

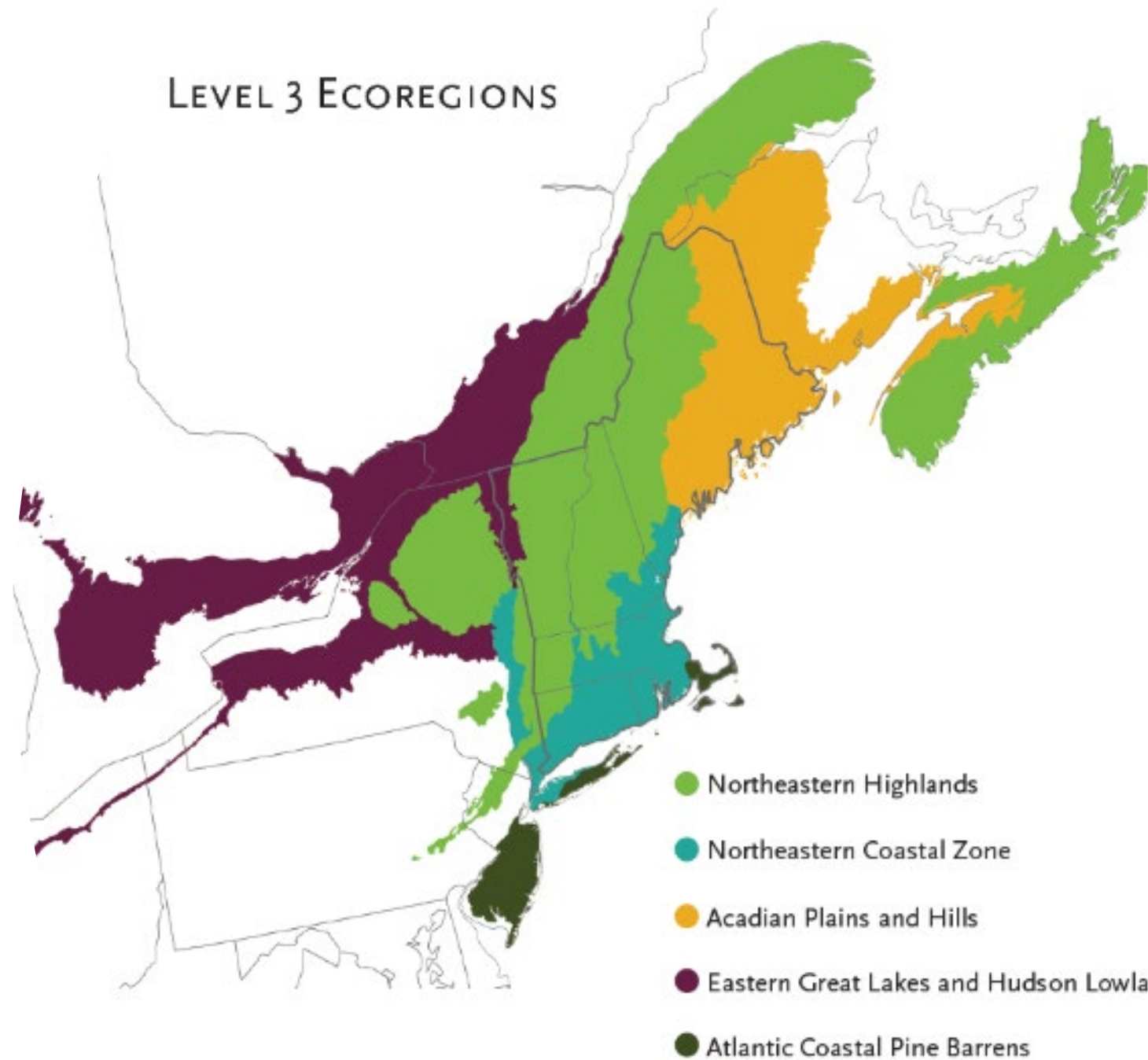


Terrestrial invasive plants



Definition

An "invasive species" is defined as a species that is non-native to the ecoregion; and whose introduction causes or is likely to cause economic or environmental harm or harm to human health.





Native species are NOT invasive species



Why be concerned about
invasive species?

Because we
love Maine!

