

Identification of Perennial Knotweeds



Mark Renz

Associate Professor/Extension Specialist

(mrenz@wisc.edu)

Perennial knotweeds can invade a wide range of areas



Most infestations originate near populated areas



Populations move into natural areas



Impacts of perennial knotweeds

Worst in riparian/river systems

- Reductions in biodiversity
- Losses of ecosystem services



Impacts of perennial knotweeds



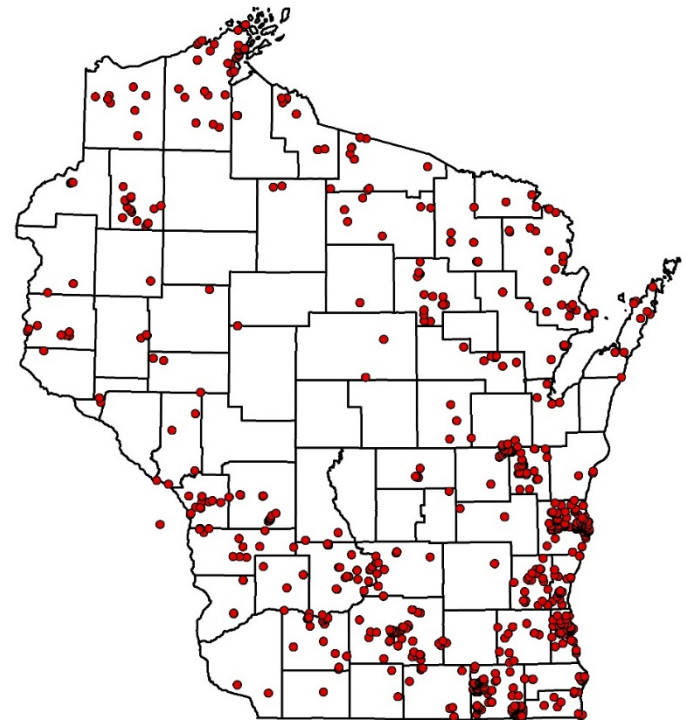
<http://www.japaneseknotweedireland.ie/information1/japanese-knotweed-problems>

<https://www.japaneseknotweed.co.uk/japanese-knotweed-damage>

Several perennial knotweeds are regulated plants in Wisconsin

- Giant knotweed
 - *Fallopia sachalinensis*
 - **Prohibited**
- Japanese knotweed
 - *Fallopia japonica*
 - Restricted
- Bohemian knotweed
 - *Fallopia x bohemica*
 - **Prohibited**

