NAME OF SPECIES: Polygonum sachalinense F.W.Schmidt ex Maxim. (1) Also known in the literature as Fallopia sachalinensis (F. Schmidt) Ronse Decraene (4).	
Synonyms: • Fallopia sachalinensis (F.W.Schmidt ex Maxim.) Nakai • Pleuropterus sachalinensis (F.W.Schmidt ex Maxim.) H.Gross • Reynoutria sachalinensis (F.W.Schmidt ex Maxim.) Nakai • Tiniaria sachalinensis (F.W.Schmidt ex Maxim.) Janch. (1)	
Common Name: giant knotweed (1)	
A. CURRENT STATUS AND DISTRIBUTION	
I. In Wisconsin?	1. YES ☒ NO ☐
	2. Abundance: 10 occurrences recorded in WI (1); however there are unreported known occurrences (author, personal information).
	3. Geographic Range: Recorded from 3 WI counties, with the majority from Bayfield county. The others are in La Crosse and Taylor counties. (1)
	4. Habitat Invaded: Most recorded occurrences are garden escapees, with one from a roadside ditch (1). Spreads along highways and woods. Shores, grasslands, woods (2). Disturbed Areas ☒ Undisturbed Areas ☐
	5. Historical Status and Rate of Spread in Wisconsin: The earliest records are from 1974 (1).
	6. Proportion of potential range occupied: With the numerous wetland habitats and extensive soil disturbance in WI giant knotweed has only colonized a fraction of available habitat. It is probably limited by its reproductive strategies.
II. Invasive in Similar Climate Zones	1. YES ☒ NO ☐ Where (include trends): B.C., N.B., Nfld. and Labr. (Nfld.), N.S., Ont., P.E.I., Que.; Calif., Conn., Del., Idaho, Ill., Ky., La., Maine, Md., Mass., Mich., Mont., N.J., N.Y., N.C., Ohio, Oreg., Pa., R.I., Tenn., Vt., Va., Wash., W.Va.; (4)
III. Invasive in Similar Habitat Types	1. Upland ☒ Wetland ☒ Dune ☐ Prairie ☒ Aquatic ☐ Forest ☒ Grassland ☐ Bog ☐ Fen ☐ Swamp ☐ Marsh ☒ Lake ☐ Stream ☒ Other: Found along stream banks, in moist waste places, neglected gardens, roadsides, floodplain forests, open disturbed areas, rivers or streams, wet meadows and rights-of-ways. (8) (9)
IV. Habitat Effected	1. Soil types favored or tolerated: Moist soils (9).
	2. Conservation significance of threatened habitats: Some of Wisconsin's herbaceous wetland communities that may be threatened by giant knotweed are listed as G2-G3 and S1-S3. Some of Wisconsin's wetland forest communities that may be threatened by giant knotweed are listed as G3 and S2-S3. (12)
V. Native Habitat	1. List countries and native habitat types: Polygonum sachalinense is native to Japan and the Sakhalin and Kuril islands of Russia (9).
VI. Legal Classification	1. Listed by government entities? Yes. Noxious in CA, WA. Regulated in CT, OR. (3).
	2. Illegal to sell? YES ☒ NO ☐ Notes: California, Connecticut, Oregon, Washington. (3)
B. ESTABLISHMENT POTENTIAL AND LIFE HISTORY TRAITS	

I. Life History	1. Type of plant: Annual ☐ Biennial ☐ Monocarpic Perennial ☐ Herbaceous Perennial ☒ Vine ☐ Shrub ☐ Tree ☐
	2. Time to Maturity: Plant flowers in mid-late summer, seeds produced in late summer and fall. (10)
	3. Length of Seed Viability:
	4. Methods of Reproduction: Asexual ☒ Sexual ☒ Notes: Only produces a small amount of viable seed. Giant knotweed is insect pollinated. This species is not capable of self-pollination. Spread by fragments of root or rhizomes. Fragments can be distributed by such events as flood, erosion, roadside clearing or fill dirt. (7) (8)
	5. Hybridization potential: Hybridizes with P. japonica, yielding P. ×bohemicum which is able to produce fertile seeds. Many of the patches in the Pacific Northwest appear to be P. x bohemicum. Should extensive sexual reproduction be confirmed in the field it would certainly alter the strategy for landscape level control projects. (4) (6)
II. Climate	1. Climate restrictions: Currently seems to be hardy throughtout WI
	2. Effects of potential climate change: NA
III. Dispersal Potential	1. Pathways - Please check all that apply: Unintentional: Bird ☐ Animal ☒ Vehicles/Human ☒ Wind ☐ Water ☒ Other: Roadside ditches, irrigation canals, and other water drainage systems can be colonized by fragments carried downstream. Cut or broken stems and roots will sprout if left on moist soil or put directly into water, or if moved by beavers (or earth moving equipment). Stem or root fragments can also be spread in contaminated fill material. (6) Roadside maintenance such as ditch cleaning is one the primary ways that knotweed is spread. (13) Intentional: Ornamental ☒ Forage/Erosion control ☒ Medicine/Food: ☐ Other: Giant knotweed was introduced as a soil binder and garden ornamental and as forage in 1894. It was also introduced for erosion control along roadsides and railroad right-of-ways. (4) (8)
	2. Distinguishing characteristics that aid in its survival and/or inhibit its control: Knotweed can spread rapidly due to its ability to reproduce vegetatively. Root and stem fragments, as small as 1/2" (1cm) can form new plant colonies (photograph 9). Seasonal high water events and floods sweep plants into rivers and creeks, then fragment and disperse knotweed plant parts throughout the floodplains and cobble bars. The fast growing knotweed then takes advantage of the freshly disturbed soil to become established. Because it grows faster than most other plant species (including native species and most other weeds) it quickly outgrows and suppresses or kills them. (6)

