



Knotweed Eradication & Habitat Restoration Project

What Is Japanese Knotweed?

Japanese knotweed is known by many names, such as Mexican bamboo, but you'll hear knotweed most often. Though some biologists disagree, *Polygonum cuspidatum* seems to be the most popular species. It was brought over from Japan in the 19th and 20th century as an ornamental plant, but it quickly got out of control and now can be seen in over thirty of the American states and much of Europe.

You can identify knotweed easily. It is a high shrub that resembles bamboo, especially in later stages. It blooms with small white flowers in late summer/early autumn. If there are no environmental factors to regulate its growth, knotweed can reach up to ten feet high.

Why Is Japanese Knotweed Considered an Invasive Species?

Japanese knotweed is a famous plant in Japan—it is evolved to be an emergent species. Where volcanoes periodically wiped out swaths of vegetation Japanese knotweed was the first plant to resurface, since it was so hardy and fast growing.

Taken away from its native environment though, Japanese knotweed is more of a monster than a hero. There are no biological restraints on knotweed in America, like insects that eat it or other plants that outgrow it. As a result, we see the maximum potential of this plant. Stalks reach ten feet in height and infestations slowly dominate the landscape. Since nothing here slows the plant's growth, it grows and grows until it has taken over every spot of ground it can reach. That is the invasive nature of knotweed—it moves into an area and takes it over.

What makes Knotweed so 'Dangerous?'

Japanese knotweed is not 'dangerous,' per se. It can't hurt humans. In fact, there are some small esoteric medicinal usages for the plant. The damage is done to the plants surrounding it. In an open riverbank, knotweed grows almost a foot a week. That means that in one month, knotweed can tower over most humans. This rapid growth evolved in order to establish these plants early in barren volcanic wastelands. Yet here, in the northeast, it grows so fast that by the time native plants begin to grow, knotweed has blocked out the sun and they wither and die. The results are almost universal; no plant native to Massachusetts can compete with knotweed. Even if a plant were to survive the first year, knotweed is a perennial, which means every year, it sends up new stalks while the old ones die. In three years, a serious clump of knotweed has grown from one spot. After that, a veritable thicket blocks out all sunlight.

Killing knotweed is no easy task. The roots are the lifeblood of the weed, though. All the food is stored there, and it is also the primary way knotweed spreads. Cutting down the surface stalks only once does nothing to the plant—it will grow again next year, or send out 'runners' (underground roots) to start new infestations. Running shoots may be sent as far as 45 to 60 feet away from the parent plant.

Even when plants are removed the roots are persistent. Tiny pieces of stalk or root can start whole new infestations if not dealt with. A small piece is capable of floating down-stream re-rooting into the ground. We need our knotweed eradication project to extend over four years. We must be as persistent and consistent as the knotweed itself.

What Does Friends of the Mystic River Do?

The Friends of the Mystic River has sponsored bi-annual cleanups along the Mystic River since 1995. We work to improve the physical aspects of this Medford resource for the recreation and enjoyment of its residents. In our near ten years of existence, we have developed invasive plant projects, promoted awareness of waterway issues and gathered information about the river to share freely with the community. Our current invasive plant projects include water chestnut removal and Japanese knotweed eradication.

We are an organization of volunteers with participants of all ages. Although we are a Medford-based community group our volunteers come from around our watershed region. The watershed of the Mystic River is a 76 square mile area that is home to over 400,000 people in 21 cities. Many people join us to be outdoors and enjoy nature while contributing to the beautification of this treasured watercourse.

Friends of the Mystic River has been tackling the knotweed problem in various areas around Medford. Our methods are strongly supported by the Medford Conservation Commission whose approval ensures compliance with the Wetlands Protection Act.

Our removal efforts of cutting down the stalks repeatedly with mechanical and manual cutters are completely organic. This repeated cutting eventually drains the root system of its food stores, and the knotweed dies. On a riverbank, exhausting the roots is the best way to go about removal. Roots, dead or alive, hold the soil in place and maintain the integrity of the riverbank. In other words, we can kill the knotweed without causing drastic erosion problems.

What Happens to the Knotweed You Cut Down?

The dead knotweed roots will slowly decompose. During this period, Friends of the Mystic River will move in and repopulate the riverbank with native species. These plants, nurtured by the decomposition of the knotweed, and defended against any knotweed resurgence by Friends of the Mystic River volunteers, will flourish in their native environment and re-establish a working ecosystem.

This method of removal is laborious, but it is well founded and proven to work. Herbicides have proven effective, but we won't risk compromising the river water or the riverbank soil with herbicides. Soil contaminants would threaten the fledgling plants and the very ecosystem we hope to restore! This is why we work manually to cut down knotweed: it is the safest way, and on top of it, it brings community members together to address a mutual problem.

Knotweed is persistent even when it seems to be dead. All the knotweed we cut down is moved to a tarp so that it cannot sprout new roots into the soil. At the end of the summer, the long heat and prolonged water deprivation will have dried up and killed the knotweed, leaving us free to dispose of it. The Commonwealth of Massachusetts Department of Conservation and Recreation, as owner of the property, has agreed to collect these piles once the knotweed is dead.

How can I Help?

We appreciate any and all help you can offer in the fight against knotweed. Friends of the Mystic River is always looking for volunteers for this and other projects. Everyone is welcome—there is no limit on age or ability. If you are unable to help but would like to remove knotweed on your own property, we can offer advice. Visit one of our project areas and learn to identify knotweed as well as gain hands-on experience with veteran volunteers.

This project is funded with donations. The cutting phase of this project requires the purchase of equipment and supplies for its operation. For the restoration phases we purchase seed mixes and may later add some plants. Please consider a donation to sustain our efforts.

For more information about the wildlife, recreation and history of the Mystic River please visit our website at www.fomr.org

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