

Invasive Species of the Month

Wisteria (*Wisteria sinensis* and *Wisteria floribunda*)



Wisteria vine grows to 15 inches or more in diameter with smooth or ridged brown-grey bark.
Photo credit: J. Sawyer Caraballo



The flowers of wisteria emerge in April. The individual pale blue to violet flowers are part of a drooping inflorescence called a raceme. Inflorescences can be up to 2 feet long, depending on the species.
Photo credit: T. Maguire



Wisteria has a compound leaf with a varying number of paired leaflets and one terminal leaflet. Leaves emerge before or after flowering, depending on the species.
Photo credit: T. Maguire

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By Michele Bakacs and Jean Epiphan

Invasive vines such as *Wisteria spp.* can kill healthy, mature trees. Simple actions like controlling invasive vines can help save trees which are vital for capturing greenhouse gases and reducing the impact of climate change.

Ecological threat: Chinese wisteria, *Wisteria sinensis*, and Japanese wisteria, *Wisteria floribunda*, are both ornamental vines commonly planted in landscapes on arbors and trellises. The invasive species covered here are collectively referred to as “wisteria”. Both species invade all types of natural areas including forests, gardens, roadsides, and any other landscape type. Wisteria twists tightly around tree trunks, cutting into and strangling the tree which eventually dies. It also climbs over tree and shrub canopies covering foliage and preventing photosynthesis. Be on the lookout for invasive wisteria and their large lavender to violet inflorescence as it climbs trees looking for sunlight. Wisteria can form a carpet on the forest floor, blocking light and smothering native vegetation. Deer assist in the spread as they rarely eat this invasive vine and prefer native plants that wildlife need for food and habitat.



Wisteria sinensis seed and seed pod. Seeds emerge in mid-summer. Photo credit: Rebekah D. Wallace, University of Georgia. Bugwood.org

What Makes a Plant “Invasive”?

Per the [National Invasive Species Council](#), an invasive species is one that is non-native to an ecosystem, and causes, or is likely to cause harm- harm to human health, the environment, or the economy. For example, poison ivy, *Toxicodendron radicans*, can spread rapidly and does indeed cause harm to some people. It is not considered an invasive species though because it is native to New Jersey.

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Wisteria runner with roots at nodes (red arrows). Photo credit: M. Bakacs

Method of spread: Wisteria spreads by seeds and runners (stolons) that root at nodes. Lateral runners can spread many feet just under the surface, but fast-growing taproots at every node make it extremely difficult to remove. Any root left in the ground can resprout. Wisteria grows quickly creating dense thickets, smothering native vegetation. It can grow up to 70 feet high by twining up trees.



Wisteria climbing and smothering trees along a forest edge. Photo credit: M. Bakacs



Wisteria along a right of way. Photo credit: M. Bakacs



Wisteria growing up trees on a steep bank. Photo credit: T. Maguire

Preferred habitat: Habitats invaded include forest interiors, openings and edges, fields, cliffs, steep slopes, and disturbed areas. Wisteria grows in the shade and full sun. It only produces flowers and fruit when allowed to climb up trees or trellis.

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Removal methods: For manual control, when infestations are small, wisteria can be hand pulled and repeatedly cut to exhaust the root system. Roots will re-sprout if left in the ground and repeated cutting is needed throughout the growing season as new growth appears. When vines are growing up trees, using a window-cut approach is an excellent method for killing top growth. This involves cutting the stem low to the ground and then again at chest height. Allow the above ground growth to die. Do not pull the vines off trees as that will likely damage the tree for example by ripping off bark or breaking branching. Make additional cuts to vines as needed to prevent tree strangulation. Make sure to monitor for re-growth. DO NOT compost the seeds or cuttings.

Early detection/rapid response is the ideal method for control; learn to identify this vine in small, seedling stages and monitor at-risk locations regularly.