**986 known infestations
(2017)**



Perennial knotweed general description

hollow, bamboo-like stems that can be > 10 ft tall

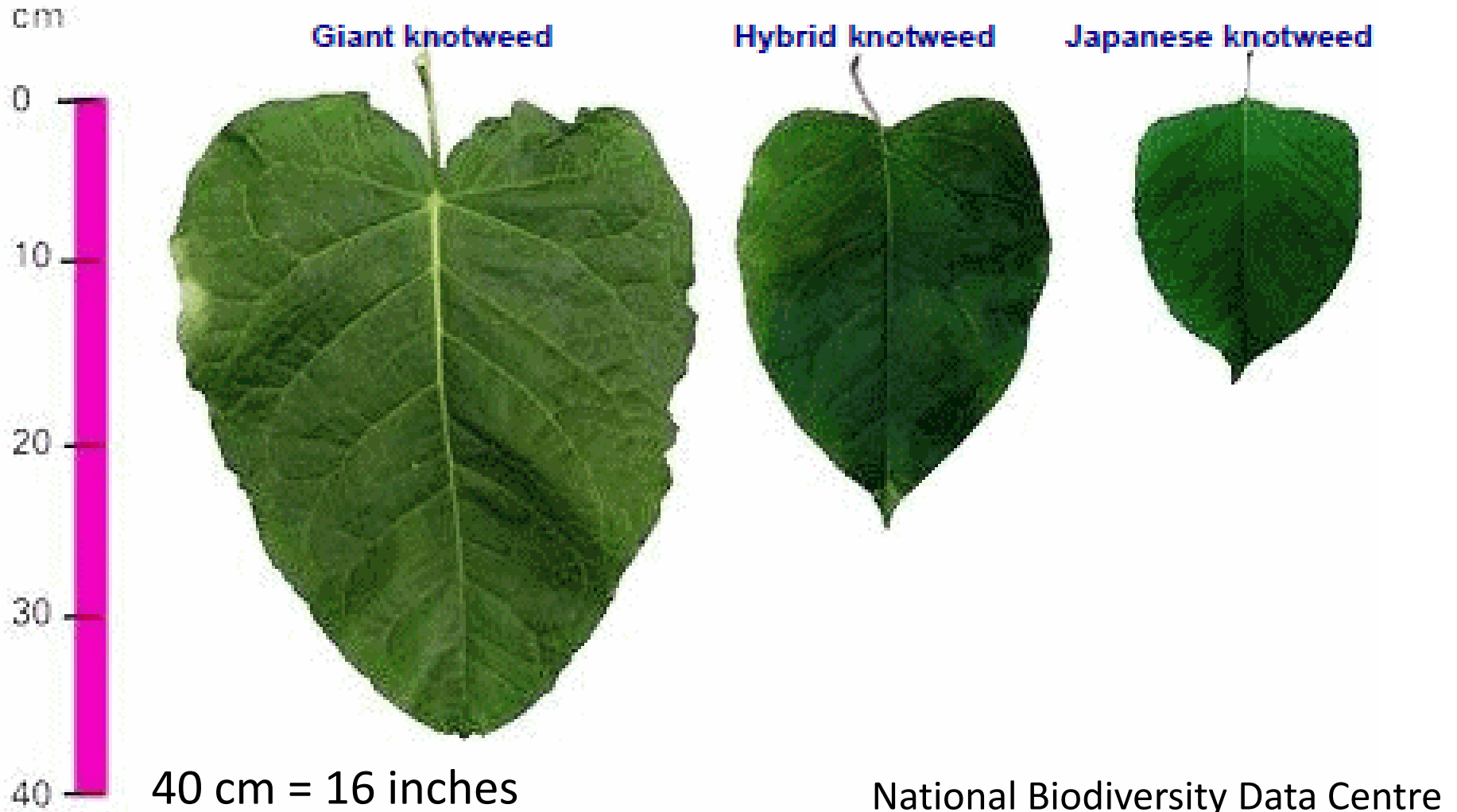


Knotweed Roots/Rhizomes

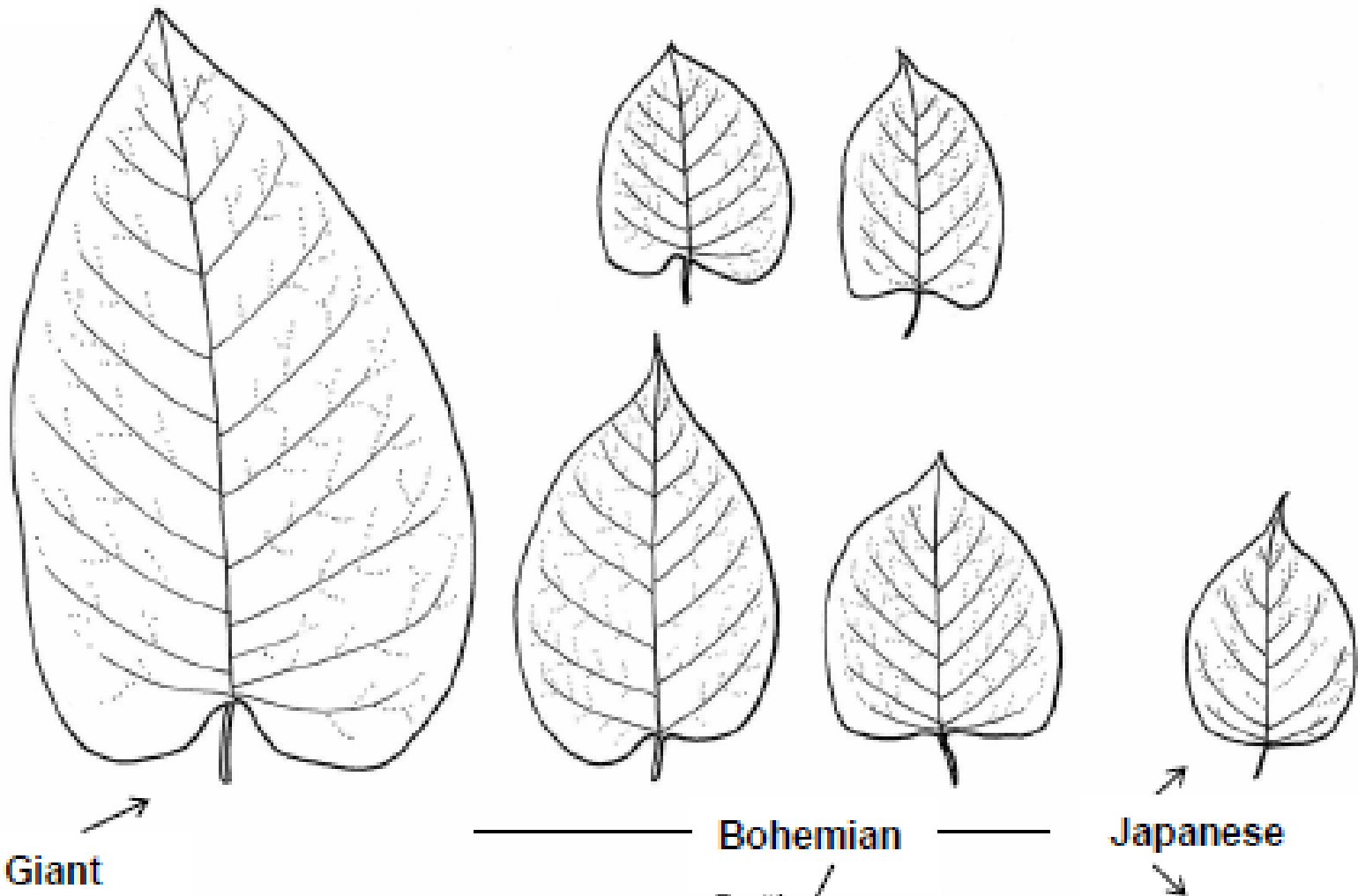
- Perennial roots and rhizomes
 - allow plants to survive common management
 - Spread
 - ≥ 65 ft from parent plants



Leaf shape can help with identification (sometimes)



Note how different Bohemian leaves can look!



