NAME OF SPECIES: Euphorbia cyparissias L.	
Synonyms: Galarhoeus cyparissias (L.) Small ex Rydb.; Tithymalus cyparissias (L.) Hill.	
Common Name: cypress spurge, graveyard spurge	
A. CURRENT STATUS AND DISTRIBUTION	
I. In Wisconsin?	1. YES ☒ NO ☐
	2. Abundance: Locally abundant (6). Known in several State Parks.
	3. Geographic Range: Documented in 57 counties in Wisconsin (1).
	4. Habitat Invaded: Dry and dry-mesic open grasslands. Disturbed Areas ☒ Undisturbed Areas ☒
	5. Historical Status and Rate of Spread in Wisconsin: Earliest herbarium specimen was collected in 1885 in Dane County (1).
	6. Proportion of potential range occupied: Presently expanding.
II. Invasive in Similar Climate Zones	1. YES ☒ NO ☐ Where (include trends): Invasive throughout northern North America (2).
III. Invasive in Similar Habitat Types	1. Upland ☒ Wetland ☐ Dune ☒ Prairie ☒ Aquatic ☐ Forest ☐ Grassland ☐ Bog ☐ Fen ☐ Swamp ☐ Marsh ☐ Lake ☐ Stream ☐ Other: Non-cropland habitats, savannas, roadsides, railroad right-of-ways, pastures, abandoned fields. Also found in old graveyards (7).
IV. Habitat Affected	1. Soil types favored or tolerated: Can grow in a wide variety of substrates, from moist soil to sand (3).
	2. Conservation significance of threatened habitats: Prairie and grassland communities provide ecosystem services (carbon sequestration) and habitat for arthropods and birds, ranked (S1-S3, G2-G3).
V. Native Habitat	1. List countries and native habitat types: Eurasia (3).
VI. Legal Classification	1. Listed by government entities? noxious CO; regulated CT, MA (2).
	2. Illegal to sell? YES ☒ NO ☐ Notes: CO, CT, MA
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: At least two growing seasons.
	3. Length of Seed Viability: At least eight years (4).
	4. Methods of Reproduction: Asexual ☒ Sexual ☒ Notes: Spreads by rhizomes
	5. Hybridization potential: Possibly high. A related species, E. esula, readily hybridizes with other Euphorbia species (3).
II. Climate	1. Climate restrictions: N/A

	2. Effects of potential climate change: Unknown.
III. Dispersal Potential	1. Pathways - Please check all that apply: Unintentional: Bird ☐ Animal ☒ Vehicles/Human ☒ Wind ☐ Water ☒ Other: Spread by DOT mower decks along highways, contaminant in agricultural seed (3). Intentional: Ornamental ☒ Forage/Erosion control ☐ Medicine/Food: Other: Spread by DOT mower decks along highways, contaminant in agricultural seed (3). The fruit is an explosive capsule that splits and throws seed up to five meters. Also, the root produces adventitious buds which can develop into new shoots (8).
	2. Distinguishing characteristics that aid in its survival and/or inhibit its control: Deep tap roots, particularly in sandy soil, but not as deep-rooted as E. esula (4). Dormant during the hottest parts of July and August, control is probably less effective during dry periods (3).
IV. Ability to go Undetected	1. HIGH ☐ MEDIUM ☐ LOW ☒
C. DAMAGE POTENTIAL	
I. Competitive Ability	1. Presence of Natural Enemies: At least 15 biocontrol insects have been introduced to control *Euphorbia esula* and *E. cyparassias* (5).
	2. Competition with native species: Since this species can spread with adventitious buds, once established can increase in area with or without seed germination (8)..
	2. 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: Capable of rapid spread.
II. Environmental Effects	1. Alteration of ecosystem/community composition? YES ☒ NO ☐ Notes: Reduces native species diversity (3).
	2. Alteration of ecosystem/community structure? YES ☒ NO ☐ Notes: Reduces habitat quality for wildlife (3).
	3. Alteration of ecosystem/community functions and processes? YES ☒ NO ☐ Notes: Loss of habitat heterogeneity.
	4. Allelopathic properties? YES ☐ NO ☒ Notes: Possibly, the related species *E. esula* is allelopathic (3). Euphorbia cyparissias does not have allelopathic properties but possibly a hybrid species with E. esula could, but is not documented.
D. SOCIO-ECONOMIC EFFECTS	
I. Positive aspects of the species to the economy/society:	Notes: None.
II. Potential Socio-Economic	Positive:

Effects of Requiring Controls:	Negative:
III. Direct and indirect Socio-Economic Effects of Plant :	Notes: Cultivar sold that has red foliage, Fen's Ruby, not known if it is sold in WI, but larges patches have been reported in Vilas Co. in disturbed areas.
IV. Increased Costs to Sectors Caused by the Plant::	Notes: May reduce quality of grazing land (3).
V. Effects on human health:	Notes: All parts of cypress spurge contain a toxic latex (9) that can cause dermatitis upon contact with some people (10).
VI. Potential socio-economic effects of restricting use:	Positive: Negative:
E. CONTROL AND PREVENTION	
I. Costs of Prevention (please be as specific as possible):	Notes: N/A
II. Responsiveness to prevention efforts:	Notes: Appears to be easier to control than *E. esula*, possibly due to less extensive rooting system (4).
III. Effective Control tactics:	Mechanical ☒ Biological ☒ Chemical ☒ Times and uses: Similar to *E. esula* control methods (3). Herbicides provide short-term control, but multiple-year applications are typically necessary. Effects of biological control (flea beetles of the genus *Aphthona*) are not always uniform (4). But much success has been had with biological agents (11). Mowing can be effective, but must be done repeatedly over several consecutive growing seasons. Prescribed fire (spring or autumn) should be used in conjunction with other treatments, particularly biocontrol, as the flea beetles require bare soil to lay eggs (4).
IV. Minimum Effort:	Notes: At least two growing seasons.
V. Costs of Control:	Notes: Variable and site-specific. Biological agents if harvested on cooperative lands are typically free of charge.
VI. Cost of prevention or control vs. Cost of allowing invasion to occur:	Notes: N/A
VII. Non-Target Effects of Control:	Notes: Broad-spectrum and composite/legume-specific herbicides can harm or eliminate desired vegetation. Mowing in mid-summer can be detrimental to nesting birds.
VIII. Efficacy of monitoring:	Notes: If detected early, *Euphorbia cyparassias* can be eradicated. Subsequent monitoring is usually necessary.
IX. Legal and landowner issues:	Notes: N/A

F. REFERENCES USED:

☒ UW Herbarium
☒ WI DNR
☐ TNC
☐ Native Plant Conservation Alliance
☐ IPANE
☒ USDA Plants

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3	Hoffman, R. A. and S. K. Kearns. 1997. *Wisconsin Manual of Control Recommendations for Ecologically Invasive Plants*. WDNR Publication Publ ER-090 97.
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8	Stahevitch et al. 1988.
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10	Westbrooks an dPreacher, 1986.
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Author(s), Draft number, and date completed: Craig A. Annen, Draft 1, May 26, 2007.

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Reviewer(s) and date reviewed: Wade Oehmichen, Draft 2, July 31, 2007

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