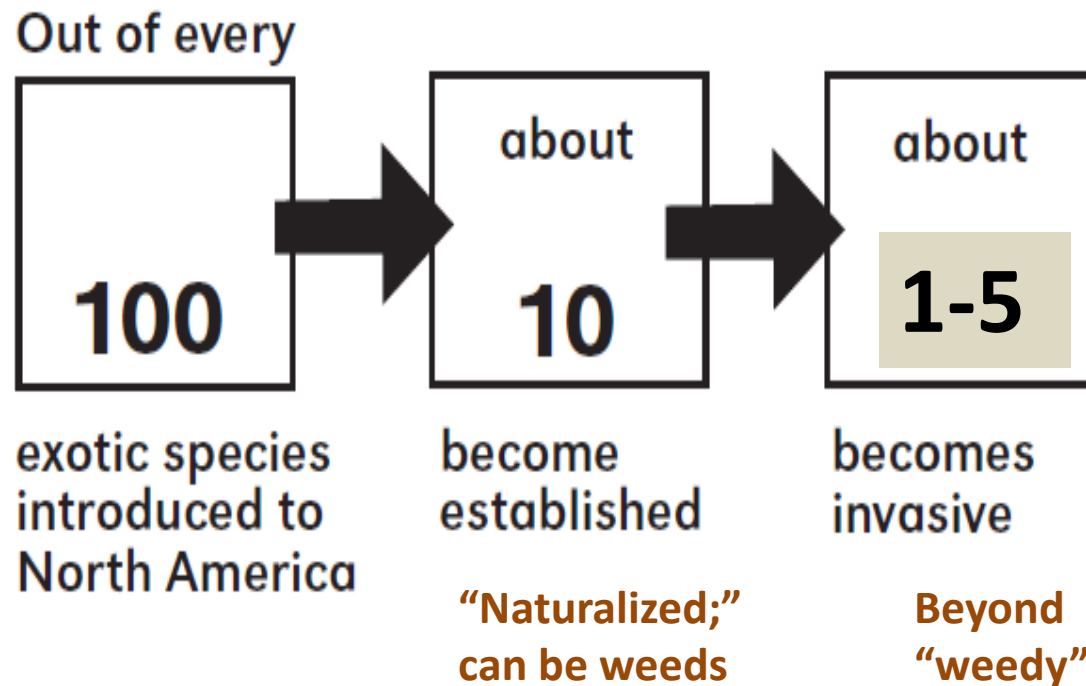


Invasive
species don't
fit into Maine's
ecological
puzzle

Most non-native species are not invasive

FIGURE 1.1

Number of Exotic Species That Become Invasive



What harm do invasive plants cause?



Out-compete native plant species, overrun habitats

Invasive plants can exacerbate climate change



CLIMATE CHANGE POLICY MUST ADDRESS INVASIVE SPECIES' CAPACITY TO:



Damage ecosystem function and reduce nature-based solutions like carbon sequestration



Degrade natural and built infrastructure resilience, impacting rural and urban communities



Reduce coastal communities' resilience to storms, erosion, flooding, and biodiversity loss



Imperil Indigenous cultural practices, food security, and ways of life



Threaten island sustainability, human health, food systems, and transitional practices



**Damage or kill plants
directly or indirectly**



Displace native trees, shrubs, and wildflowers

**Alter wildlife
habitat &
prevent forest
regeneration**



Harm food webs that depend on native plants

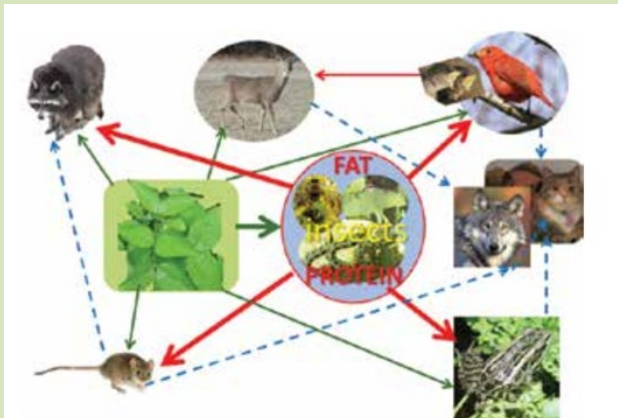
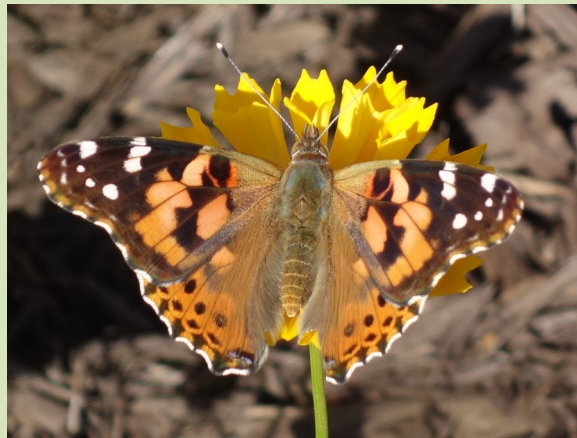


Figure 4. A simple food web showing the importance of insects in transforming plant material into food for many other animals.



Figure from Jordan 2014, Novel ecosystems, invasion and the forgotten food web, Quarterly Newsletter of the Long Island Botanical Society, Spring edition.

WHAT CAN WE DO ABOUT INVASIVE SPECIES?

Key steps in addressing invasive species

- Prevent new introductions
- Identify, assess,
- Report (horticulture@maine.gov) (iMapInvasives.org)
- Prioritize
- Control
- Monitor
- (repeat)



Identification of invasive plants

- Plant ID requires practice
- Go outside, look at plants
- Use the MNAP field guide
- Use the GoBotany website to look at photos



Maine Invasive Plants Field Guide



The cover of the 'Maine Invasive Plants Field Guide' features a green background with white text. On the left, there are four vertical photographs: a tall, thin plant with small yellow flowers; a dense patch of green plants with small white flowers; a close-up of a plant stem with large, serrated leaves; and a field of purple flowers. At the bottom, the text reads 'Maine Natural Areas Program Department of Agriculture, Conservation and Forestry'.

