

The Knotweed Complex (*Polygonum* spp.)

Identification Species in the knotweed complex are large, rhizomatous, herbaceous perennials varying in height from 5 to 19+ feet tall. They have showy flowers (right) and resemble bamboo with their hollow stems, and knobby nodes with a membranous sheath (inset photo). The complex typically includes Japanese knotweed (*Polygonum cuspidatum*), giant knotweed (*Polygonum sachalinense*), Himalayan knotweed (*Polygonum polystachyum*) and Bohemian knotweed (*Polygonum x bohemicum*), a hybrid of giant and Japanese knotweed. Leaf shape of Himalayan knotweed is long and narrow, and width is less than half the length. Leaves of the other three are generally heart shaped, and differentiated from each other by veins on the underside of the leaves:

Japanese veins have ridges, Bohemian have knobs, and Giant have multicellular hairs. A hand lens is needed to see these differences. Refer to the Extension bulletin in the link below for more information.



Impacts Knotweeds were originally introduced for showy privacy hedges. Due to their aggressive rhizomatous growth, hedges become advancing walls (left). Knotweeds can outcompete existing vegetation to form dense monotypic stands, especially along waterways (below). Rhizomatous growth damages infrastructure and is capable of penetrating through 2" of concrete. Once established, control is extremely difficult.

Habitat Knotweeds are often found in yards and managed landscapes where they were intentionally planted. Escaped plants are commonly found in moist areas such as along riverbanks, canals and lakeshores. However, knotweeds can tolerate a range of moisture conditions and also occur in disturbed areas like utility pathways, strip-mining areas and roadsides.

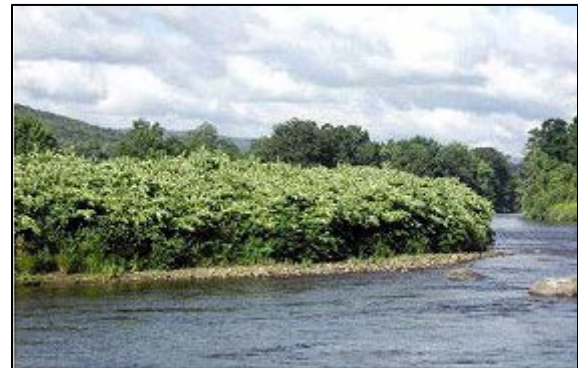
Spread Dispersal occurs most commonly by rhizome fragments along waterways or in transported soil. Do not spread soil from an area with knotweed to other areas. Rhizome fragments as small as 0.02 lb (7 g) can regenerate to form new plants. Spread by seed is rare.

Management Priorities Giant, Himalayan and Japanese knotweeds are Priority 1B noxious weeds in Montana. Bohemian is the most widespread knotweed in Washington and British Columbia and has been reported in Montana. While plants in the knotweed complex occur in scattered areas across the state, they do not yet line rivers or roadways like in other regions.

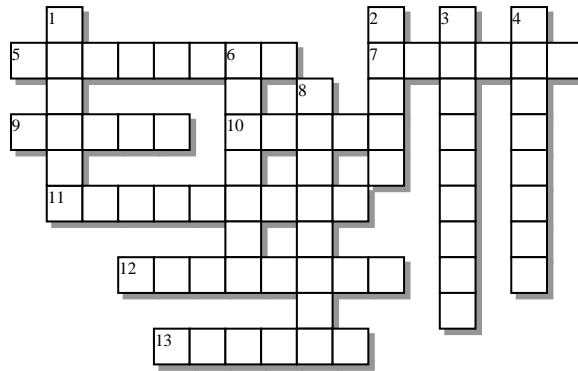
Prevention must be the number one priority as once established, eradication is extremely difficult. Control options include repeated cutting or hand pulling and herbicides by foliar application or stem injection.

For more information on management recommendations, see "Biology, Ecology and Management of The Knotweed Complex (*Polygonum* spp.)," EB0196.

<http://msuextension.org/publications/AgandNaturalResources/EB0196.pdf>



Weed Post Puzzle: Test your knowledge of The Knotweed Complex



Across:

- 5 - Excavation and transport of soil within 50' of a knotweed patch could easily spread this
- 7 - A characteristic that stems of plants in the knotweed complex share with bamboo
- 9 - Location of many knotweeds due to unsuspecting homeowners
- 10 - Species with multicellular hairs on underside leaf veins
- 11 - The exception to plants in the knotweed complex having leaf widths more than 2/3 of their length
- 12 - A tool necessary to see the minute texture or hairs on the underside leaf veins of Giant, Japanese or Bohemian knotweed
- 13 - Features on the underside leaf veins of Japanese knotweed

Down:

- 1 - A membranous structure on the stems' knobby nodes
- 2 - Flower color of Giant, Japanese and Bohemian knotweed
- 3 - Leaf arrangement of knotweeds*
- 4 - The hybrid of giant and Japanese knotweed
- 6 - Country where heavy duty barriers with 50 year warranties are required for foundations of buildings near Japanese knotweed patches*
- 8 - Bohemian knotweed is frequently misidentified as this plant in the complex*

*Refer to the Extension Bulletin for answers to these questions
Solutions will be posted to the MSU Extension Invasive Rangeland Weed website:
<http://www.msueextension.org/invasiveplantsMangold/extensionsub.html>