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Department of Environmental Protection
Environmental and Geographic Information Center
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Invasive Plant Information Sheet


Japanese Knotweed Polygonum cuspidatum Buckwheat Family (Polygonaceae)

Ecological Impact: Japanese knotweed is a rapidly spreading herb that thrives in a variety of habitats, but primarily occurs in open areas with plenty of sun, including streambanks, wetlands, and roadsides. Once established, it forms large, dense stands that shade out native vegetation. It poses a threat to riparian areas, where it can survive severe flooding and rapidly colonize scoured shores and islands. Litter accumulation in the stands further suppresses native plants and reduces wildlife habitat.

Control Methods: The most effective control method for Japanese knotweed is to prevent its establishment by annually monitoring for and removing newly established plants. Small stands are best controlled by repeated cutting of above-ground stalks. Large stands are nearly impossible to eradicate, but may be controlled by repeated herbicide applications.

Mechanical Control: Juvenile plants are best removed by hand pulling. Be sure to remove the entire plant, including all roots and rhizomes. Any remaining fragments will potentially resprout. All plant parts should be bagged and disposed of in a trash dumpster to prevent reestablishment. Small stands can be reduced or eliminated by cutting above-ground stalks. Digging up plants is labor intensive and not recommended since digging tends to spread rhizome fragments which generate new shoots. Cutting is effective at any time during the growing season, but only when done repeatedly. Cutting greatly reduces the reserves in below-ground rhizomes. At least three cuts are needed in one growing season to offset rhizome production. Repeated cuttings should be continued for several consecutive years. Shading, in conjunction with cutting, may also control small stands. Japanese knotweed requires high light intensities. After cutting, stands can be covered with black plastic or shade cloth topped with asphalt, blocks, or stones. Plastic (or shade cloth) should be kept level with the ground. Although shoots can emerge through asphalt, covering stands can provide some control.

Chemical Control: This method is most effective if done in the fall when plants are translocating nutrients to the rhizomes. Large stands can be controlled with foliar sprays or cut stem treatments of glyphosate (e.g., RoundupTM or RodeoTM). If stands are in or near wetlands, only RodeoTM

should be used. Glyphosate is a non-selective herbicide that will kill all vegetation. When using foliar sprays, managers should be cautious not to spray so heavily that herbicide drips off the leaves. Foliar treatment is most effective if stalks are first cut to ground level and the regrowth sprayed with a 2% solution of glyphosate and water. To reduce the risk to non-target species, use cut stem treatments rather than foliar sprays. Cut stalks about 2 inches above ground level and immediately apply a 25% solution of glyphosate and water to the cut. A follow-up foliar spray may be needed to control resprouts.

Biological Control: There is no established method of biological control. Research in Japan and Wales has identified a list of insect herbivores. Fungal pathogens have been collected and are being examined as potential control agents. Due to its genetic uniformity, biological control of Japanese knotweed appears likely, but may be years away.

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