Maine Invasive Plants Field Guide

Maine Natural Areas Program
Department of Agriculture, Conservation and Forestry



The entry for Goutweed (Bishop's weed) includes a red 'SEVERELY INVASIVE' label, the scientific name *Aegopodium podagraria*, and its status in Maine as 'widespread'. It features a photograph of the plant in bloom and a detailed description of its morphology, reproduction, habitat, and similar native species. The bottom of the entry has a purple banner with the text 'herbs & grasses' and a small icon of a plant.

SEVERELY INVASIVE

GOUTWEED
(Bishop's weed)
Aegopodium podagraria
Status in Maine: widespread



Description: Herbaceous, perennial ground cover, 1-2' tall, with many common names. **Leaves:** Compound with variable triternate leaflets; pointed leaflets have serrate margins. Most leaves are basal with long petioles. Wild type is a medium green color while the variegated form is pale bluish green with white margins. **Flowers/seeds:** Typical carrot family flowers; 2-5" diameter umbels of tiny white flowers atop 2-3' stalk. Plants require at least partial sun to flower. Seeds are brown, small and flat. **Roots:** Fleshy long white rhizomes, like quackgrass (*Elymus repens*).

Native range: Europe & Northern Asia. **How arrived in U.S.:** As an ornamental.

Reproduction: While research shows that goutweed's insect pollinated flowers can produce viable seed, seedlings are rarely encountered. Its branching network of rhizomes allows it to grow aggressively away from plantings or colonize a new site via contaminated soil.

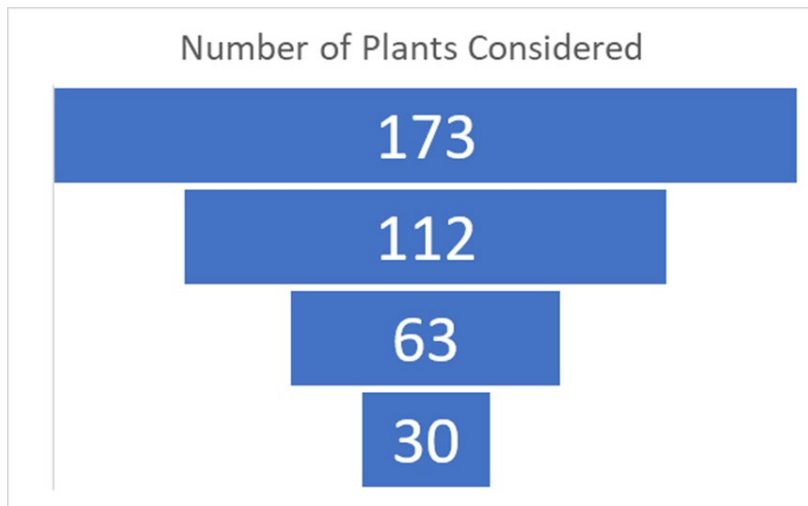
Habitat: Moist soil and light shade are preferred garden spots, but goutweed is content in many habitats. It typically enters forests from runaway plantings or via fill contaminated with rhizome fragments.

Similar native species: Golden alexanders (*Zizia aurea*) has somewhat similarly shaped leaves but yellow flowers. Anisewood and sweet-cicely (*Osmorhiza* spp.) also have somewhat similarly shaped leaves but are anise-scented.

herbs & grasses

- Essential ID and control information
- 46 species
- Waterproof, small
- \$30 including S&H
- Visit MNAP website to order
- Read the “Managing Invasive Plants” section in the back!

Terrestrial Invasive Plant Committee



- ▶ The committee started with a list of 173 species which was reduced to (112) - 81 priority plants to evaluate and another 31 seemingly lower-risk plants to evaluate if time permitted
- ▶ 49 hitchhiker plants were removed from the list because it is very difficult to detect them, reducing the list to 63
- ▶ 30 plants were selected to be added to the proposed rule

About Us
Focus Areas
Communities, Plants and Animals
Natural Communities and Ecosystems
Rare Plants
Invasive Plants
Invasive Plant List and Fact Sheets
Ecological Inventory and Monitoring
Rare Animals
State and Global Rarity Ranks
Survey Forms
Maps, Data, and Technical

Maine Natural Areas Program

Invasive Plants

[Gallery / Advisory List](#)

[Advisory List of Invasive Plants - 2019](#)

This is a list of non-native plants found to pose a threat to habitats and natural resources in Maine. The Advisory List is an informal tool for landowners, wildlife biologists, foresters, land stewards, conservation commissions, and others interested in controlling invasive plants and preventing their spread. It is intended for education and outreach, land management, and other non-regulatory uses. Please see the [2019 Official Endorsement](#).

What is an invasive plant?

An invasive plant is defined as a plant that is not native to a particular ecosystem, whose introduction does or is likely to cause economic or environmental harm or harm to human health. There are currently approximately 2,100 plant species recorded from Maine. Approximately one third of those are not native. Of those plants that are not native, only a small fraction are considered invasive, but these have the potential to cause great harm to our landscape. Please visit our [list of fact sheets](#) to determine if a particular species is considered invasive in Maine, and [our new invasive plant brochure](#) for a general overview, including the do not call list.