IV. Ability to go Undetected	1. HIGH ☐ MEDIUM ☐ LOW ☒
C. DAMAGE POTENTIAL	
I. Competitive Ability	1. Presence of Natural Enemies: Stem-mining Lepidoptera, found in the internodal sections of stems of P. sachalinense, are so numerous that they are regularly used as fishing bait. (5).
	2. Competition with native species: Knotweed appears to exclude many native plants from beneath the knotweed canopy. This is presumably due to shade, competition for nutrients and water, litter mass, and allelopathy. Very large-produces a great deal of shade (10)
	3. Rate of Spread: -changes in relative dominance over time: -change in acreage over time: HIGH(1-3 yrs) ☒ MEDIUM (4-6 yrs) ☐ LOW (7-10 yrs) ☐ Notes: Giant knotweed was introduced from Japan as a garden ornamental and as forage in 1894. It escaped was established in the eastern United States by the 1950's (7) (8).
II. Environmental Effects	1. Alteration of ecosystem/community composition? YES ☒ NO ☐ Notes: Displaces streamside vegetation, clogs waterways, forms thickets up to 12 feet tall, and increases bank erosion all leading to a reduction in the quality of riparian habitat for fish and wildlife. (7)
	2. Alteration of ecosystem/community structure? YES ☒ NO ☐ Notes: Forms thickets up to 12 feet tall (7).
	3. Alteration of ecosystem/community functions and processes? YES ☒ NO ☐ Notes: Displaces streamside vegetation causing an increase in bank erosion and clogs small waterways. Produces allelochemicals. (7)
	4. Allelopathic properties? YES ☒ NO ☐ Notes: Produces allelochemicals (7).
D. SOCIO-ECONOMIC Effects	
I. Positive aspects of the species to the economy/society:	Notes: The rhizomes are mentioned as an herbal source for laxatives and diuretics. The young shoots are edible, if not eaten excessively, and taste somewhat like rhubarb. Giant knotweed was introduced as a garden ornamental. (8)
II. Potential socio-economic effects of requiring controls: Positive: Negative:	Notes: Could be costly for those needing to do controls. Early detection containment could save a great deal in the long run. Hybrids of Japanese and Giant Knotweed are sold but supply is supposedly sterile.
III. Direct and indirect socio-economic effects of plant:	Notes: Knotweed reduces sight distance and damages pavement along roads, overruns low-to-no maintenance areas, and crowds out existing plant communities. (13)
IV. Increased cost to sectors caused by the plant:	Notes: Road maintenance is costly as treatments to remove this species from roadside ditches and ROWs is expensive and time consuming. (13)
V. Effects on human health:	Notes:

VI. Potential socio-economic effects of restricting use: Positive: Negative:	Notes: Not widely used in commerce
E. CONTROL AND PREVENTION	
I. Costs of Prevention (including education; please be as specific as possible):	Notes: Primary education and equipment clearing
II. Responsiveness to prevention efforts:	Notes:
III. Effective Control tactics:	Mechanical ☒ Biological ☐ Chemical ☒ Times and uses: The key to controlling knotweed is controlling the rhizome system of the plant. Control measures that fail to address the regenerative capacity of the rhizomes will not control this plant. An integrated program of mechanical and chemical treatments will be most effective. Follow-up treatments are required for a year or two with several more years of monitoring to get any resprouts. The first treatments (cutting, mowing, pulling, or foliar herbicides) should be done after the plant has achieved full growth to use up the carbohydrates in the rhizomes. Another treatment with herbicides (injected, sprayed or cut stump) should be done after July 1 to ensure translocation of herbicides to the rhizomes. More treatments will be needed the next growing period to treat regrowth. Maintenance visits to the site to follow-up on resprouts are necessary to prevent re-establishment, and to allow an alternate groundcover to develop.(14) (13)
IV. Minimum Effort:	Notes: Two years of 2 treatments a year (see above), followed by several years of monitoring and treatment as necessary. (14)(13)
V. Costs of Control:	Notes:
VI. Cost of prevention or control vs. Cost of allowing invasion to occur:	Notes:
VII. Non-Target Effects of Control:	Notes:
VIII. Efficacy of monitoring:	Notes: Critical to monitor treatments and up and down stream from infestations
IX. Legal and landowner issues:	Notes: You may need an outreach program to reach landowners that may have knotweed on their property. You almost certainly will need to educate those property owners and others so that they fully realize the threat knotweed poses. (6)

F. REFERENCES USED:

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☐ WI DNR
☒ TNC
☐ Native Plant Conservation Alliance
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