

## Invasive Plant Control

(adopted by the Newton Conservation Commission 9/18/14)

### Introduction

The term “invasive plants” usually refers to aggressive, non-native plants that thrive in our area, crowding out native plants. They have no native predators, are resistant to attack, and can re-establish themselves quickly and aggressively. They often leaf out earlier than native plants, establish tremendous seed stocks in the soil, and grow very rapidly in our climate and light regime. All invasive species are causing rapid detrimental changes to the native habitats they invade, diminishing the ability of those habitats to support native wildlife. Many invasive species were introduced as ornamentals, or as commercially important products. Successful control requires a long-term commitment.

### Mechanical Best Practices

- **Pull and Dig:** Pull small plants by hand or use a digging fork, as shovels can shear off portions of the root system, allowing for regrowth. To remove larger woody stems (up to about three inches in diameter), use a Weed Wrench™, Root Jack, or Root Talon.
- **Suffocate:** Place 2-3 layers of thick UV-stabilized plastic sheeting over the infestation and at least five feet past the edge of infestation on all sides; secure the plastic with stakes or weights. Leave the plastic in place for at least two years. This technique will kill everything beneath the plastic—invasive and non-invasive plants alike. Remove plastic when done or when it shows signs of decay. Once the plastic is gone, sow a cover crop such as annual rye to prevent new invasions.
- **Cut or mow:** You will need to mow or cut infested areas three or four times a year for up to five years. With this treatment, the infestation may actually appear to get worse at first, so you will need to be persistent.

### Chemical Control Best Practices

Herbicides are among the most effective and resource-efficient tools to treat invasives. When herbicide use is appropriate, read the label carefully and follow all instructions for mixing, application, personal protection, etc. Use the most appropriate herbicide application techniques and formulations to avoid damage to non-targeted plants, wildlife and water resources. Seek advice from a licensed applicator if appropriate. Applicators on public land must have a MA Pesticide Bureau license. The two most common active ingredients are glyphosate and triclopyr.

- Glyphosate (the active ingredient in Roundup™ and Rodeo™) is non-selective, so care must be taken to avoid non-target species, but it is readily and rapidly biodegraded by microorganisms.
- Triclopyr (the active ingredient in Brush-BGone™ and Garlon™) is selective and does not injure monocots (grasses, orchids, lilies, etc.), but it can migrate through intermingled roots, so care must be taken when using this product.
- Fosamine is a non-selective woody bud inhibitor

- **Foliar Spray Treatments**

What to use	<ul style="list-style-type: none"> <li>• 5% solution of Glyphosate or Triclopyr</li> </ul>
What to use it on	<ul style="list-style-type: none"> <li>• When problems are on a small scale</li> <li>• <b>Spot-treat</b> individual plants that are difficult to remove mechanically, e.g., <b>goutweed, swallowwort, or purple loosestrife</b></li> <li>• Large monocultures of <b>herbaceous plants</b></li> <li>• Some <b>woody species that grow in dense masses</b> such as <b>Japanese barberry, multiflora rose, Japanese honeysuckle, and Oriental bittersweet</b></li> </ul>
When to use it	<ul style="list-style-type: none"> <li>• Usually when plants are actively growing leaves, ideally when flowering or forming fruit.</li> </ul>
How to use it	<ul style="list-style-type: none"> <li>• Plants are often more susceptible to chemical treatment if the stems are cut and the regrowth is treated. This is especially true for <b>Japanese knotweed</b>.</li> <li>• Thoroughly wet leaves with herbicide on a day when there is no rain forecast for the next 24-48 hours.</li> </ul>

- **Cut Stem Treatments**

What to use	<ul style="list-style-type: none"> <li>• Usually a ~25-35% solution of Glyphosate (<i>but use Triclopyr on <b>Oriental Bittersweet</b></i>)</li> </ul>
What to use it on	<ul style="list-style-type: none"> <li>• Good for all <b>woody stems</b></li> </ul>
When to use it	<ul style="list-style-type: none"> <li>• Late summer or autumn (late August-November), when plants are putting energy into their roots.</li> </ul>
How to use it	<ul style="list-style-type: none"> <li>• First, cut stems close to the ground, but not so close that you lose track.</li> <li>• Then, apply herbicide directly to the cut surface (with a sponge, paintbrush, or spray bottle) as soon as possible.</li> </ul>

### Disposal Best Practices

Care must always be taken when disposing of invasive plant material, since many stem and root fragments, fruits and seeds are capable of regenerating.

- **Burn it:** Make a brush pile and burn the material. This is the most reliable method but must be permissible in your area.
- **Pile it:** Make a pile of the woody debris. This technique will provide shelter for wildlife as well. But monitor for resprouting in the area.
- **Compost it:** The pile is for invasive plants only. Remove any resprouts. Do not use the resulting compost in your garden.
- **Dry it/cook it IF there is no seed:** Place **woody** debris on asphalt in the summer and let it dry out for a month. Place herbaceous material in a black trash bag and let it cook in the sun for one month. At the end of the month, the material should be non-viable, so you can dispose of it as trash.