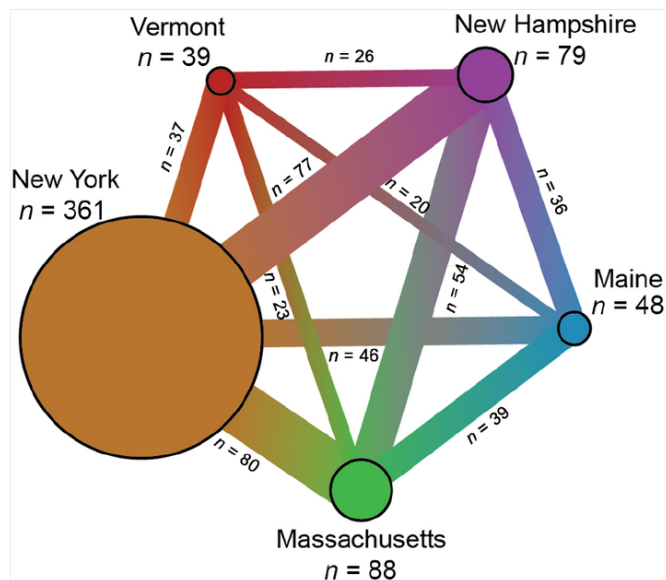
INVASIVES RESOURCES



[iMapInvasives in Maine](#)
You can help map invasive species!



[iMap login or sign up](#)
Log in for registered users. Please visit our [iMap page](#) for more information and to register.



Why those 173 plant species?

- ▶ Our pipeline for plant suggestions included:
 - ▶ The MNAP Advisory List of Invasive Plants - https://www.maine.gov/dacf/mnap/features/invasive_plants/invsheets.htm
 - ▶ NE RISCC Network impactful range shifting species
 - ▶ <https://esajournals.onlinelibrary.wiley.com/doi/full/10.1002/ecs2.4014>
 - ▶ Plants listed by other Northeast states
 - ▶ Plants nominated through the Plant Health Programs website online form
 - ▶ https://www.maine.gov/dacf/php/horticulture/documents/MaineInvasivePlantNominationForm_Dec2016.pdf

Chapter 273 - Criteria for Evaluating Terrestrial Plant Species

- In order to include a plant on a list of invasive terrestrial plant species administered by the Maine Department of Agriculture, Conservation, and Forestry, ALL the following criteria must be met:
 - Be non-native to Maine, and
 - Have the potential for rapid growth, dissemination, and establishment in minimally managed habitats, and
 - Have the biological potential for widespread dispersion and for dispersing over spatial gaps, and
 - Have the biological potential for existing in high numbers or large colonies in minimally managed habitats, and
 - Have the potential to displace native species in minimally managed habitats.

Terrestrial Invasive Plant Committee

- ▶ After a deep dive into the evaluations, the committee decided to:
 - ▶ Move forward by adding 30 species to the do-not-sell list and
 - ▶ To create a “Watch List” with 29 plants
 - ▶ The committee struggled with what to do with *Rosa rugosa* and decided to put it in its own category - Invasive Species of Special Concern
 - ▶ Recommended clarifying the requirements to petition for removal of a cultivar, hybrid, or subspecies
- ▶ The rule was adopted May 24, 2022
- ▶ As of January 1, 2024, 30 additional plants were banned from sale or import

Have You Seen These Plants?

Wanted for crimes against nature. State horticulturalist Gary Fish on the state's newest horticultural outlaws (and a warning label for beach roses).



ABOVE Beach roses, which have been given the ominous designation, “Invasive Terrestrial Plant of Special Concern.” Photograph by Benjamin Williamson.

TEXT BY AURELIA C. SCOTT
PHOTOGRAPHS COURTESY OF THE MAINE NATURAL AREAS PROGRAM

<https://mainehomes.com/have-you-seen-these-plants/>

Invasive Plant Do Not Sell List

The invasive plants listed below, including all cultivars, varieties and hybrids are illegal to sell, import, export, buy or intentionally propagate for sale in Maine. See reverse for more information.

