berries persist into winter |
|-------------------------------------------|----|------------------------------------------------------------------------------|

Purple loosestrife, including all cultivars *Lythrum* spp. Bright pink-purple flowers

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|------------------------------------------------------------------------------|----------|------------------------------------------------------------|
| <i>Liatris spicata</i> 'Kobold,' <i>Liatris pycnostachya</i> (Blazing stars) | NC | Showy spikes of purple flowers |
| ⑥ <i>Vernonia fasciculata</i> (Prairie ironweed) | NS | Dense purple flowers; stiff stems |
| <i>Lobelia cardinalis</i> , incl. hybrid cultivars (Cardinal flower) | NS NC | Tubular red flowers; attracts hummingbirds |
| ⑦ <i>Asclepias incarnata</i> (Swamp milkweed) | NS | Flat clusters of pink-red flowers; grows well in wet areas |

Ribbon grass *Phalaris arundinacea* Tufted growth form; easy to grow

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|----------------------------------------------------------------------------|----|--------------------------------------------|
| <i>Spartina pectinata</i> 'Aureomarginata' (Variegated prairie cord grass) | NC | Golden edged foliage; purple flowers |
| <i>Carex morrowii</i> 'Ice Dance' (Ice dance sedge) | NC | Stiff, dark green leaves; drought tolerant |
| <i>Sesleria autumnalis</i> (Autumn moor grass) | E | Forms tufted mound; drought tolerant |

Siberian elm *Ulmus pumila* Fast-growing, tolerant of wide range of conditions

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|-------------------------------------------------------------------------------------|-----|--------------------------------------------------------|
| <i>Ginkgo biloba</i> (Ginkgo) | E | Shade tree; tolerant of urban environments |
| <i>Ulmus americana</i> 'Princeton,' 'Valley Forge' and 'New Harmony' (American elm) | NC | Spreading, arching branches; good street or shade tree |
| <i>Ulmus</i> hybrids (Hybrid elm) | E/H | Arching branches; good street or shade tree |

Species to Watch/Maintain (and their alternatives)

Some plant species need maintenance to prevent invasion. Instructions for maintenance and alternative species are presented below.

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|-----------------------------------------------|----|---------------------------------------------------------------------------------------------------|
| <i>Itea virginica</i> (Virginia sweetpire) | NS | Bright red fall color; green or red winter twigs; arched branches; fragrant white flower clusters |
| <i>Viburnum prunifolium</i> (Blackhaw) | NS | Small white flowers in dense clusters; dark blue berries persist into winter |
| <i>Rhus copallinum</i> (Shining sumac) | NS | Brilliant red autumn color; drooping red berry clusters; glossy leaves |
| <i>Euonymus americanus</i> (Strawberry bush) | NS | Red capsules open to reveal orange-red berries; green stems in winter |
| <i>Euonymus atropurpureus</i> (Eastern wahoo) | NS | Dark purple fall foliage; red fruits are attractive to wildlife |

Dame's rocket *Hesperis matronalis* Bright pink and white flowers

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|---------------------------------------------------------------------------------------|----|----------------------------------------------------------------------|
| <i>Phlox paniculata</i> 'Katherine', 'Shortwood', 'David' ² (Summer phlox) | NC | Narrow, pointed leaves; forms dense clumps; variety of flower colors |
| <i>Phlox carolina</i> 'Reine du Jour' (Carolina phlox) | NC | Bright pink flowers; mildew-resistant |

Flowering rush *Butomus umbellatus* Water gardens

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|----------------------------------------------------|----|------------------------------------------------------------------|
| <i>Juncus effusus</i> (Common rush, soft rush) | NS | Stiff, pale green stems; grows in clumps; good for water gardens |
| <i>Schoenoplectus pungens</i> (Common threesquare) | NS | Stiff, triangular stems; good for water gardens |
| <i>Schoenoplectus acutus</i> (Hardstem bulrush) | NS | Stiff, round stems; good for water gardens |

Honeysuckle, Amur *Lonicera maackii* Larger size than other *Lonicera* spp.

