

Management in Northeast MN

	DO		DON'T	
<ul style="list-style-type: none">Make a plan, do research, hire an herbicide licensed contractor if possible.Spray with proper herbicide in the fall (covering 80% of leaves on each stem) when flowers on knotweed plants are blooming. Timing is key!Always read and follow herbicide labels, save them for reference, and properly clean equipment when finished.Use herbicide in calm, dry weather.Treat every year for 5+ years, or until all knotweed is gone (knotweed can go dormant and return years later).Use an aquatic herbicide if working near water and contact MnDNR for herbicide permits.Be persistent and stick with it!		<ul style="list-style-type: none">Don't cut the plants. This increases growth rate and volume, cut stalks can lead to spreading issues.Don't mow. Small pieces dispersed by mower can cause spreading, fragments on a mower can spread knotweed to another area.Don't dig up the roots. This promotes new growth.Don't transport. Any small portion falling to the ground in route can cause a new infestation.Don't dump stalks into compost locations or anywhere else—a new patch will grow.Don't use herbicide treatments in spring or summer. This has been generally ineffective.		

Herbicide

What to use

Chemicals that have been the most effective: **Imazapyr** (brand names Polaris, Habitat, Arsenal), **Aminopyralid** (Milestone). Always read herbicide labels for proper directions on mixing, application rate, warnings, or other information. Using a surfactant in your solution will help the herbicide to be absorbed by the plant.

Why herbicide?

Like antibiotics for an infection, a little bit of herbicide at the right time can be just the ticket to managing invasive species. In this case, herbicide is really the only successful method for getting rid of knotweed. The root system is extensive and mechanical treatments often lead to more knotweed growth. By using herbicide in the fall when the plant is drawing energy to the roots herbicide can effectively diminish & eventually eradicate knotweed populations.



Foliar spray application has shown to produce best control



Herbicide injection is time consuming, must inject each stem

What Can You Do?

Share your knowledge!

Learn to identify invasive plants:

MN Department of Agriculture: www.mda.state.mn.us

US Department of Interior: www.invasivespecies.gov

US Department of Agriculture: www.plants.usda.gov

Private website: www.minnesotawildflowers.info/

Report new sightings:

EDDMapS Midwest: www.eddmaps.org/midwest

GLEDN: <https://apps.bugwood.org/apps/gledn>

Perform control:

Follow MN weed laws that regulate handling and control. See www.dnr.state.mn.us, www.mipn.org, or www.mda.state.mn.us for control methods.

Visit www.dot.state.mn.us for treatment options.

If using herbicides always follow the label instructions.

Prevent the spread:

Never plant invasive species. Control invasive plants, then clean tools & footwear on site. Follow MN weed laws that regulate handling & control.

For local information:

www.stewardshipnetwork.org/duluth



Do your part: protect Minnesota's health, economy, environment, & outdoor heritage!

Photo Credits: The Minnesota Department of Agriculture, Duluth CISMA, 1854 Treaty Authority

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The **Duluth Cooperative Invasive Species Management Area** (CISMA) is a group of city, county & state agencies; nonprofit organizations; community associations; & private citizens. Our Mission: We help citizens & communities protect our lands from the damages caused by invasive species.

IDENTIFY & MANAGE Japanese & Bohemian Knotweed

Fallopia japonica & Fallopia x bohemica



**A SERIOUS THREAT
To Minnesota**



Duluth CISMA

What is the Threat to Minnesota?

Destructive

- Blocks road visibility & signs
- Clogs waterways, blocks human & wildlife passage, decreases biodiversity & native vegetation
- Buckles asphalt, concrete, brickwork – can cause property damage, can grow into buildings, & can reduce property values

Hardy

- Grows up to 3” per day
- Roots grow up to 65’ long, 6’ deep
- Stems can arise along any node on the rhizome
- Survives through fire

Spreads Easily By

- Stem fragments & rhizomes
- Seed in winter & water currents
- Moving soil contaminated with fragments



Knotweed outside MN home & inside (white stem) growing through foundation

What are Knotweeds?

Non-native invasive knotweeds are perennial plants native to eastern Asia. Introduced to North America in the late 1800s as an ornamental, it was widely planted in the U.S. including MN. Duluth has the largest number of infestations in the state with >300 as of 2018. Knotweed is legally regulated in many states and under consideration in Minnesota.

Recognizing Knotweeds

GENERAL TRAITS:

Knotweed can exceed 10’ tall. Forms dense clumps. Long arching stems. Begins growing in April, can reach full height in June.

STEMS:

Stems bamboo-like, hollow with joints/nodes. Up to 1” diameter. Green stems with purple speckles spring-fall. New stems emerge in spring, stems die back after hard frost. Standing dead, brown stems in winter.

LEAVES:

Alternate, single along stem. 3-12” long, 4-8” wide. Oval to triangle shaped with squared or heart shaped bottoms & pointed tips.

FLOWERS:

Whitish flowers bloom Aug.-Sept. in lacy clusters on 2 - 6” long stems.

Three varieties in Duluth:

Bohemian, Japanese, Dwarf Japanese



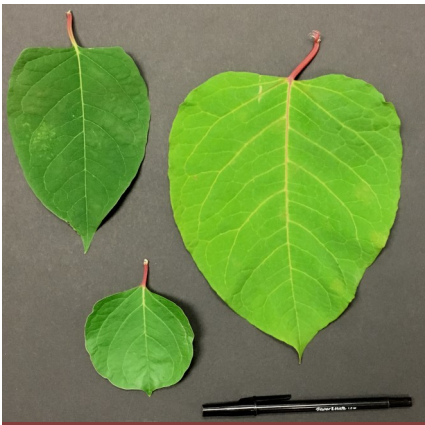
Knotweed stem with nodes



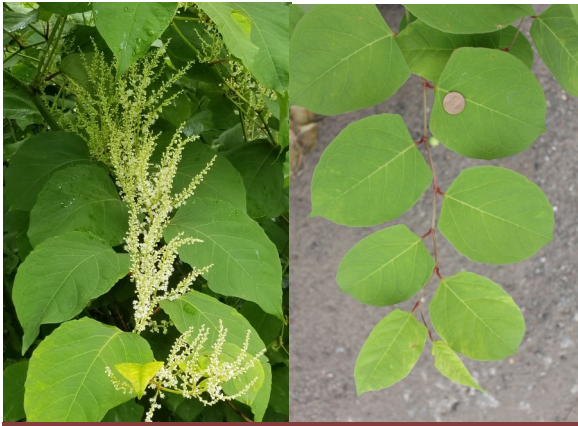
Left to right: thin stem, stem cross-section, dried stem, large stem



Shoots emerging in spring



Clockwise from upper left: Japanese, Bohemian, dwarf Japanese knotweed leaves



Japanese knotweed, note alternate leaf arrangement



Bohemian knotweed flowers



Summer appearance



Winter appearance

It takes a community to prevent spread!



No disposal or illegal dumping
Leave on site



Do not cut

Jean Duluth Road, Duluth, MN