

NAME OF SPECIES: <i>Aegopodium podagraria</i> L.	
Synonyms:	
Common Name: Goutwort, Bishop's Goutweed, Snow-on-the-mountain (variegated cultivar), Herb-Gerard, Wild or English Masterwort, Ax-ash weed, Aise-weed, Dwarf weed, Bishop's-weed, White-ash-herb, Garden-plague, Dog-elder, Ground-elder, Jackjump-about	Cultivars? YES <input checked="" type="checkbox"/> NO <input type="checkbox"/>
A. CURRENT STATUS AND DISTRIBUTION	
I. In Wisconsin?	1. YES <input checked="" type="checkbox"/> NO <input type="checkbox"/>
	2. <u>Abundance:</u> Low/medium
	3. <u>Geographic Range:</u> Planted and naturalized state-wide, recorded in Walworth, Washington, Langlade, Taylor, and Dane counties (4) Very likely to be under reported as it is known and unofficially reported from around the state.
	4. <u>Habitat Invaded:</u> Generally spreads from plantings into adjacent woodlands, edges and semi-shaded areas. Disturbed Areas <input checked="" type="checkbox"/> Undisturbed Areas <input checked="" type="checkbox"/>
	5. <u>Historical Status and Rate of Spread in Wisconsin:</u> The earliest reported naturalized population was the early 1970's. Most populations spread from plantings.(4)
	6. <u>Proportion of potential range occupied:</u> Low
II. Invasive in Similar Climate Zones	1. YES <input checked="" type="checkbox"/> NO <input type="checkbox"/> <u>Where (include trends):</u> CT, DC, DE, GA, ID, IL, IN, KY, MA, MD, ME, MI, MN, MO, MT, NC, NH, NJ, NY, OH, OR, PA, RI, SC, TN, VA, VT, WA, WI, WV, and CAN (3)
	III. Invasive in Which Habitat Types
1. Upland <input checked="" type="checkbox"/> Wetland <input type="checkbox"/> Dune <input type="checkbox"/> Prairie <input type="checkbox"/> Aquatic <input type="checkbox"/> Forest <input checked="" type="checkbox"/> Grassland <input checked="" type="checkbox"/> Bog <input type="checkbox"/> Fen <input type="checkbox"/> Swamp <input type="checkbox"/> Marsh <input type="checkbox"/> Lake <input type="checkbox"/> Stream <input type="checkbox"/> Other: Forest edges, ditches and roadsides especially in riparian areas (12)	
IV. Habitat Affected	1. <u>Soil types favored or tolerated:</u> Requires moist to saturated soils, (12) nitrogen-rich, mainly carbonate, loamy, and clay soils (14) Needs a pH from 6.1 to 6.5 (mildly acidic), 6.6 to 7.5 (neutral), or 7.6 to 7.8 (mildly alkaline). (5)
	2. <u>Conservation significance of threatened habitats:</u>
V. Native Range and Habitat	1. <u>List countries and native habitat types:</u> Most of Europe and northern Asia, to eastern Siberia (2)
VI. Legal Classification	1. <u>Listed by government entities?</u> CT- invasive banned, MA-Prohibited, and VT- Class B noxious weed (1)
	2. <u>Illegal to sell?</u> YES <input checked="" type="checkbox"/> NO <input type="checkbox"/> Notes: In CT and MA
B. ESTABLISHMENT POTENTIAL AND LIFE HISTORY TRAITS	
I. Life History	1. <u>Type of plant:</u> Annual <input type="checkbox"/> Biennial <input type="checkbox"/> Monocarpic Perennial <input type="checkbox"/> Herbaceous Perennial <input checked="" type="checkbox"/> Vine <input type="checkbox"/> Shrub <input type="checkbox"/> Tree <input type="checkbox"/>
	2. <u>Time to Maturity:</u> Blooms late spring/early summer to mid summer (5). Generally only flowers in sunnier sites.
	3. <u>Length of Seed Viability:</u> Rarely spreads by seed. Less than a year (15)