<i>Acer ginnala</i> (amur maple)	<i>Iris pseudacorus</i> (yellow flag iris)
<i>Acer platanoides</i> (Norway maple)	<i>Ligustrum obtusifolium</i> (border privet)
<i>Aegopodium podagraria</i> (bishop's weed)	<i>Ligustrum vulgare</i> (common privet)
<i>Ailanthus altissima</i> (tree of heaven)	<i>Lonicera japonica</i> (Japanese honeysuckle)
<i>Alliaria petiolata</i> (garlic mustard)	<i>Lonicera maackii</i> (amur or bush honeysuckle)
<i>Alnus glutinosa</i> (European alder)	<i>Lonicera morrowii</i> (Morrow's honeysuckle)
<i>Amorpha fruticosa</i> (false indigo bush)	<i>Lonicera tatarica</i> (Tatarian honeysuckle)
<i>Ampelopsis glandulosa</i> (porcelain berry)	<i>Lonicera xylosteum</i> (dwarf honeysuckle)
<i>Angelica sylvestris</i> (woodland angelica)	<i>Lythrum salicaria</i> (purple loosestrife)
<i>Anthriscus sylvestris</i> (wild chervil)	<i>Lythrum virgatum</i> (European wand loosestrife)
<i>Aralia elata</i> (Japanese angelica tree)	<i>Microstegium vimineum</i> (stiltgrass)
<i>Artemisia vulgaris</i> (common mugwort)	<i>Miscanthus sacchariflorus</i> (amur silvergrass)
<i>Berberis thunbergii</i> (Japanese barberry)	<i>Paulownia tomentosa</i> (paulownia, princess tree)
<i>Berberis vulgaris</i> (common barberry)	<i>Persicaria perfoliata</i> (mile-a-minute)
<i>Butomus umbellatus</i> (flowering rush)	<i>Petasites japonicus</i> (fuki, butterbur)
<i>Celastrus orbiculatus</i> (Asiatic bittersweet)	<i>Phalaris arudinacea</i> (reed canary/ribbon grass)
<i>Elaeagnus angustifolia</i> (Russian olive)	<i>Phellodendron amurense</i> (amur cork tree)
<i>Elaeagnus umbellata</i> (Autumn olive)	<i>Photinia villosa</i> (photinia, Christmas berry)
<i>Euonymus alatus</i> (burning bush)	<i>Phragmites australis</i> (common reed)
<i>Euonymus fortunei</i> (wintercreeper)	<i>Phyllostachys aurea</i> (golden bamboo)
<i>Euphorbia cyparissias</i> (cypress spurge)	<i>Phyllostachys aureosulcata</i> (yellow grove bamboo)
<i>Fallopia baldschuanica</i> (silver lace vine)	<i>Populus alba</i> (white cottonwood, white poplar)
<i>Fallopia japonica</i> (Japanese knotweed)	<i>Pyrus calleryana</i> (Callery/Bradford pear)
<i>Festuca filiformis</i> (fine-leaved sheep fescue)	<i>Ranunculus repens</i> (creeping buttercup)
<i>Ficaria verna</i> (lesser celandine)	<i>Robinia pseudoacacia</i> (black locust)
<i>Frangula alnus</i> (glossy buckthorn)	<i>Rosa multiflora</i> (multiflora rose)
<i>Glaucium flavum</i> (yellow hornpoppy)	<i>Rubus phoenicolasius</i> (wineberry)
<i>Glechoma hederacea</i> (creeping charlie)	<i>Silphium perfoliatum</i> (cup plant)
<i>Glyceria maxima</i> (reed/great mannagrass)	<i>Sorbus aucuparia</i> (European mountain ash)
<i>Hesperis matronalis</i> (dame's rocket)	<i>Tussilago farfara</i> (coltsfoot)
<i>Hippophae rhamnoides</i> (sea buckthorn)	<i>Valeriana officinalis</i> (common valerian)
<i>Impatiens glandulifera</i> (ornamental jewelweed)	

Invasive Plants Prohibited from Sale or Import in Maine What You Need to Know



CMR 01-001 Chapter 273: Criteria for Listing Invasive Terrestrial Plants makes it illegal to sell, import, export, buy or intentionally propagate for sale the certain invasive plant species. See the reverse for the full list of plants.

Invasive Plant Rule Quick Facts

- The sale/import ban includes the listed species and all cultivars, varieties and hybrids. See the full list of species on the Do Not Sell List on the reverse.
- Plants listed in the rule as an "Invasive Terrestrial Plant Species of Special Concern," may still be sold, but sellers must display a sign or tag indicating the plant could be invasive in some habitats. See website for details of sign and tag requirements.
- Variances may be applied for and granted for varieties, cultivars or hybrids that have been shown to not be invasive through university, USDA or botanical garden research and for scientific research purposes.
- The invasive plant rule and included prohibited plant list will be reviewed every 5 years.
- The invasive plant rule also contains a "Watch List" of plants. Plants on the "Watch List" may still be sold, but may be banned in future rule reviews.
- In addition to the invasive plants listed here, Department of Environmental Protection rules ban the sale of 11 invasive aquatic plants. www.maine.gov/dep/water/invasives/index.html
- More information is available at www.maine.gov/hort or scanning the QR code below.

Invasive Terrestrial Plant Species of Special Concern

These plants require signage or plant tags indicating the plant may be invasive in some habitats. See website for more information.

Rosa rugosa (rugosa rose, beach rose)

MORE INFORMATION:
MAINE DEPARTMENT OF AGRICULTURE, CONSERVATION AND FORESTRY
DIVISION OF ANIMAL AND PLANT HEALTH
28 STATE HOUSE STATION
AUGUSTA, ME 04333
207-287-3891
HORTICULTURE@MAINE.GOV
WWW.MAINE.GOV/HORT



Rosa rugosa - invasive species of special concern starting 1/1/2024



1. Must provide signage or plant tags (next slide)
 - A. The plant vendor must provide species specific guidance at the time of sale to notify the purchaser about the invasive potential of the species and what habitat types to avoid when installing the plant.
 - B. No person selling or offering for sale an invasive terrestrial plant species of special concern shall conceal, detach, alter, deface, or destroy any label, sign, or notice required under this section.

New requirements for *Rosa rugosa*

Rosa rugosa
Invasive Species—Harmful to the Environment
Do not plant in coastal environments, especially on or near sand dunes.
Alternatives: Virginia rose, bayberry, sweet fern, red chokeberry, beach plum and sand cherry.

Rosa rugosa
Invasive Species – Harmful to the Environment
Ask About Alternative Plants
Follow Species Specific Instructions Provided by the Vendor
Protect native species; do not plant in coastal areas, especially on or near sand dunes.
Alternative plants include: virginia rose and other roses, bayberry, sweet fern, red chokeberry, beach plum and sand cherry.

