ALBERTA invasive species COUNCIL
abinvasives.ca
info@abinvasives.ca

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Japanese Knotweed

Provincial Designation: Prohibited Noxious

Polygonum cuspidatum syn. Fallopia japonica, Reynoutria japonica (Aka Japanese bamboo, Clumping Mexican bamboo ("Crimson Beauty"), Speckled Mexican bamboo ("Freckles"), fleeceflower)

Richard old, XID Services, Inc., Bugwood.org

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Overview:

Japanese knotweed is a shrub-like perennial, native to Japan, which was introduced as ornamental and for landscape screening. It also has been used to stabilize soil in coastal areas.[2] It reproduces both by seed and vegetatively by rhizomes, but the primary means of spread is by rhizomes. Japanese knotweed forms dense stands which shade and crowd out other vegetation[2] - loss of native vegetation alters wildlife habitat. The canes die back over the winter leaving sloping ground susceptible to erosion. Rhizome and shoot growth can damage foundations, walls, pavement and drainage works.[3] A rhizome may extend as deep as 3m and as far away as 7m from the parent plant.[2] Rhizomes are knotty and brown, usually with a dark orange central core and an orange to yellow outer ring.[2]

Habitat:

Japanese knotweed needs sufficient moisture and therefore grows in coastlands, riparian areas, and wet grasslands. It grows in a variety of soil types; silt, loam, sand,[2] and tolerates soil pHs from 3 to 8.[3] It generally prefers open areas but can grow in shade.

Identification:

Stems: Are numerous, erect, growing to 1-2 m tall, and often have red or purple spots.[1] Shoots first appear coloured red to purple but turn green as they grow, and mature canes are hollow.[2] The stems may be branched nearer the tips.[4]

Leaves: Are broadly elliptic with straight edges, the bases are broadly rounded, leaf tips are pointed,[1] and are borne on a 1-2 cm petiole. The leaves are arranged alternately on the stems, are dark green, and smooth (hairless).[4]

Flowers: Numerous small white or greenish flowers are borne in a panicle of only male or female flowers, however both bear vestigial organs of the other sex.[4] The seeds are 2.5 mm long, triangular, shiny,[2] enclosed in a winged calyx,[4] and wind dispersed.

Prevention:

Never purchase or grow Japanese knotweed. Soil containing rhizome pieces can contribute to spread - fragments as small as 7 g fresh weight can regenerate if a node is present.[3] Seeds have no dormancy requirement, germinate easily and have high viability,[4] so control efforts on stems with mature flowers will result in weed spread.

Control:

Grazing: It is considered palatable to sheep, donkeys, goats, cattle, and horses.[3] Invasive plants should never be considered as forage.

Mechanical: Cutting, mowing, and hand pulling are effective with repetition over several years. Cutting alone is ineffective and may increase lateral spread.[2] Re-growth is very rapid. Hand-pulling is very effective for small, initial populations,[2] and mowing every two weeks has eliminated some patches.[2] Digging is unlikely to succeed because of Japanese knotweeds high rhizome densities and the difficulty of removing all underground material.[4] All plant debris should be disposed of in landfill-bound garbage - careless handling of root pieces will result in new

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Japanese Knotweed (Continued)

infestations.

Chemical: Glyphosate is registered for use on Japanese knotweed. The use of herbicides in aquatic environments requires Alberta-specific applicator certification and permits. Always check product labels to ensure the herbicide is registered for use on the target plant in Canada by the Pest Management Regulatory Agency. Always read and follow label directions. Consult your local Agricultural Fieldman or Certified Pesticide Dispenser for more information.

Biological: A program has been underway, on behalf of UK and North American sponsors, since May 2003 with two candidate agents, namely a *Mycosphaerella* leafspot and the psyllid *Aphalara itadori*. Both agents have undergone extensive host range testing but only the psyllid has been subjected to full assessment and as a result was licensed for release in England in 2010 and a five-year monitoring program is underway. Parallel research is also underway in Canada by AAFC Lethbridge and in the USA at Oregon State University[5].

RANDY WESTBROOKS, U.S. GEOLOGICAL SURVEY, BUG-

JIL SWEARINGEN, USDI NATIONAL PARK SERVICE, BUGWOOD.ORG

OHIO STATE WEED LAB ARCHIVE, THE OHIO STATE UNIVERSITY, BUGWOOD.ORG

CHRIS EVANS, RIVER TO RIVER CWMA, BUGWOOD.ORG

LESLIE J. MEHRHOFF, UNIVERSITY OF CONNECTICUT, BUGWOOD.ORG

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