NAME OF SPECIES: Berteroa incana (L.) DC.	
Synonyms: Alyssum incanum L.	
Common Name: Hoary Alyssum, Hoary False Madwort.	
A. CURRENT STATUS AND DISTRIBUTION	
I. In Wisconsin?	1. YES ☒ NO ☐
	2. Abundance: Widespread.
	3. Geographic Range: Herbarium records exist from 67 counties in Wisconsin (1).
	4. Habitat Invaded: Bracken Grassland (1). Disturbed Areas ☒ Undisturbed Areas ☒
	5. Historical Status and Rate of Spread in Wisconsin: The earliest herbarium specimen from Wisconsin was collected in 1907 in Racine County (1).
	6. Proportion of potential range occupied: Has potential to become more locally abundant within its Wisconsin range.
II. Invasive in Similar Climate Zones	1. YES ☒ NO ☐ Where (include trends): Northern Europe (British Isles) (2).
III. Invasive in Similar Habitat Types	1. Upland ☒ Wetland ☐ Dune ☒ Prairie ☒ Aquatic ☐ Forest ☐ Grassland ☒ Bog ☐ Fen ☐ Swamp ☐ Marsh ☐ Lake ☐ Stream ☐ Other: Agricultural fields, docks, railways, roadsides, waterways, wasteground, pastures, abandoned agricultural fields, mills and silos, gravel pits, garbage dumps.
IV. Habitat Effected	1. Soil types favored (e.g. sand, silt, clay, or combinations thereof, pH): Therophyte of dry soils and full sun conditions (2). Has a broad soil pH tolerance, but prefers nutrient-rich, alkaline sandy and gravelly substrates (references in (2)).
	2. Conservation significance of threatened habitats: Prairie and grassland communities provide ecosystem services (carbon sequestration) and habitat for arthropods and birds.
V. Native Habitat	1. List countries and native habitat types: Continental Europe to Afghanistan (2).
VI. Legal Classification	1. Listed by government entities? Yes. Noxious in MI (3).
	2. Illegal to sell? YES ☒ NO ☐ Notes:
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: Can grow as an annual, a winter annual, a biennial, or as a perennial (1). Time to maturity can be less than one growing season (3).
	3. Length of Seed Viability:
	4. Methods of Reproduction: Asexual ☐ Sexual ☒ Please note abundance of propagules and and other important information:

	5. Hybridization potential: Possibly high. B. incana is morphologically variable across its range, and sympatric ecotypic races may introgress (2). B. incana has a high degree of genetic variability and phenotypic plasticity, and may interbreed with one or more of several sympatric Brassicaceae.
II. Climate	1. Climate restrictions: Widespread throughout the globe, yet coller climates seem to restrict its rate of spread and dominance (2).
	2. Effects of potential climate change: May expand with increasing mean global temperatures.
III. Dispersal Potential	1. Pathways - Please check all that apply: Intentional: Ornamental ☐ Forage/Erosion control ☐ Medicine/Food: Other: Unintentional: Bird ☐ Animal ☐ Vehicles/Human ☒ Wind ☐ Water ☒ Other: Contaminant in crop seed.
	2. Distinguishing characteristics that aid in its survival and/or inhibit its control: Small leaves make herbicide applications less effective and more prone to nontarget spraying and collateral damage.
IV. Ability to go Undetected	1. HIGH ☐ MEDIUM ☐ LOW ☒
C. DAMAGE POTENTIAL	
I. Competitive Ability	1. Presence of Natural Enemies: Several insects are associated with B. incana.
	2. Competition with native species: Competition with other species has been shown to decrease seed yield (4) and abundance (5) of B. incana.
	3. Rate of Spread: HIGH(1-3 yrs) ☒ MEDIUM (4-6 yrs) ☐ LOW (7-10 yrs) ☐ Notes:
II. Environmental Effects	1. Alteration of ecosystem/community composition? YES ☐ NO ☒ Notes: In natural areas, B. incana is frequently a minor component of the herbaceous vegetation community.
	2. Alteration of ecosystem/community structure? YES ☐ NO ☒ Notes:
	3. Alteration of ecosystem/community functions and processes? YES ☐ NO ☒ Notes:
	4. Allelopathic properties? YES ☐ NO ☒ Notes:
D. SOCIO-ECONOMIC Effects	
I. Positive aspects of the species to the economy/society:	Notes: N/A
II. Potential socio-economic effects of restricting use:	Notes: Unpalatable to horses, who can develop acute and severe gastrointestinal toxicity accompanied by intravascular hemolysis when B. incana is an impurity in hay (6), but horses typically don't eat it.
III. Direct and indirect effects :	Notes: N/A

F. REFERENCES USED:

☒ UW Herbarium

IV. Increased cost to a sector:	Notes: Agricultural croplands need to be treated with herbicides to maintain production yields.
V. Effects on human health:	Notes: N/A
E. CONTROL AND PREVENTION	
I. Costs of Prevention (including education; please be as specific as possible):	Notes: N/A
II. Responsiveness to prevention efforts:	Notes: Few data are available on control tactics for B. inacana.
III. Effective Control tactics:	Mechanical ☒ Biological ☐ Chemical ☒ Times and uses: In agriculture, B. incana is suseptible to tillage practices (2).
IV. Minimum Effort:	Notes: Two growing seasons?
V. Costs of Control:	Notes: Specific costs are variable and site-specific.
VI. Cost of prevention or control vs. Cost of allowing invasion to occur:	Notes: N/A
VII. Non-Target Effects of Control:	Notes: Control may require the use of herbicides and additives.
VIII. Efficacy of monitoring:	Notes: Early detection and intervention can greatly reduce the time and resources that must be invested into controlling established B. incana stands.
IX. Legal and landowner issues:	Notes: Permits and/or licenses may be required to control this species on public lands.

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

Number	Reference
1	Wisconsin State Herbarium. 2007. WISFLORA: Wisconsin Vascular Plant Species (http://www.botany.wisc.edu/wisflora/). Dept. Botany, Univ. Wisconsin, Madison, WI 53706-1381 USA.
2	Karran, A.R., and T.C.G. Rich. 2003. Geographical and Temporal Distributions of Alyssum alyssoides and Berteroa incana (Brassicaceae) in the British Isles and the Relationship to their Modes of Introduction. Watsonia 24:499-506.
3	USDA, NRCS. 2007. The PLANTS Database (http://plants.usda.gov, 16 March 2007). National Plant Data Center, Baton Rouge, LA 70874-4490 USA.
4	Reichman, O. J. 1988. Comparison of the Effects of Crowding and Pocket Gopher Disturbance on Mortality, Growth and Seed Production of Berteroa incana. The American Midland Naturalist 120(1):58-69.
5	Blumenthal, D.M., N. R. Jordan and E. L. Svenson. 2005. Effects of Prairie Restoration on Weed Invasions. Agriculture, Ecosystems, and Environment 107:221-230.
6	Hovda, L.R., and M.L. Rose. 1993. Hoary Alyssum (Berteroa incana) Toxicity in a Herd of Broodmare Horses. Veterinary Toxicology 35(1):39-40.

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Reviewer(s) and date reviewed: Jerry Doll, 9 September 2007.

Approved and Completed Date: