INVASIVE PLANTS

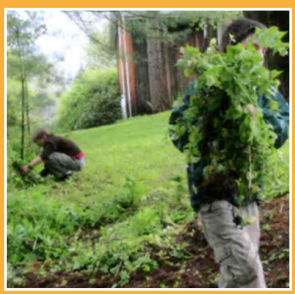
OF THE MONADNOCK REGION

IDENTIFICATION & CONTROL

Burning buckthorn

Cutting knotweed

Schoolyard garlic mustard



Backyard garlic mustard

Whacking buckthorn

College campus buckthorn

For landowners, volunteers, landscapers, and town highway personnel

INVASIVE PLANTS
of the Monadnock Region

The "Dirty Dozen" plus another expected soon

New Hampshire was one of the first states to prohibit the sale, transport, or propagation of certain plant species determined to be invasive. The 13 plants profiled here are prohibited by NH law as new plantings, including purchase in another state and transport in state.

More than 30 plants are on the **NH Prohibited Invasive Plant Species** list.

This brochure focuses on our region's most invasive plants.

Invasive plants are introduced, non-native species that spread aggressively to alter the natural environment as well as managed farm and forest lands. Ninety percent of introduced plants fit in with a diversity of native plants. Not so the invasives. Instead, they spread aggressively to form a "monoculture" inhospitable to native plants and the wildlife they support. Invasive plants negatively impact farmland and forest health, waterways and water quality.

As a threat to functioning, resilient natural communities, invasive plants rank second only to development.

Invasive plants

- grow rapidly and spread through a multitude of seeds and/or an aggressive root system;
- thrive under most conditions (sun and shade / wet and dry / different soil types / a changing climate);
- leaf out first in spring and drop leaves late in fall;
- lack the diseases / insect "pests" / herbivore browsers that kept them in check in their native land;
- upset a natural balance of flora and fauna that took thousands of years to achieve.

Early detection and removal is the key.

This brochure is intended to help landowners, townspeople and highway personnel understand the challenge posed by invasive plants. Watchful eyes and volunteers are needed for early detection and removal before great density is reached.

We invite you to join a growing awareness and effort with vigilance in your backyard and — we hope — beyond.

Some options for action are offered in the back pages.

Peterborough Conservation Commission
and Open Space Committee

Two priority species often introduced in roadside fill

GOAL: Community awareness and watchful eyes for early detection and removal before invasive density is reached.

1. Garlic Mustard

Alliaria petiolata

When it spreads to adjacent forest, roots release a chemical that impedes tree health and growth. Garlic odor when crushed. Pulls easily; best pulled before seeds form in late May. Photo below is from CT. Such density is rare in NH — so far.

Old Jaffrey Road, May 22

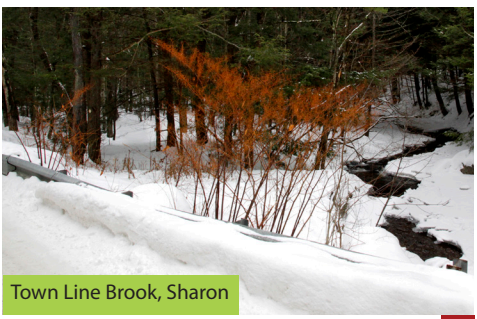
2. Japanese Knotweed

a.k.a. False Bamboo

Polygonum cuspidatum / Falopia japonica

Roadside / shoreline. Bulbous roots lack small rootlets that anchor soils. Plants increase erosion along waterways where their removal is a top priority. Remove entire plant (roots!) as soon as first few stems appear. If established, cut after spring leaf-out to weaken plant. Cut once at base because stem fragments can take root. Good news: Seeds rarely germinate.

Along Nubanusit Brook, September 9



Town Line Brook, Sharon

Autumn Olive

Elaeagnus umbellata
Dense shrub to 20'. Silvery underside on leaves is easy to recognize; red berries; some thorns. Old fields and roadsides.
Re-sprouts aggressively to form multi-stemmed, dense growth.

August 21

Oriental Bittersweet

(New England's Kudzu)
Celastrus orbiculatus
Climbing vine reaches 60', choking anything in its path including the Peterborough Diner sign (below).
Fatal mistake: not eradicating because the berries are decorative.
Seeds and then orange rootlets build in soil, dormant for years, and then it's too late.
Roots sprout prolifically.
Spread by birds — and humans.

Old Dublin Road
September 9

November 15

December 29

Glossy Buckthorn

August 6

Rhamnus frangula / Frangula alnus
Small tree with shiny leaves and white dots (lenticels) on bark. Fruits are a laxative with negative food value for wildlife. Woods and water edges, and soil disturbed by logging where it's often the first to regenerate, outcompeting trees with timber value. Cut trees sprout, returning multi-stemmed and harder to eradicate.

Burning Bush

a.k.a. Winged Euonymus
Euonymus alatus
A popular landscaping shrub now prohibited in NH as a new planting. Stems green with corky "wings" pictured below. Small red berries spread by birds and other wildlife. A seed bank often builds slowly in the soil, and then plants burst forth when soil is disturbed.

It's everywhere – including MCH. October 10

Taking over the understory, Nubanusit Brook, October 23

Highbush blueberry (left) is a pleasing alternative (edible!) to burning bush.

The Bush Honeysuckles

Including **Morrow's**, **Tatarian**, and hybrids. First spring color in the forest is the green of honeysuckle shrubs in the understory. Leafing out early to get ahead of the competition, they shade out the diversity of groundcover species (ferns, grasses, wildflowers, etc.), outcompete native shrubs (viburnums, dogwoods, etc.), and suppress forest regeneration.

Japanese Barberry

Berberis thunbergii

Small, prickly shrub that can reach great densities if not detected early and removed. Young plants easy to pull before too much branching has occurred.

Multiflora Rose

Rosa multiflora

Like many of today's invasives, a planting recommended for wildlife — back when we didn't know better. Hardy climber can reach 15'. Thorns++. Prefers sun; often takes over old fields. Repeated mowing or cutting is recommended, and pulling young plants.

Cheney Avenue, Peterborough

June 22

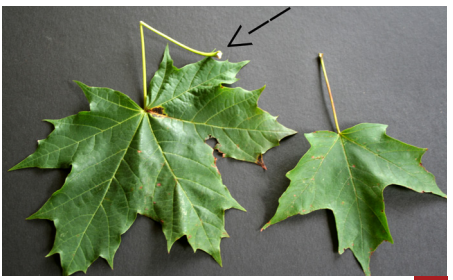
November 15

Norway Maple

Acer platanoides

Grows large; broad leaves secrete milky sap if stem is broken (pictured below). Yellow foliage in late fall separates it from native red maple and sugar maple. The two trees in photo were planted in front of the Peterborough police station by the Conservation Commission before realizing the threat posed by invasives. Outcompetes sugar maples in part because it's not sensitive to a warming climate. Quickly forms single-species colonies when it seeds along roads or in forest, shading out other plants.

Peterborough, August 22



Phragmites

a.k.a. Common Reed
Phragmites australis
Wetlands. Roots spread widely from parent plant. Resulting monoculture decreases wetland values, including wildlife habitat.

Route 101, Peterborough, October 8

Purple Loosestrife

Lythrum salicaria
Wetlands. Remove when first noticed before it forms dense root mat difficult to extract. One plant produces over a million seeds. Release of beetles that eat only loosestrife leaves has worked where infestations are large.
Attracts pollinators, diverting them from pollinating native plants and food crops.

Route 137, Hancock, August 18

Dublin Conservation Commission and Garden Club members have released *Galerucella* beetles multiple years in the Mud Pond wetlands.

Heading our way: Be on the watch for **Black Swallow-wort** vine, a member of the milkweed family with pods that release seed parachutes to the wind. Monarch butterflies lay their eggs on the plant but eggs / caterpillars do not survive.

WHAT'S TO BE DONE?

Join the watch:

- Invasives are easy to identify, and the Internet has a wealth of information on control methods. Recommended: the NH Department of Agriculture's invasives website **http://agriculture.nh.gov/divisions/plant-industry/invasive-plants.htm**

  Also, the website for **Invasive Plant Atlas of New England**.

- Conservation groups offer workshops on invasives. Attend!

Lessons learned:

- Early detection and removal works best.
- Pick your battles. Containment may be the best option if an invasive plant has reached high density.
- Revisit a worked site for a few years to check for re-sprouts.
- Teamwork / network. There are people "out there" to help.
- Education. Help get the word out. More people are needed!

Contact your town conservation commission to volunteer for workgangs or to serve on an invasive species subcommittee. Most commissions also have members willing to help landowners ID invasive plants on their property. Invite them to yours.

Some fundamentals:

- Cutting a plant after it has leafed out removes energy from the plant and weakens it. Repeated cutting, including mowing, weakens further.
- Cutting a tree or girdling it both have the advantage of not disturbing soils and "waking up" dormant seeds. To girdle, cut a 4" strip in the bark in late summer (best option) or winter.
- Covering a cut patch with plastic halts photosynthesis and can kill a plant. (Cover ugly plastic with mulch, if you wish.)
- Interfering with seed production by cutting flower heads of invasives like purple loosestrife, and stripping berries of plants like bittersweet, will impede further dispersal.
- Dispose of seeds/berries of mature plants with care. Collect in black plastic bag and leave in sun to "cook"; put on burn pile and burn promptly before wildlife disperse seeds; compost young plants (garlic mustard for example) before flowers/seeds develop.
- Herbicides, by NH law, must be applied by someone licensed by the state unless applied by a property's owner. Apply with great care; at proper dilution; and in late summer when a plant's energy (and the herbicide) travels from leaves back down to roots.

SUCCESS STORIES

Many landowners work diligently to control invasive plants on their land. Here are a few of a growing number of community efforts:

- Dublin Conservation Commission mapped **Japanese knotweed** in town, contacted and worked with landowners to cut the infestations, and then hired a licensed outfit to apply herbicide to the weakened plants in late summer. Big project; big results.
- Harrisville Pond Association volunteers mapped and then removed invasive shoreline **yellow flag iris,** a project that involved a pond drawdown.
- Hanover Conservation Commission maps **garlic mustard** and organizes annual springtime pulls at the mapped sites.
- As a long-term project, Franklin Pierce University faculty and students have removed **glossy buckthorn** from several campus sites. They planted native shrubs on some and are monitoring natural regeneration of native shrubs and trees on others.

The opportunity: Combatting invasive species offers us the opportunity to learn about the importance of a diversity of plants that in turn supports a diversity of animals including humans.

Many interrelated parts make up a functioning landscape – the web of life that we all studied in grade school. We also learned about niches, how different species fill different niches and require those niches to survive.

We know the charismatic monarch butterfly lays eggs only on milkweed. Lose milkweed habitat and we lose monarchs. A multitude of similar but lesser known interrelationships adds up to a grand whole that determines healthy soils, forests**,** and waterways. The opposite, a monoculture – a density of one species – is a functional wasteland.

As awareness grows about the costs of invasives – economic as well as environmental – action to combat them is growing, too. "Pulling Together" is a popular name for organized endeavors, and it conveys well the effort that's needed.

The photos on the cover of this brochure communicate the satisfaction that comes from pulling together for a good cause.

STATE RESOURCES

Doug Cygan, at the NH Department of Agriculture, is the state's invasive species coordinator. He travels the state to give lively talks on the subject. Book him and invite a lot of people to the presentation! Doug inspects nurseries for compliance and monitors invasives on NH state highways. Contact him at douglas.cygan@agr.nh.gov

Alternatives: Some Native Beauties

Here are a few of the many wildlife-friendly plants to choose from when landscaping in addition to **blueberry** pictured on page 3 and the back cover. "Releasing" is the term for clearing competition from around desirable species encountered in the natural landscape. Release away!

Winterberry, one of NH's two native hollies
October19

Elderberry, as in elderberry wine
September 27

The **viburnum** family has many members including **Arrowwood** (left) and **Highbush Cranberry** (above).
September 27

Amelanchier species, a.k.a. **Juneberry**, **Serviceberry**. Earliest spring blooms for pollinators; early fruit for birds; bronze foliage in fall. An all-around winner.
April 21

PULLING TOGETHER

for the wild ones

Blueberries, a native favored by many including these two cedar waxwings, pictured above, August 6; and two months later, below, rimed by first frost.

For information or to request brochures, contact Francie Von Mertens

603-924-6550 / vonmertens@myfairpoint.net

An InDesign CS4 digital file of this brochure is available to other groups wishing to change the narrative or any photos to better suit their needs.