

Pest Management – Invasive Plant Control

Japanese Knotweed – *Polygonum cuspidatum*

Conservation Practice Job Sheet

NH-595



Japanese Knotweed (*Polygonum cuspidatum*)



Japanese Knotweed, leaves

Japanese Knotweed

Japanese knotweed is a shrub-like, herbaceous perennial (but dies back to ground each fall) that can grow to ten feet in height and form dense thickets that exclude native vegetation and greatly alter natural ecosystems. It poses a significant threat to riparian areas, where it can survive severe floods and is able to rapidly colonize scoured shores and islands. Once established, populations are extremely persistent and difficult to control.

Japanese knotweed is most commonly found in areas with full sunlight and where the soil has been disturbed. It is often seen along stream banks (erosion and deposition areas), roadways and waste places. Knotweed reproduces sexually as well as vegetatively through an extensive network of rhizomes that may spread up to 65 feet from the parent plant. Knotweed may colonize new areas through wind dispersed seed as well as through transported root and stem fragments as small as ½ inch.

Description

Japanese knotweed's stout, hollow, bamboo-like stems and the large (3 to 6 inches long), broadly ovate, alternate leaves are distinctive. Tiny white or greenish-white flowers develop in August and

September and grow in numerous linear clusters that form a mass of white over the plant when in full flower (see picture above). The plant is insect pollinated. Frost-killed stems turn bronze colored and may remain upright through winter.

Similar Natives

There are no similar natives in New Hampshire.

Control

Japanese knotweed control should take a watershed perspective, from the headwaters downstream, as the primary dispersal mechanism is by water (both seeds and plant fragments). Control of knotweed must be well thought out due to the extensive root system and sprouting ability as well as the site limitations. Knotweed frequently infests riparian areas near streams which add complexity to any control plan.

Manual, mechanical and chemical methods are all useful to varying degrees in controlling knotweed. Removing or killing plants will provide increased light at the site which may lead to a surge of sprouts in the following year. Prepare to monitor and control these outbreaks for multiple years. As with all invasive species, Japanese knotweed is most effectively controlled by recognizing their appearance

early and removing isolated plants before they begin spread.

Biological Control

Biological controls of knotweed are being studied.

Mechanical or Manual Control

Cutting or pulling is not recommended due to the plants ability to spread from fragments. If this is the only option, be careful not to spread plant pieces and expect to cut or pull multiple times a year for several years. These methods are highly ineffective and should only be used if no other options are available.

Covering with heavy plastics and geotextile fabrics has had some success but is costly and requires pulling, cutting or herbicide treatment near the edges. Cut stems to the ground surface and then cover the stand being sure to extend coverage at least 10 feet beyond the farthest stems. Weigh down the edges and monitor for sprouts. Leave cover in place for at least two growing seasons.

Prescribed Burning

There is little information about the efficacy of burns.

Chemical Control

Herbicide applications to knotweed must be carefully planned and implemented as the stands are typically near surface waters. Methods include spraying, wicking, injecting, and pouring. Integrating control techniques, such as cutting in the spring and applying herbicide in late summer, may be a good alternative for the site^{1,2}.

It may be necessary to precede foliar applications with stem treatments to reduce the risk of damaging non-target species. Although it is generally best to apply foliar spray in late summer when the plant is translocating nutrients, this is not usually practical for knotweed which may be 10 feet tall late in the season. From a practical standpoint, the best time to foliar spray is when the plants are 3-6 feet tall². These stands will require follow up treatments later in the growing season.

Cut-stem and stem injection treatments, though labor intensive are also viable options for environmentally sensitive areas. A subsequent foliar application may be required to control new seedlings and resprouts.

Refer to the pesticide label for complete instructions on the use and application of a given herbicide. Some

applications, by rule, may only be done by a certified pesticide applicator, and/or might require the applicator hold a special permit. Private landowners can apply anything purchased at your local garden store with out having a permit so long as it is not near a water body or known public aquifer. You should contact the New Hampshire Division of Pesticide Control if there are any concerns before applying any pesticides.

¹ – From Alien Plant Invaders of Natural Areas Fact Sheets (NPS)

² – From Controlling knotweed in the PNW, J. Soll 2004.

Disposal

Stem and root fragments as small as ½ inch can sprout so special care must be taken to contain the plant parts when using manual control. Limit soil contact when drying the plant parts. Small plants may be hung in trees to prevent re-rooting. Cut stems may be piled on a raised platform, brush pile or tarp for drying. Do not compost plant materials as they may sprout and then spread. Piles may be burned. Do not remove soil or plant material from the site unless necessary.

Information and Recommendations compiled from:

- The Nature Conservancy - Fact Sheets (and references therein)
- Invasive Plant Atlas of New England (IPANE)
- CT NRCS Invasive Species ID Sheets
- Literature Review for USFWS (Draft) – SLCVP TNC 2006
- Vermont Invasive Exotic Plant Fact Sheets
- Alien Plant Invaders of Natural Areas (NPS)
- Controlling Knotweed in the Pacific Northwest. TNC of Oregon. J. Soll, 2004.

<http://tncweeds.ucdavis.edu/moredocs/pol spp01.pdf>

CAUTION: The NH Division of Pesticide Control is the agency that regulates the sale and use of pesticides in New Hampshire. Many labels and registrations change from year to year, so applicators will want to be sure they are using a currently, registered product. Contact the Division of Pesticide Control (603-271-3550) for information on pesticide registration, how to acquire a special permit, lists of currently-licensed pesticide applicators, and other information pertaining to the rules and regulations governing pesticide application in this state.