Background
Invasive shrub honeysuckles consist of several species in the genus *Lonicera* (*L. maackii*, *L. morrowii*, *L. tatarica*, *L. × bella*, *L. standishii*) introduced from Europe and East Asia in the 1800s. These species can hybridize, though none are unique enough in identification or treatment to be isolated from the complex. Though the iconic scent and blossoms appeal to generalist insects, such as the European honey bee, the nutritional value of invasive shrub honeysuckle fruit is lower than that of native plants. In some wildlife species, the consumption of this “junk food” has been documented to be detrimental to their health and life cycle.

Description
Size: The arching stems can grow to between 6 feet and 20 feet in height.

Flowers: Emerging throughout spring, depending on local climate and species, the fragrant flowers have four petals and grow in sets of two pairs from the leaf axils. Flower color varies, but flowers usually start out white and turn yellow or pinkish as they age.

Fruit: Replacing the flowers starting in midsummer, the shiny, round berries can be orange, red, or pinkish. Like the flowers, they appear along the stem in groups of four and are ¼ inch across.

Leaves: Simple, oppositely arranged leaves are 2–3 inches long with smooth, or entire, margins.

Stems: The grayish-brown bark is distinctly striated, or vertically shredded in appearance, which is especially noticeable on large stems. Stems of all species in this complex have a hollow center (pith).

Look-alikes
Fly honeysuckle (*Lonicera canadensis*) and other less common native shrub honeysuckles (*Diervilla lonicera*) all have a solid pith rather than the hollow pith seen in the invasive species. Native snowberry (*Symphoricarpos* spp.) has a similarly hollow pith, but its flowers are small, pink, and bell shaped, and the fruit is white. Native viburnums (*Viburnum* spp.) also branch oppositely, but they have toothed or lobed leaf margins and solid piths. The leaves of native dogwoods (*Cornus* spp.) have smooth margins and can look similar to honeysuckles, especially *L. maackii*, but dogwoods have solid piths and their stem/growth forms tend to be distinct from the invasive honeysuckles.

Dispersal
Honeysuckles are spread through the dispersal of their abundant fruit. The berries are available to wildlife from midsummer through winter, and are readily eaten by birds and small mammals.
A. Four-petaled flowers emerge in two pairs from the leaf axils (L. × bella).
B. Stem showing hollow center, or pith.
C. Opposite leaf arrangement and unripe fruit (L. maackii).
D. Ripe fruit, or berries, appear in groups of four (L. morrowii).
E. Stems showing vertically striated, “shredded” bark.

Photos by Dave Jackson and Kimberly Bohn
Management Calendar

The management calendar for shrub honeysuckles is quite flexible because the foliage emerges early and falls late. Basal bark and cut stump treatments provide a year-round window of opportunity.

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<th>Treatment</th>
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<th>Herbicide</th>
<th>Product Rate</th>
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<tr>
<td>Foliar</td>
<td>From full leaf expansion to onset of fall color</td>
<td>Ranger Pro or Accord XRT II (glyphosate) plus Garlon 3A or Vastlan (triclopyr)</td>
<td>4 quarts/acre or 3 quarts/acre plus 2 quarts/acre or 1.5 quarts/acre with water</td>
<td>A combination of glyphosate plus triclopyr at 3 pounds plus 1.5 pounds per acre, respectively, is effective against a broad spectrum of woody species. Additionally, this mixture reduces risk to nontargets because it has practically no soil activity. The products listed have different active ingredient concentrations and thus require different application rates. No additional surfactant is needed with Ranger Pro or Accord XRT II; they come premixed. If using a different glyphosate product, be sure to check the product label to see if a surfactant (e.g., CWC 90) is needed.</td>
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<td>Basal Bark (effective on stems that are 2 inches and smaller)</td>
<td>Year-round</td>
<td>Pathfinder II or Garlon 4 Ultra (triclopyr ester)</td>
<td>Ready-to-use or 20%, 1:4 with basal oil</td>
<td>Oil-based herbicides penetrate the plant’s bark and travel systemically during periods of active growth. Basal bark applications wet the entire circumference of the lower 12 to 15 inches of the stem, from the ground line up. Aim for full coverage on stems without creating excessive runoff. Stem treatments using triclopyr have variable activity on honeysuckle and may not control larger-diameter shrubs.</td>
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<tr>
<td>Cut Stump</td>
<td>Year-round</td>
<td>Pathfinder II or Garlon 4 Ultra (triclopyr ester)</td>
<td>Ready-to-use or 20%, 1:4 with basal oil</td>
<td>Cut stump treatments with oil-based triclopyr ester herbicides are applied to the cut surface as well as the sides of the stump and can be applied anytime after the stems are cut.</td>
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<td>Ranger Pro or Accord XRT II (glyphosate) or Garlon 3A or Vastlan (triclopyr)</td>
<td>50%, 1:1 with water</td>
<td>Unlike the oil-based herbicides, water-based treatments are only applied to the cut surface and must be made immediately after the stems are cut.</td>
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Herbicide Treatment and Timing

A colorant should be added to all herbicide mixtures to improve tracking, help avoid skips, and prevent duplicate treatments. Trade names are used here to give specific information. Penn State Extension does not endorse or guarantee any product and does not recommend one product instead of another that might be similar. Other formulations with identical efficacy may be available.

