NAME OF SPECIES: *Tanacetum vulgare L.*	
Synonyms: *Chrysanthemum vulgare (L.) Bernh.; Tanacetum vulgare L. var. crispum L.; Tanacetum vulgare L. f. crispum (L.) Fernald.*	
Common Name: *Tansy, Common Tansy, Golden-Buttons, Mugwort, Cow Bitter, Bitter Buttons.*	
A. CURRENT STATUS AND DISTRIBUTION	
I. In Wisconsin?	1. YES ☒ NO ☐
	2. Abundance: *Widespread (1).*
	3. Geographic Range: *Herbarium records exist from 53 counties in Wisconsin (1).*
	4. Habitat Invaded: *Primarily disturbed places but can penetrate edges of natural areas, possibly facilitated by natural disturbance regimes (e.g. stream flooding) that create bareground areas (2).* Disturbed Areas ☒ Undisturbed Areas ☒
	5. Historical Status and Rate of Spread in Wisconsin: *The earliest herbarium specimen from Wisconsin was collected in 1892 in Jefferson 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): *Invasive throughout the United States (3).*
III. Invasive in Similar Habitat Types	1. Upland ☒ Wetland ☐ Dune ☒ Prairie ☒ Aquatic ☐ Forest ☐ Grassland ☒ Bog ☐ Fen ☐ Swamp ☐ Marsh ☐ Lake ☒ Stream ☒ Other: *Waste places, pastures, roadsides, fencelines, stream banks, lake shores.*
IV. Habitat Effected	1. Soil types favored (e.g. sand, silt, clay, or combinations thereof, pH): *T. vulgare has wide ecological amplitude, and tolerates a wide variety of environmental conditions and natural disturbance regimes (2).*
	2. Conservation significance of threatened habitats: *Generally invades degraded habitats (2).*
V. Native Habitat	1. List countries and native habitat types: *Temperate Europe and western Asia (4).*
VI. Legal Classification	1. Listed by government entities? *Yes. Noxious in CO, MT, WA, WY (3).*
	2. Illegal to sell? YES ☒ NO ☐ Notes: *Listed as a Noxious Weed in CO, MO, WA and WY (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: *Typically, two growing seasons (2).*
	3. Length of Seed Viability: *The author was not able to find any information regarding seed viability.*
	4. Methods of Reproduction: Asexual ☒ Sexual ☒ Please note abundance of propagules and and other important information: *Spreads by seeds and rhizomes, exhibits a phalanyx clonal expansion strategy (2) (5).*
	5. Hybridization potential: *High.*

II. Climate	1. Climate restrictions: Restricted to northern temperate climates and mountains (4).
	2. Effects of potential climate change: Global warming may restrict the geographic spread of this species.
III. Dispersal Potential	1. Pathways - Please check all that apply: Intentional: Ornamental ☒ Forage/Erosion control ☐ Medicine/Food: Used in folk medicine (4), as a food additive for flavoring (4), and for its oil (7). Other: Unintentional: Bird ☒ Animal ☒ Vehicles/Human ☒ Wind ☒ Water ☒ Other: Seeds are transported along fencelines lodged in bird and livestock fur (2).
	2. Distinguishing characteristics that aid in its survival and/or inhibit its control: Highly dissected leaves make herbicide coverage difficult unless a spreader-sticker is used as an additive. Rhizomes are stout and difficult to eradicate (6).
IV. Ability to go Undetected	1. HIGH ☐ MEDIUM ☒ LOW ☐
C. DAMAGE POTENTIAL	
I. Competitive Ability	1. Presence of Natural Enemies: Unknown.
	2. Competition with native species: Can be intense, especially in disturbed areas and new plantings. Forms dense clonal stands even within its native range (Europe) (2) (5).
	3. Rate of Spread: HIGH(1-3 yrs) ☐ MEDIUM (4-6 yrs) ☒ LOW (7-10 yrs) ☐ Notes: Spreads by both seeds and rhizomes (2). Rapidly increases in grazed areas because it is unpalatable to grazers (2). Rapidly increases in disturbed areas. Moves into high quality areas more slowly. T. vulgare invasions in natural areas may be associated with natural disturbance regimes that create bareground areas (2).
II. Environmental Effects	1. Alteration of ecosystem/community composition? YES ☒ NO ☐ Notes: Reduces native species richness and diversity (2).
	2. Alteration of ecosystem/community structure? YES ☒ NO ☐ Notes: T. vulgare monocultures are structurally homogeneous relative to the native species assembledges they replace. May have an effect on vegetation composition into mid-successional stages (2).
	3. Alteration of ecosystem/community functions and processes? YES ☐ NO ☒ Notes: According to (2), there are few data on the effects of T. vulgare on abiotic ecosystem processes.
	4. Allelopathic properties? YES ☐ NO ☒ Notes:
D. SOCIO-ECONOMIC Effects	
I. Positive aspects of the species to the economy/society:	Notes: Ornamental plant, occassionally cultivated for folk medicine and oils, which are used as insect repellents (2) (4). Cut flower growers use tansy.
II. Potential socio-economic effects of restricting use:	Notes: Nursery industry will have to develop and promote alternatives. Crisum is a rhizome aggressive cultivar that is sold in the state. Aurium cultivar is probably not as aggressive.
III. Direct and indirect effects :	Notes: N/A

F. REFERENCES USED:

IV. Increased cost to a sector:	Notes: N/A
V. Effects on human health:	Notes: Toxic to most mammals (4). Can induce mild skin irritation and allergic reactions in humans (2).
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: Easy to eliminate with herbicides, but mechanical and cultural methods are often insufficient to eradicate T. vulgare (8).
III. Effective Control tactics:	Mechanical ☐ Biological ☐ Chemical ☒ Times and uses: Spring applications of 2,4-D, clopyralid, aminopyralid, or picloram to immature plants is a very effective control method (8).
IV. Minimum Effort:	Notes: Relatively easy to eliminate in 2-3 growing seasons with herbicides. However, subsequent monitoring is essential to preventing subsequent invasions (8).
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 T. vulgare stands.
IX. Legal and landowner issues:	Notes: N/A

☒ UW Herbarium
☒ 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	Montana State University Extension Service (portal.cal-ipc.org/files/PAFs/Tanaceum%20vulgare.pdf).
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	USDA, ARS, National Genetic Resources Program. Germplasm Resources Information Network - (GRIN) [Online Database]. National Germplasm Resources Laboratory, Beltsville, Maryland. (http://www.ars-grin.gov/cgi-bin/npgs/html/taxon.pl?80037).
5	Rebele, F. 2000. Competition and Coexistance of Rhizomatous Perennial Plants along a Nutrient Gradient. Plant Ecology 147:77-94.
6	The Burke Museum of Natural History and Culture (http://biology.burke.washington.edu/herbarium).
7	Mockute, D, and A. Judzentiene. 2004. Composition of the Essential Oils of Tanacetum vulgare L. Growing Wild in Vilnius District (Lithuania). Journal of Essential Oils Research Nov/Dec 2004.

8	Wildflowers and Weeds. (http://www.wildflowers-and-weeds.com/weedsinfo/Tanacetum_vulgare.htm.).

Author(s), Draft number, and date completed: Craig A. Annen, Draft 1, June 30, 2007.

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