Rosa rugosa
Invasive Species—Harmful to the Environment
Do not plant in coastal environments, especially on or near sand dunes.
Alternatives: Virginia rose, bayberry, sweet fern, red chokeberry, beach plum and sand cherry.

Plants on the “Watch List”

- ▶ Hardy kiwi
- ▶ Chocolate vine
- ▶ Italian arum
- ▶ Paper mulberry
- ▶ Butterfly bush
- ▶ Sweet autumn
- ▶ Indian yam
- ▶ Chinese yam
- ▶ Weeping lovegrass
- ▶ Queen of the meadow
- ▶ Two-colored bush clover
- ▶ California privet
- ▶ Honeyberry
- ▶ Ragged robin
- ▶ White mulberry
- ▶ Sawtooth oak

Plants on the “Watch List”

- ▶ Rosa rugosa
- ▶ Hardy pampas grass
- ▶ Sticky sage
- ▶ Milk thistle
- ▶ Japanese spiraea
- ▶ Sapphire-berry
- ▶ Japanese tree lilac
- ▶ Chinese cedar
- ▶ Siberian elm
- ▶ Linden arrowwood
- ▶ Siebold viburnum
- ▶ Japanese wisteria
- ▶ Chinese wisteria

STILTGRASS (*MICROSTEGIUM VIMINIUM*)

- Found at York county nursery and two Georgetown properties
- Be on the lookout for dense patches of unfamiliar grass
- Built up thatch is fire risk
- Crowds out natives



Stiltgrass



- 5 Known Sites
- Found in Forests



Invasive Stiltgrass

Microstegium vimineum



Have you seen this plant?



Invasive stiltgrass (*Microstegium vimineum*) is a highly invasive annual weed that causes ecological and economic harm by forming a thick thatch layer that makes it difficult for native trees, shrubs and wildflower seeds to establish and grow. The presence of invasive stiltgrass in a forest may also increase fire risk.

Please help us find this Early Detection, Rapid Response plant in Maine. **You can help!** If you suspect invasive stiltgrass, **note the location** and **send a photo** to invasives.mnap@maine.gov. Look for these characteristics:

1. 2-4" long leaves that are ½" wide and alternate along the stem.
2. Upper leaf surface has a stripe of reflective hairs along the mid-rib.
3. Leaf edges that feel smooth to the touch. Unlike some native grasses that have stiff hairs that make the leaf edges feel rough or sticky.
4. Plants that flower and set seed late in the season (September-October), much later than many other grasses. Seed spikes are similar to crabgrass.
5. Stems may develop a reddish tint late in the season.



MILE-A-MINUTE VINE (*Persicaria perfoliata*)

- Not yet established in Maine
- Four reports in 2023
 - Boothbay Harbor, Islesboro, Topsham, and Winthrop
- Climbing/sprawling annual vine
- Can grow 6" in one day
- Produces seeds June-Sept
 - Be vigilant in cutting back
- Seeds viable for up to 6 years

Photo credit: Richard Gardner, Bugwood.org

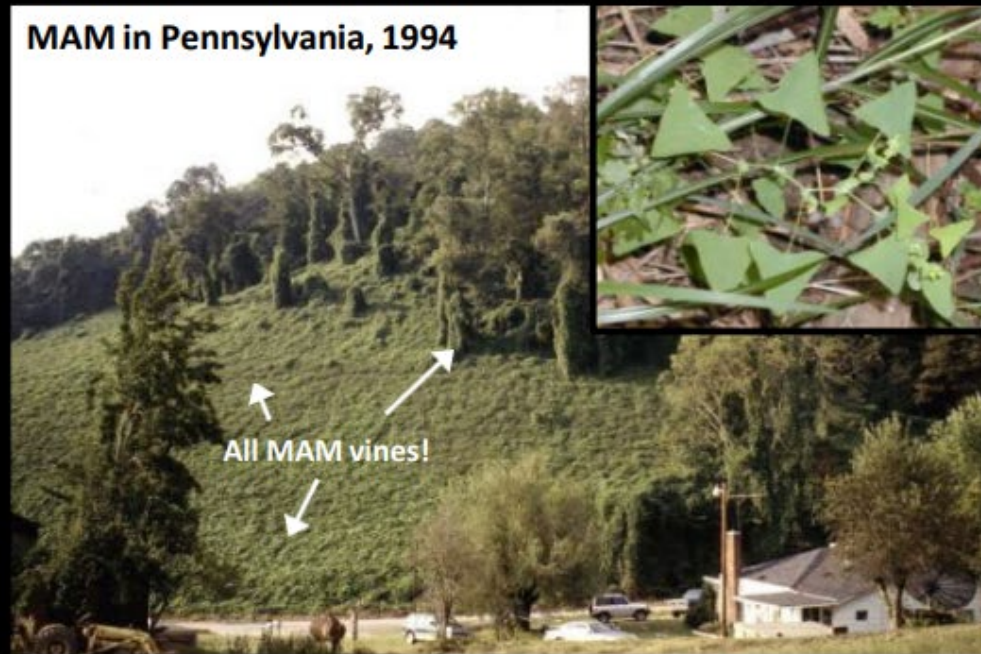
Mile-a-minute Vine (MAM)

Persicaria perfoliata

1. Triangular leaves- no lobes or indentations



MAM in Pennsylvania, 1994



2. Small barbs along stems



3. Saucer-shaped leaves (called ocrea) at nodes

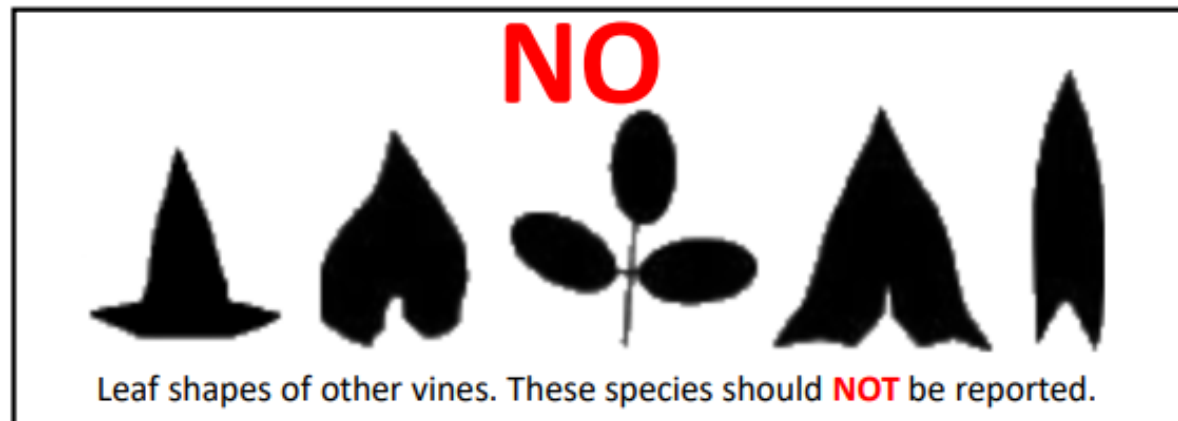


Have you seen this plant?



Mile-a-minute vine (*Persicaria perfoliata*) is a highly invasive annual weed that causes ecological and economic harm by out competing and overgrowing native species. A single mile-a-minute vine can grow up to 6 inches per day and will climb trees and posts and scramble over other vegetation.

Please help us find this Early Detection, Rapid Response plant in Maine. **You can help!** If you see a vine with **all three** of these characteristics (1) very triangular leaves, (2) very sharp barbs on the stem, and (3) clasping ocrea, **note the location** and **send a photo** to invasives.mnap@maine.gov.



Photos & thanks to Todd Mervosh, Les Mehrhoff, Hope Leeson, Judy Hough-Goldstein, Renee Sullivan & the CT Invasive Plant Working Group

MILE-A-MINUTE LOOK-A-LIKES

Tearthumbs are closely related to Mile-a-Minute vine. Many have prickles on the stem, but their leaves are longer, less triangular, and often lobed at the base. There are many species, most lack the clasping bract. Top photos of **Halberd-leaved Tearthumb**, bottom photos of **Arrow-leaved Tearthumb**.



Photos: Bruce Patterson | Glen Mittelhauser | Arthur Haines | Arieh Tal

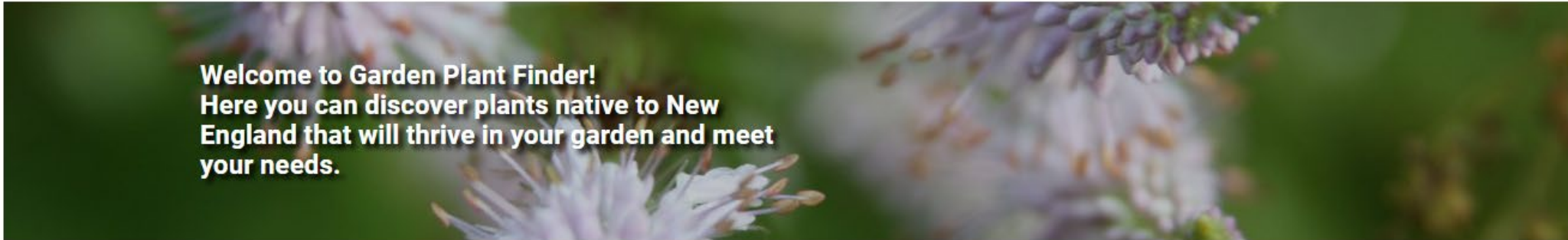


https://www.maine.gov/dacf/mnap/features/invasive_plants/mile-a-minute.pdf

Fringed Bindweed, **Climbing Bindweed**, and **Black Bindweed** are similar vining plants in the genus *Fallopia*. The first two are native, though Black Bindweed is non-native and weedy. These three species have nodes along their stems and superficially resemble each other. The nodes are fringed in Fringed Bindweed but not the other two. Keels on flower petals and fruit texture distinguish the other two species.



Fringed Bindweed (left and right above): Don Cameron | Frank Bramley



Additional Information

- About Ecoregions, Cultivars and More

Search for plants by name using "quick search," or narrow your results based on plant type, flower color, **New England Level 3 ecoregion**, exposure, moisture, bloom season, and even **cultivation status**. Specify whether to show results that meet *all* or *any* of your search criteria by toggling the box at the bottom of the page. You can also use our search tool to access information about the full range of plants sold at Garden in the Woods and Nasami Farm.

Check out our [Important Definitions](#) page to learn more about ecoregions, cultivation status, and why certain plants are included in this database.

