

JAPANESE KNOTWEED: A SPACE INVADER

What is Japanese Knotweed?

Japanese knotweed (*Polygonum cuspidatum*) is an herbaceous perennial plant native to Asia. It was introduced to the United States for horticultural purposes between the late 1800s and early 1900s.

How do I identify knotweed and where is it found?

Knotweed is a shrub-like plant that can grow up to 10 feet tall, and forms dense colonies. The stems are hollow and bamboo-like; leaves are large, dark green, and heart-shaped with a pointed tip. Elongated clusters of small white or greenish-colored flowers appear in late summer. Dead, standing stems are rusty or reddish in color and persist through the winter.

Knotweed grows in many habitats: abandoned lots, highway rights-of-way, stream banks, roadway edges, and agricultural areas.



Knotweed growing next to stream in summer

Why is knotweed a problem?

- ❖ Knotweed has no diseases, competitors, or predators to control its growth
- ❖ Knotweed discourages the growth of native plants by altering the availability of sunlight, moisture, and nutrients
- ❖ Knotweed degrades wildlife habitat by preventing the growth of native plants used by animals for food and shelter
- ❖ Knotweed is difficult to control because of its tenacious root system and fast growth rate in spring
- ❖ Knotweed is easily spread when plants or plant parts contaminate fill, loam, or compost, or are washed downstream during floods
- ❖ Knotweed can regenerate from pieces of root as small as 0.5 inch



Knotweed flowering in late summer



Dead stalks from previous year's growth



Newly emerged knotweed shoots in spring

Where can I learn more about Japanese knotweed and other invasive species?

The following websites provide accurate and easy-to-understand information on all aspects of knotweed identification, ecology, and management. Some include information on other species of invasive plants and animals:

Invasive Plant Atlas of New England:
<http://invasives.eeb.uconn.edu/ipane/>

Japanese Knotweed Forum (Cornwall, England):
<http://www.cornwall.gov.uk/index.cfm?articleid=6568>

Federal and State Invasive Species Programs:
<http://www.invasivespeciesinfo.gov/>

The Nature Conservancy:
<http://tncweeds.ucdavis.edu/>

New England Wild Flower Society:
<http://newfs.org/>

How Can I Get Rid of Knotweed?

Because knotweed has the ability to regenerate from the smallest pieces of root or stem, its removal from an area requires persistence and vigilance.

Regardless of the method used, it will likely take 3 years or more to eradicate knotweed from a site. It is essential that the site is monitored to make sure that re-infestation does not occur.

Controlling Knotweed Without Herbicides

If cutting or removing plants in or near wetlands or water sources, be sure to contact your local conservation commission. Conservation commissions regulate activities that affect natural resources in or adjacent to wetlands and water sources.

CUTTING OR MOWING

- ❖ Plants should be cut to ground level using a mower, weed eater, machete, loppers, or similar tools
- ❖ Cutting is most effective if done every 2-3 weeks between April and August, and monthly thereafter until the plants die
- ❖ An alternative strategy is to delay the first cutting until August, and then cut once more before the plants become dormant
- ❖ Check surrounding areas (up to 20 ft) for re-sprouting during the entire growing season
- ❖ Be sure to dispose of cut plants properly (see *Disposal of Plants*)

PULLING

- ❖ This method is best for new infestations or small patches
- ❖ Pull the entire plant out of the ground, making sure to remove as much of the root system as possible
- ❖ Check surrounding areas (up to 20 ft) for re-sprouting during the entire growing season

COVERING

- ❖ Cover plants with plastic sheeting or geotextile fabric after cutting to ground level
- ❖ Be sure to anchor plastic in place and expand cover material at least 6 ft beyond the plant base
- ❖ Leave plants covered for the entire growing season

GRAZING

- ❖ Sheep, cattle, horses, pigs, and goats can safely eat knotweed
- ❖ New shoots are preferred
- ❖ Grazing will not eradicate knotweed but may prevent it from spreading

Controlling Knotweed With Herbicides

Herbicides can be used to control knotweed and may be the only effective method when patches are large and well-established. There are many factors to consider before applying herbicides on your property:

- ❖ Before using herbicides in or near sources of water, contact your local Conservation Commission or the Department of Environmental Protection. Sources of water include but are not limited to rivers, streams, lakes, ponds, vernal pools, marshes, bogs, and swamps
- ❖ If improperly used, herbicides can have negative effects on water quality, wildlife habitat, fisheries, plants, and drinking water
- ❖ Before using any herbicides, make sure to read the label carefully and comply with all restrictions on its use
- ❖ Know your state regulations regarding herbicides

Helpful Contacts Regarding Regulations

Massachusetts Department of Agriculture:
<http://www.mass.gov/agr/index.htm>

Massachusetts Department of Environmental Protection,
Western Regional Office: (413) 784-1100

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Disposal of Plants

Once knotweed is cut, the next step is crucial. Improper disposal of knotweed roots, crowns, and stems can lead to new infestations.

- ❖ Pile knotweed remains on plastic or other impermeable surface and allow to dry out completely
- ❖ Monitor plants, especially crowns, to make sure they don't re-sprout
- ❖ Allow all parts of the knotweed plant to die before composting
- ❖ Burn cut knotweed plants or bury plants at least 10 ft deep if "green"

Restoration

Restoration involves returning an area to its condition prior to knotweed infestation.

- ❖ Native plants may return to the area without any special treatment
- ❖ If native vegetation does not return, the area should be planted with native species appropriate to the site
- ❖ If the site is a yard or garden, be sure to use native plants or non-native species that do not have invasive qualities
- ❖ Keep monitoring the site to prevent re-infestation of knotweed

Important Points to Remember

- ❖ It is easier to keep knotweed out than to remove it
- ❖ Destroy knotweed as soon as it's observed; established colonies take years to eradicate
- ❖ Don't be afraid to try a number of control methods
- ❖ Use methods with the least effect on the environment
- ❖ Work with your neighbors, most importantly those "upstream" of you
- ❖ Be patient and persistent – it will take several years to eradicate knotweed from a site