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|---------------------------------------------------|------|--------------------------------------------------------------------------------|
| <i>Amelanchier</i> spp. (Serviceberry) | NS/E | White flowers; edible fruit; fall color |
| <i>Heptacodium miconioides</i> (Seven son flower) | E | Clusters of fragrant white flowers, purplish-red fruits persist through winter |
| <i>Kolkwitzia amabilis</i> (Beautybush) | E | Pale, pink flowers; yellow to red fall color; grows quickly |

Honeysuckles, Bush *Lonicera morrowii*, *L. tatarica*, *L. x bella* Fast growth, red fruit

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|---------------------------------------------------------------|------|----------------------------------------------------------------------------------|
| <i>Amelanchier</i> spp. (Serviceberry) | NS/E | White flowers; edible fruit; fall color |
| <i>Calycanthus floridus</i> (Carolina allspice) | NS | Fragrant, red flowers; aromatic leaves |
| <i>Kolkwitzia amabilis</i> (Beautybush) | E | Pale, pink flowers; yellow to red fall color; grows quickly |
| ³ <i>Sambucus canadensis</i> (American elderberry) | NS | White flowers; purple-black fruit; attracts birds and butterflies |
| <i>Sambucus pubens</i> (American red elderberry) | NS | Yellowish white flowers; red fruit |
| <i>Lonicera dioica</i> (Red honeysuckle) | NS | Yellow flowers; red fruit; bluish foliage; attracts birds, bees, and butterflies |
| <i>Lonicera involucrata</i> (Twinberry) | NS | Pale yellow flowers; deep green foliage; small shrub; erosion control |
| <i>Stephanandra incisa</i> (Cultleaf stephanandra) | E | Arching stems; purple-red to orange fall color |

Honeysuckle, Japanese *Lonicera japonica* Fragrant flowers, climbing vine, red/black berries

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|----------------------------------------------------------------------------|------|----------------------------------------------------------------|
| <i>Lonicera sempervirens</i> (Scarlet honeysuckle or trumpet honey suckle) | NS | Coral, red, or yellow trumpet-shaped flowers |
| <i>Lonicera x heckrottii</i> (Everblooming honeysuckle) | NS/H | Pink flowers buds open to show yellow center; fragrant flowers |
| <i>Lonicera dioica</i> (Red honeysuckle or Northern bush honeysuckle) | NS | Yellow flowers; red fruit |

Wintercreeper, trailing types *Euonymus fortunei*³ Groundcover

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|-----------------------------------------------------|----|-----------------------------------------------------|
| <i>Arctostaphylos uva-ursi</i> (Bearberry) | NS | Evergreen groundcover; large red berries |
| ⁸ <i>Asarum canadensis</i> (Wild ginger) | NS | Herbaceous groundcover; heart-shaped leaves |
| <i>Asarum europaeum</i> (Wild ginger) | E | Herbaceous groundcover; glossy, heart-shaped leaves |
| <i>Helleborus</i> spp. (Hellebore) | E | Evergreen; shiny, dark green foliage |

Periwinkle *Vinca minor*⁴ Groundcover

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|------------------------------------------------------------------|----|--------------------------------------------------------|
| <i>Arctostaphylos uva-ursi</i> (Bearberry) | NS | Evergreen groundcover; large red berries |
| ⁹ <i>Waldsteinia fragarioides</i> (Barren strawberry) | NS | Evergreen groundcover; butter-yellow flowers in spring |



Footnotes

- Celastrus scandens* (American bittersweet) can be difficult to tell apart from the invasive *C. orbiculatus* until it reaches maturity and is, therefore, often mislabeled. Zaya, et al., 2017, found that 54% of plants labeled as *C. scandens* were, in fact, *C. orbiculatus*. All specimens purchased online were *C. orbiculatus*, so it is advised to only purchase *C. scandens* in person.
- Research by Brand et al., 2012, demonstrated that nine *Euonymus alatus* cultivars had a high rate of seed germination and seedling survival, regardless of the number of seeds they produced, and therefore none could be considered non-invasive. (See Brand, M. et al. 2012. Fecundity of winged euonymus cultivars and their ability to invade various natural environments. HortScience 47(8): 1029-1033; and Knight et al. 2011. Will the use of less fecund cultivars reduce the invasiveness of perennial plants? BioScience 61:816-822.)
- Euonymus fortunei* (Wintercreeper) This species can spread both vegetatively and by seed when allowed to climb. It must climb approximately four feet before it produces flowers and fruits. If it is contained (by concrete or mowed lawns) and kept trimmed, it is not a threat, but it should not be planted adjacent to natural or minimally managed areas.
- Vinca minor* (Periwinkle) This species can spread vegetatively into natural areas but does not spread by seed. If it is contained (by concrete or mowed lawns) and kept trimmed, it is not a threat, but it should not be planted adjacent to natural, or minimally managed, areas.