	<p>4. Methods of Reproduction: Asexual <input checked="" type="checkbox"/> Sexual <input checked="" type="checkbox"/></p> <p>Notes: Primarily rhizomatous perennial(2)</p>
	<p>5. <u>Hybridization potential:</u></p>
II. Climate	<p>1. <u>Climate restrictions:</u> Survives USDA Zones 3a-9a, tolerates sun to partial Shade, light shade , partial to full shade, and full shade. (5) Precipitation range is 19.5 to 32.8 inches, withstands elevations up to 3,488 feet (1,063 m), prefers moist conditions, and may tolerate saturated soils. (9)</p>
	<p>2. <u>Effects of potential climate change:</u></p>
III. Dispersal Potential	<p>1. <u>Pathways - Please check all that apply:</u></p> <p><u>Unintentional:</u> Bird <input type="checkbox"/> Animal <input type="checkbox"/> Vehicles/Human <input checked="" type="checkbox"/> Wind <input checked="" type="checkbox"/> Water <input checked="" type="checkbox"/> Other:</p> <p>Notes: Most goutweed colonies spread to neighboring natural areas from intentional plantings, or by the dumping of yard waste that includes discarded rhizomes. (2)</p> <p><u>Intentional:</u> Ornamental <input checked="" type="checkbox"/> Forage/Erosion control <input type="checkbox"/> Medicine/Food: Other:</p>
	<p>2. <u>Distinguishing characteristics that aid in its survival and/or inhibit its control:</u>) Evidence of competitive ability, shade tolerant, perennial, and grows on infertile soils (8) Also capable of invading closed-canopy forests, regenerates and spreads vigorously through rhizomes. (2) Nitrophilous species (12)</p>
IV. Ability to go Undetected	<p>1. HIGH <input type="checkbox"/> MEDIUM <input checked="" type="checkbox"/> LOW <input type="checkbox"/></p>
C. DAMAGE POTENTIAL	
I. Competitive Ability	<p>1. <u>Presence of Natural Enemies:</u> Spanish Slug (<i>Arion lusitanicus</i>) (10) yellow mosaic virus.</p>
	<p>2. <u>Competition with native species:</u> Goutweed is an aggressive invasive plant that forms dense patches, displaces native species, and greatly reduces species diversity in the ground layer. Goutweed patches inhibit the establishment of native tree species as well.(2)</p>
	<p>2. Rate of Spread: -changes in relative dominance over time: -change in acreage over time: HIGH(1-3 yrs) <input type="checkbox"/> MEDIUM (4-6 yrs) <input checked="" type="checkbox"/> LOW (7-10 yrs) <input type="checkbox"/> Notes: Spreads vegetatively</p>
II. Environmental Effects	<p>1. <u>Alteration of ecosystem/community composition?</u> YES <input checked="" type="checkbox"/> NO <input type="checkbox"/> Notes: Greatly crowds out native species where established (and shown to greatly reduce diversity in the ground layer (8) Primarily invades in urban areas, expanding from plantings. Can dominate in urban forests (16)</p>
	<p>2. <u>Alteration of ecosystem/community structure?</u> YES <input type="checkbox"/> NO <input type="checkbox"/> Notes: Significant impact in at least one layer. Greatly increases the density in existing herb layer. Can also create an herb layer when one is absent. Also can inhibit the establishment of native tree</p>

	species (8)
	3. <u>Alteration of ecosystem/community functions and processes?</u> YES <input type="checkbox"/> NO <input type="checkbox"/> Notes:
	4. <u>Allelopathic properties?</u> YES <input type="checkbox"/> NO <input type="checkbox"/> Notes:
D. SOCIO-ECONOMIC EFFECTS	
I. Positive aspects of the species to the economy/society:	Notes: Common plant sold used in landscaping and traded by gardeners. Not as common in the trade as it used to be. Based on the 2011 WNA Economic Impact Survey, the following information was reported for this plant. Out of the 204 nurseries responding, 18 reported selling this plant. 16 reported it comprised <1% of their gross plant sales. 2 reported it comprised 1 – 2.9% of their gross plant sales. The estimated total dollar amount contributed to Wisconsin's economy by this plant is \$86,238. It ranks 17th among the 63 taxa surveyed. The estimated wholesale value of plants in production is \$13,000. The majority of respondents said it took <6 months to produce this plant. The trend for the 2011 season was to remain unchanged (17).
II. Potential Socio-Economic Effects of Requiring Controls:	Positive: Negative:
III. Direct and indirect Socio-Economic Effects of Plant :	Notes: Infestations cost landowners and land managers time and money to control
IV. Increased Costs to Sectors Caused by the Plant::	Notes:
V. Effects on human health:	Notes: Parts of plant are poisonous if ingested and handling plant may cause skin irritation or allergic reaction (5) Extracts from goutweed's roots have been used worldwide for their purifying and anti-inflammatory properties. (7) There is evidence it has been used for treatment of gout in the past (12). People use the parts that grow above the ground for medicine. Goutweed is used for rheumatic diseases. This is a disease category that includes autoimmune diseases and diseases that affect the joints and soft tissues. It is also used for hemorrhoids, as well as for kidney, bladder, and intestinal disorders. Web MD suggests that there is not enough evidence to prove whether it is safe or not. (13)
VI. Potential socio-economic effects of restricting use:	Positive: Negative: Some nurseries would need to stop selling it and eliminate stock.
E. CONTROL AND PREVENTION	
I. Costs of Prevention (please be as specific as possible):	Notes: minimal
II. Responsiveness to prevention efforts:	Notes: easy to prevent by not planting
III. Effective Control tactics: (provide only basic info)	Mechanical <input checked="" type="checkbox"/> Biological <input type="checkbox"/> Chemical <input checked="" type="checkbox"/> Times and uses: : Any control technique is likely to take several years. Hand-pull is