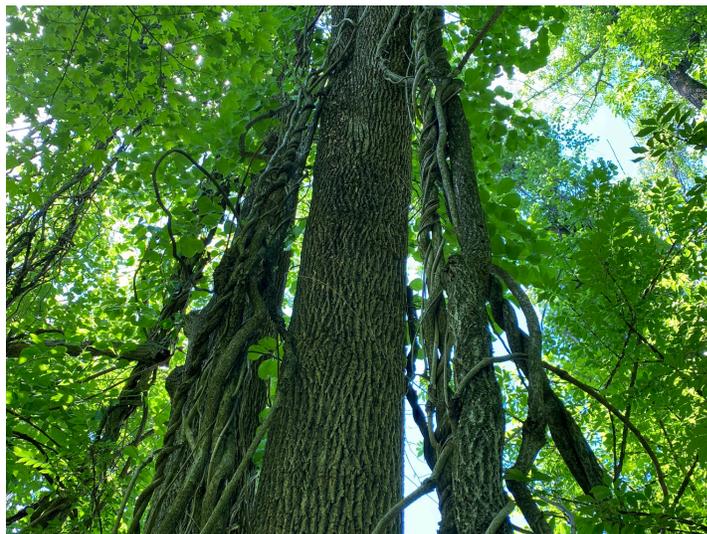
For chemical control, note that large populations of wisteria are difficult to control with mechanical means alone due to its extensive root system. Roots will re-sprout if left in the ground without chemical treatment. For chemical control, foliar applications with a glyphosate/ triclopyr mix are effective when leaves are present. Ideally, pre-cut the stems first and foliar spray the regrowth 6 weeks later. Cut-stump or basal bark treatment may be difficult to administer with many, smaller stems but is effective on larger stems. Winter cut-stump applications can minimize damage to surrounding dormant species and can be done if temperatures are above 50 degrees F. Always follow the herbicide label instructions; the label is the law.

Post treatment, make sure to monitor the area for re-sprouts and new individuals for multiple seasons.

If you are not able to or are not comfortable using herbicides, hire a landscape professional that has a pesticide license and specializes in invasive plant management.



Young wisteria shoots quickly overtake tree saplings.
Photo credit: T. Maguire



Wisteria vines girdle trees, restricting the flow of water and nutrients, which eventually kills the tree.
Photo credit: M. Bakacs

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Alternatives

Coral honeysuckle, *Lonicera sempervirens*, is a fast-growing vine with the bulk of the red-pink-orange blooms in the spring and then intermittent blooms till the fall. It is drought tolerant, deer resistant, attracts hummingbirds and good for trellises, pergolas, and fences.

American wisteria, *Wisteria frutescens*, is native in the southeastern states from Texas to North Carolina. It is not native to New Jersey. *W. frutescens* thrives in moist soil and full sun, which promotes abundant summer blooms. It has less vigorous growth than the invasive wisteria species. It is good for arbors, trellis, and fences.



Lonicera sempervirens, coral honeysuckle, blooms in spring.
Photo credit: M. Bakacs

References and other resources:

Friends of Hopewell Valley Open Space. [New Jersey Invasive Species Strike Team Fact Sheets](#)

Kaufman, S.R. and Kaufman, W. 2007 Invasive Plants- Guide to identification and the impacts and control of common North American species. Stackpole Books. Mechanicsburg, Pa.

Penn State. Exotic Woody Vines. Invasive Plant Species Management Quick Sheet 9. Available at <https://plantscience.psu.edu/research/projects/wildland-weed-management/publications/invasive-species-quicksheets>

Swearingen, J.M. and J.P. Fulton. 2022. Plant Invaders of Mid-Atlantic Natural Areas, Field Guide. Passiflora Press. Available at <https://www.invasive.org/midatlantic/fieldguide/>

Thank you to our reviewers: Trish Maguire, Phillip Round, and Michael VanClef.

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The goal of Rutgers Cooperative Extension’s “Invasive Species of the Month” is to highlight those organisms that are non-native to New Jersey and cause economic or environmental harm, or harm to human health. We can all help prevent the spread of invasives by learning which species are a threat to our ecosystems.

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