<https://plantfinder.nativeplanttrust.org/Plant-Search>

Many great plant choice sources today



Where to Buy Native Plants

The native plant movement is gaining traction in much of the U.S. — and that is fantastic! It can still be difficult, though, to source local native plants and seeds; so to help, we've carefully curated the following directory of where to buy northeastern native plants by state, including:

- Wholesale and retail nurseries that specialize in or include a wide selection of native plants
- Native plant sales hosted by nonprofits and co-ops annually or seasonally

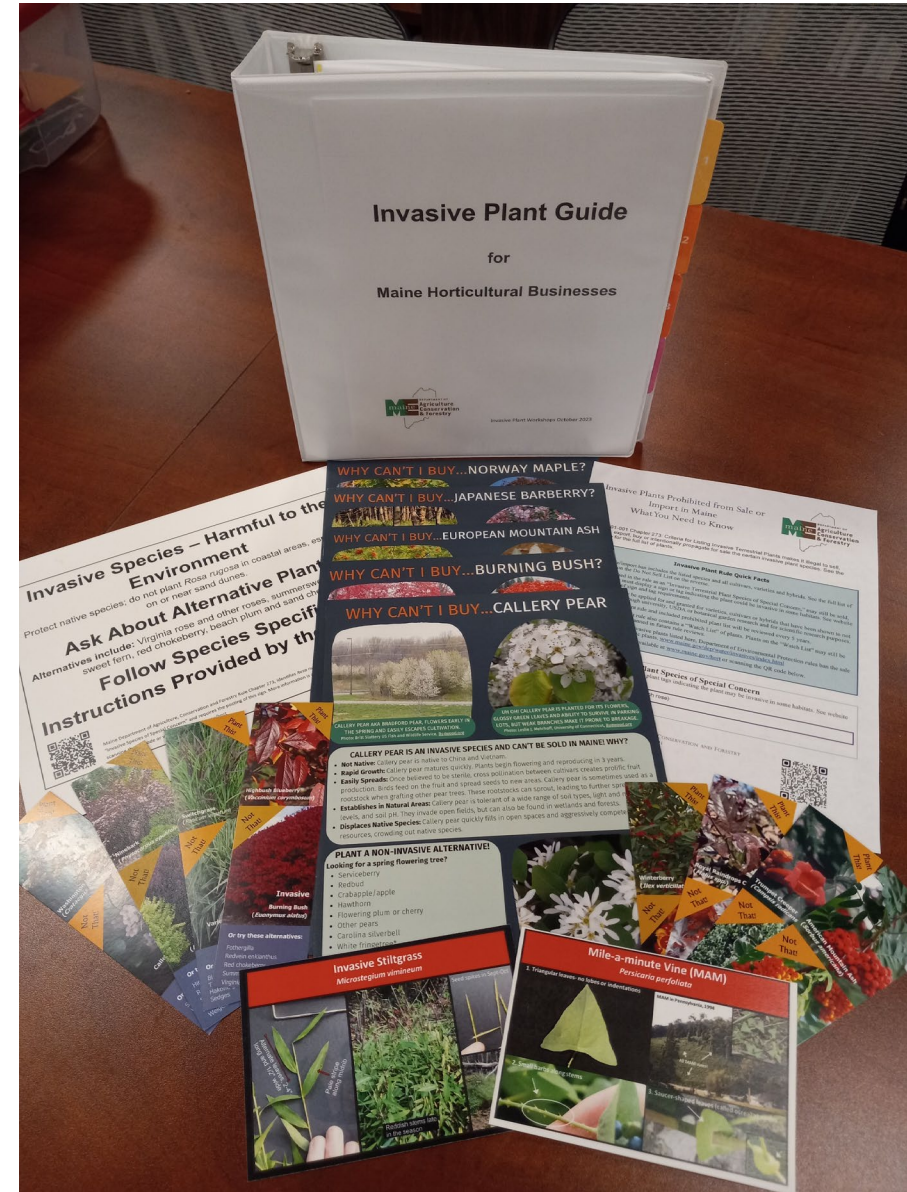
While we include the highest quality plant nurseries in this directory, it is still important that you do your own research to find out what native plants are in stock, if the plants are grown from seed, and if the nurseries use



Where to buy native plants

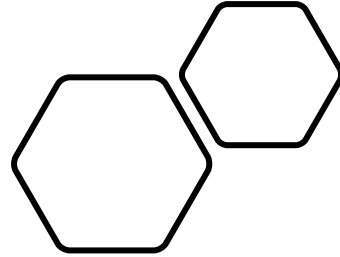
Invasive Plant Outreach Materials Available

- The Horticulture Program has assembled invasive plant outreach materials that can help educate plant sellers, their staff, and customers.
- Request copies of outreach materials by using the order form on the invasive plant website



[Invasive Plant Materials Request Form](#)

What you can
do!



Report invasive species

- bugwatch@maine.gov
- <https://appengine.egov.com/apps/m/e/dacf/mfs-tree-ailment>
- invasives.mnap@maine.gov
- milfoil@maine.gov
- <https://www.maineogt.org/>
- <https://survey123.arcgis.com/share/da099be43ba642799f9c359345257b2f>



Questions?

Gary Fish

Maine State
Horticulturist

gary.fish@maine.gov

207-287-7545

Use this QR to download a copy of the slides.