	<p>not affective because it difficult to remove the rhizomes and stolons. Dig up of entire plants along with rhizome. Bag and discard pulled plants. Frequent short mowing may control or slow the spread in lawns, along roadsides, and other areas.</p> <p>It can be effectively controlled using any of several readily available general use herbicides such as glyphosate. Repeat applications may be necessary to reduce densities. Contact herbicides are usually ineffective because goutweed readily leafs out again after defoliation(7) WISDNR suggests cutting emergent leaves in spring and covering the area with black plastic (10)</p>
IV. Costs of Control:	Notes: For large infestations, management requires a large investment. Eradication may be impossible. (8)
V. Cost of prevention or control vs. Cost of allowing invasion to occur:	Notes: Cost of prevention is minimal; cost of invasion can be high if allowed to spread.
VI. Non-Target Effects of Control:	Notes: Patches are generally dense
VII. Efficacy of monitoring:	Notes:
VIII. Legal and landowner issues:	Notes:
F. HYBRIDS AND CULTIVARS AND VARIETIES	
I. Known hybrids? YES <input type="checkbox"/> NO <input type="checkbox"/>	Name of hybrid:
	Names of hybrid cultivars:
II. Species cultivars and varieties	<p>Names of cultivars, varieties and any information about the invasive behaviors of each: <i>Aegopodium podagraria</i> var. <i>podagraria</i> <i>Aegopodium podagraria</i> var. <i>variegatum</i> Bailey (9) This variegated cultivar is more popular than the all green variety. It has been reported to be less aggressive than the green type.</p> <p>Three out of 18 nursery survey respondents report growing <i>Variegata</i>, five report growing the species. The consensus among growers providing comments was that this plant has aggressive tendencies and is insignificant to their business. Two respondents that don't grow the <i>A. podagraria</i> expressed an extreme distaste for the plant. (17)</p> <p>The pre-screen assessment found that while the plant rarely invades natural areas in southeastern Wisconsin, it is known to invade some natural areas. (18)</p>
	Notes:

G. REFERENCES USED:

- UW Herbarium (Madison or Stevens Point)
- WI DNR
- Bugwood (Element Stewardship Abstracts)
- Native Plant Conservation Alliance
- IPANE
- USDA Plants

Number	Reference
1	Invasive.org. Center for Invasive Species and Ecosystem Health. < http://www.invasive.org/browse/subinfo.cfm?sub=11534#sources >
2	DCNR Invasive Exotic Plant Tutorial for Natural Lands Managers. Plant conservation Alliance. < http://www.dcnr.state.pa.us/forestry/invasivetutorial/Goutweed.htm >
3	United States Department of Agriculture. Natural Resources Conservation Service. Plants Database, < http://plants.usda.gov/java/profile?symbol=AEPO >
4	Robert W. Freckmann Herbarium. University of Wisconsin- Stevens Point. Detailed Distribution. < http://wisplants.uwsp.edu/scripts/maps.asp?SpCode=AEGPOD >
5	Dave's Garden. Guide and Information. < http://davesgarden.com/guides/pf/go/55676/ >
6	Missouri Plants. White flowers and Leaves alternate. < http://www.missouriplants.com/Whitealt/Aegopodium_podagaria_page.html >
7	USDA Forest Service. < http://www.na.fs.fed.us/fhp/invasive_plants/weeds/goutweed.pdf >
8	Cornell University Cooperative Extension and Sea Grant New York. Funded by NYS DEC and USDA APHIS. < http://nyis.info/PlantAssessments/Aegopodium.podagraria.NYS.pdf >
9	USDA Forest Service. Fire Effects Information System. (FEIS reviews). < http://www.fs.fed.us/database/feis/plants/forb/aegpod/all.html >
10	SKIDMORE College. Wiki List: North Wood. < https://academics.skidmore.edu/wikis/NorthWoods/index.php?title=Aegopodium_podagraria_%28Gout_Weed%2C_Ground_Elder%29&printable=yes >
11	High Country Gardens. < http://www.highcountrygardens.com/catalog/product/10910/ >
12	US Forest Service. Database. < http://www.fs.fed.us/database/feis/plants/forb/aegpod/all.html >
13	WebMD. Vitamins and Supplements. < http://www.webmd.com/vitamins-supplements/ingredientmono-22-GOUTWEED.aspx?activeIngredientId=22&activeIngredientName=GOUTWEED >
14	Interactive Agricultural Ecological Atlas of Russia and Neighboring Countries. AgroAtlas. < http://www.agroatlas.ru/en/content/weeds/Aegopodium_podagraria/ >
15	DCNR (Department of Conservation and Natural Resources) Invasive Exotic Plant Tutorial for Natural Land Managers. < http://www.dcnr.state.pa.us/forestry/invasivetutorial/Goutweed.htm >
16	Personal Communication. Herbaceous Ornamental Species Assessment Group 7-1-11.
17	Wiegrefe, Susan. 2011. Wisconsin Nursery Association Survey of the Economic impact of potentially invasive species in Wisconsin
18	Tree, shrub, vine species assessment group pre-screen meeting.

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