Site

Intolerant of shade, shrub honeysuckles are not typically found in mature forest interiors. They prefer areas with full to partial sun, like forest openings and edges, roadides, abandoned agricultural fields, and other disturbed habitats where sunlight penetrates the canopy, such as after a timber harvest. Some species (L. morrowii and L. × bella) also tolerate seasonal wetness and are capable of invading bogs and fens.

Control

Shrub honeysuckles are prolific and large infestations can be difficult to control. In controlling shrub honeysuckle, as with other invasives, prioritize work on sites to "save the best," focusing first on sites with abundant native vegetation and a low number of invasive plants, rather than starting on sites that are completely overrun. Think in terms of maximizing "acres
protected” when working to optimize your productivity and the resulting ecological benefit of invasive control work. These species leaf out early and drop their foliage late compared to most native woody species, making identification relatively simple and creating a longer operational window for treatment.

Small plants can be easily pulled by hand. Larger stems can be removed with lever-type wrenching tools or a hoe. Mowing effectively eliminates the canopy to improve access, though selectively mowing individual stems is not feasible in most situations. Smaller stems are easily cut with loppers or pruning saws. Rotary or flail cutters (i.e., “brush hogs”) and chainsaws work well for cutting larger stems. These mechanical controls are not standalone treatments since plants readily regrow from stumps. To be effective, mowing must be followed with an herbicide application to either cut stumps or to regrowth.

Treating regrowth with a foliar application in the fall (or the next growing season) is likely easier than treating stumps following mowing because the targets are easier to find and selectively treating sprouts that are below waist high with a backpack sprayer is a relatively quick and manageable process.

In areas where honeysuckles are the only invasive plant species targeted, glyphosate alone, applied as a foliar treatment, is effective. Water-based formulations of triclopyr should be added to improve effectiveness where other invasive plant species are present. Triclopyr alone, applied as a foliar treatment, will not be effective against shrub honeysuckles.

An effective foliar treatment for honeysuckles and other invasive plants, is a solution of glyphosate and triclopyr applied at 3 pound plus 1.5 pounds per acre, respectively. Calibrate your spray application to achieve the proper dosage, even for “spot” foliar applications. This mix provides a broader control spectrum than either ingredient alone, is nonselective, and poses no risk to nontargets via root absorption of herbicide. Foliar treatments can be applied anytime during the growing season, from full leaf expansion to the onset of fall color, typically June through most of October.

To ensure 3 pounds per acre of glyphosate acid is applied, examine the fine print on the label to confirm the glyphosate acid per gallon, not the active ingredient percentage or pounds per gallon of the salt. They are different. For example, if using the dimethylamine formulation of glyphosate, the active ingredient in the form of the salt is 27 percent greater than the acid equivalent (5.07 pounds of the active ingredient, glyphosate, in the form of dimethylamine salt, and 4 pounds of the acid, glyphosate, per gallon).

Stem treatments are effective against invasive shrub honeysuckles and can be applied throughout the year, providing scheduling flexibility. Treatment options include basal bark and stump treatments, which can be done anytime the weather permits, avoiding times when snow prevents spraying to the ground line.

Basal bark treatments use a concentrated solution of the ester formulation of the herbicide triclopyr mixed in basal oil applied to the entire circumference of the lower 12–15 inches of the stem. Honeysuckles are somewhat tolerant to triclopyr alone. Basal bark treatments are only reliable on relatively small stems, 2 inches in diameter or less. Larger stems should be cut and stump or foliar treated.

If immediate removal of top growth is desired, the preferred approach is to cut the stems close to the soil line and treat the stump. Oil-based (1:4 solution) preparations of triclopyr ester can be applied anytime after cutting, while water-based (1:1 solution) treatments using glyphosate or water-based formulations of triclopyr should be applied immediately after the stems are cut.

Value to Wildlife

Shrub honeysuckles are a well-known feature in our landscape, especially the sweet fragrance of their flowers. While they appear to be attractive to pollinators, they largely appeal to generalists such as the European honey bee (Apis mellifera). Many native bee species are specialist pollinators of specific genera of native plants and do not make use of honeysuckle blossoms.

Invasive shrub honeysuckle fruit could be compared to “junk food” for migratory songbirds since it is low in the proteins and fats required for successful flights. Additionally, invasive shrub honeysuckles have been shown to impact songbird nesting success; the shrub’s structure provides less shelter for nests, making them more visible and accessible to predators. Although they are not totally without ecological value, the monoculture shrub honeysuckles create and the cascading losses through many trophic levels (plants, insects, birds) should be considered alongside any perceived use by wildlife.


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