From: Key to Identification of Invasive Knotweeds in British Columbia ; Wilson

Tips to identify

1. Plant size

- > 10 ft giant or bohemian
- < 10 ft Japanese

2. Leaf size/shape

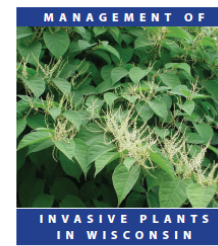
- > 8 inches long = Giant

3. Hairs on underside of leaves

4. Flowers

- color/arrangement
- Male/female parts of flowers

May need to evaluate DNA!



Brendon Panke and Mark Renz

Invasive plants can thrive and aggressively spread beyond their natural range, disrupting ecosystems. The *Management of Invasive Plants in Wisconsin* series explains how to identify invasive plants and provides common management options. Management methods recommend specific timings for treatment, as well as expected effectiveness. For more

A3924-11

Japanese knotweed (*Polygonum cuspidatum*)

Japanese knotweed is an herbaceous perennial, growing up to 10' tall. Hollow, reddish, arching, bamboo-like stems are smooth and stout, and they can persist after plant dies back each year. The base of the stem above each joint is swollen and surrounded by a membranous sheath (ocrea).

Legal classification in Wisconsin:
Restricted

Leaves: Alternate, egg-shaped to almost triangular, 4–6" long, 3–4" wide. Dark green on upper surface and pale green on lower surface.

Flowers: Blooms in late summer. Flowers are numerous, highly branched, tiny, creamy white or greenish, and found where the leaf attaches to the stem (axils), near the tips of stems.

Fruits and seeds: Small, winged, triangular fruits carry very small, shiny seeds.

Roots: Plants arising from seed have a taproot up to 6' deep. Stout rhizomes can reach 65' or more from parent plants and give rise to new stalks. Plants arising from seed and rhizome also have

Similar species: Giant knotweed (*P. sachalinense*) is also invasive, but grows up to 13' tall with larger leaves. The two species are known to hybridize.

Ecological threat:

- Invades upland and lowland sites that are disturbed and undisturbed.
- Poses a significant threat to riparian areas, where it can rapidly spread.
- It tolerates shade, high temperatures, high salinity, and drought.
- It can be transported to new sites as a contaminant in fill dirt or on equipment. During floods, it spreads downstream by shoot fragments, rhizomes, or occasionally by seeds. Escapees from neglected gardens and discarded cuttings are common routes of dispersal from urban areas.
- Although reported to not produce viable seed, several studies have shown that populations of knotweed in the United States can produce viable seed that readily germinate and survive in field conditions.

Key to Identification of Invasive Knotweeds in British Columbia



Photo: L. Wilson

From our plots
7-9" long!



10-12 ft tall



Bohemian knotweed

What about non-regulated ornamental perennial knotweeds?



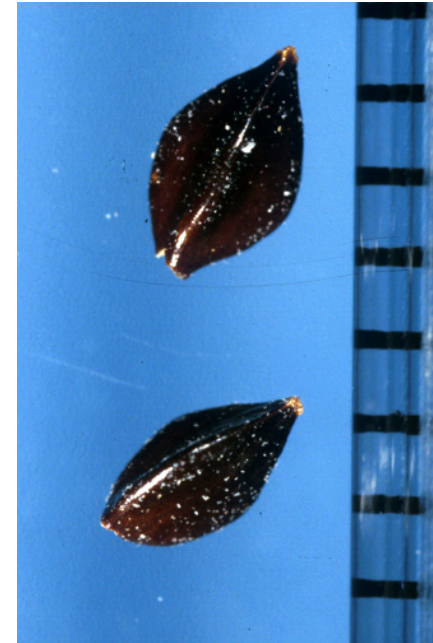
Good News

- *Reports suggest management strategies are similar across species and hybrids!!!!*



Bad News

- Perennial knotweed can produce viable seed in Wisconsin
 - May be low, but have verified
- Suggests can spread by seed
 - May be a long distance spread mechanism



Summary

- We have three invasive perennial knotweeds in Wisconsin
 - Giant knotweed (prohibited)
 - Japanese knotweed (restricted)
 - Bohemian knotweed = hybrid (prohibited)
- Identification can be difficult
 - Important if use NR40 to require management
- Management is similar across species

QUESTIONS