### Key to Control Methods on Summary Management Chart (next page)

- **Basal:** Apply oil-based Triclopyr (12%) from the base of the plant to a height of 12-18" with an ultra-low-volume sprayer or wick on stems 2-6" diameter
- **Cut:** Cut to the ground **Cut→:** Cut or mow repeatedly throughout the growing season
- **Dig:** Dig to remove all roots (use a digging fork to avoid slicing roots and leaving root fragments)
- **Foliar:** Spray the leaves with an herbicide (Foliar-g = glyphosate; Foliar-t = triclopyr; 2-3%) – usually early spring or late fall when natives are dormant
- **Mat:** Cover cut plants with UV-resistant, heavy gauge black plastic to preclude sunlight; leave in place for 1-2 yrs
- **C&P:** Cut and paint (or sponge or drip) herbicide on freshly cut stem (CP-g = glyphosate; CP-t = triclopyr; 50%)
- **Pull:** hand pull when the soil is moist
- **\*:** Look for another asterisk in that row for more information

**Summary Management Chart** (Based on Orleans Invasive Species Committee materials. It offers general guidance & should be used in conjunction with sensible land management practices)

Invasive Spp.	April	May	June	July-Aug	Sept	Oct	DOs	DONTs
<i>Norway Maple</i>	Pull Cut	Pull Cut	Pull Cut	Pull Cut	Pull C&P	Pull C&P	Pull small seedlings. Cut larger trees and continue to cut re-sprouts.	
<i>Tree of Heaven</i>	Pull	Pull	Foliar-g		C&P-t Basal		Pull seedlings, removing entire tap root since resprouting from fragments occurs. Foliar spray seedlings. Cut and paint larger trees.	<u>Don't</u> cut only, it stimulates resprouting
<i>Glossy Buckthorn</i>	Pull Dig	Pull Dig	Pull Dig		C&P Foliar-g Basal*	C&P Foliar-g Basal*	Tamp soil after pulling to discourage seed sprouting. Chemical control can be done anytime, but is best in fall when natives are dormant. *Basal Treatment: (1) 6-25% a.i. triclopyr for oil dilution, (2) 12.5% 2-4-D, or (3) 3% Fosamine. For stems >2" spray all the way around. For smaller stems spray just one side.	<u>Don't</u> cut or girdle only since it results in vigorous resprouting.
<i>Winged Euonymus</i>	Pull	Pull	Foliar-g		Cut C&P-g Basal	Cut C&P-g Basal	Pull seedlings. Cut large shrubs and grind stumps or clip regrowth or paint immediately. Produces vast numbers of seeds, so continued management will be necessary.	NOTE: Grinding stumps can produce new pants from root fragments
<i>Multiflora Rose</i>	Cut→	Cut→	Cut→	Cut→ Foliar-g	Cut→ Foliar-g C&P-g	Cut→ Foliar-g C&P-g	Cut 3-6 times per season for several years. OR use the recommended glyphosate treatments	
<i>Japanese Barberry</i>	Pull Dig	Pull Dig	Pull Dig	Foliar-g	Foliar-g C&P-g	Foliar-g C&P-g	Dig it out in early spring (it leafs out very early so is easy to see). Wear gloves to protect hands from spines.	
<i>Bush Honeysuckle</i>	Pull Dig	Pull Dig Cut	Pull Dig	C&P Foliar	C&P Foliar	Cut C&P Basal	Light infestations may be cleared with a shovel or hoe – continue for 3-5 years.	<u>Don't</u> leave root fragments, they re-sprout
<i>Oriental Bittersweet</i>	Pull	Cut-then -foliar* Foliar	Foliar		C&P-t	Foliar	Small areas can be controlled by pulling. *Cut early in the season followed by a foliar spray one month later OR cut and paint in Sept OR foliar spray in early spring or late fall when other species are dormant. Established stands may require triclopyr application by a professional.	
<i>Japanese (vine) Honeysuckle</i>	Pull Foliar-g	Pull C&P-g		C&P-g	C&P-g	Foliar-g	Mowing must be often enough to remove flowers, fruits, and regrowth – over 5 years. Foliar application of glyphosate (0.75-5%) after the first frost may be the most effective treatment.	<u>Don't</u> mow, they re-sprout. <u>Don't</u> use triclopyr, ineffective
<i>Japanese Knotweed</i>	Mat	Cut→ Dig	Cut→	Cut→ C&P-g*	Cut→ C&P-g*	Cut→	Dig to get all runner fragments OR Cut several times per year for several years OR Cut and paint (the hottest, most humid days of the summer are best for treatment) OR shade with black plastic. *Cut stems halfway between two leaf nodes at a comfortable height. Inject (or squirt from wash bottle, eyedropper, spray bottle) herbicide into exposed hollow stem. All stems should be treated. It helps to mix a dye (specially formulated, food or laundry) in with the herbicide.	<u>Don't</u> leave runner fragments, they re-sprout
<i>English Ivy</i>	Cut→	Cut→	Cut→ Pull	Cut→ Pull	Cut→ Pull	Cut→ Foliar-t	Use triclopyr amine 2.5%.	<u>Don't</u> use glyphosate, English ivy is resistant.
<i>Purple Loosestrife</i>	Dig Pull	Dig Pull	Foliar	Foliar	Pull Foliar		Pull or spray before seeds set in summer or early fall. Use only herbicides permitted for wetland use (Accord®, Glypro®). Get a permit.	<u>Don't</u> leave runner fragments, they re-sprout
<i>Garlic Mustard</i>	Foliar-g	Pull Cut	Pull Cut			Foliar-g	Hand pull or cut (when plants are in full bloom) for 7 years. Apply herbicides to basal florets in early spring or late fall.	
<i>Phragmites</i>				C&P*	C&P*		The hottest, most humid days of the summer are best for treatment. *Cut stems halfway between two leaf nodes at a comfortable height. Inject (or squirt from wash bottle, eyedropper, spray bottle) herbicide into exposed hollow stem. All stems should be treated. It helps to mix a dye (specially formulated, food or laundry) in with the herbicide.	