

NAME OF SPECIES: <i>Centaurea jacea</i> L.	
Synonyms:	
Common Name: Brown Knapweed, Brownray Knapweed	Cultivars? YES <input type="checkbox"/> NO <input checked="" 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 (2)
	3. <u>Geographic Range</u> : Douglas, Bayfield, Iron, Price, Oneida, Lincoln, Vernon, Racine, Waukesha, Sheboygan, and Ozaukee counties (5)
	4. <u>Habitat Invaded</u> : Disturbed Areas <input checked="" type="checkbox"/> Undisturbed Areas <input checked="" type="checkbox"/>
	5. <u>Historical Status and Rate of Spread in Wisconsin</u> : Three naturalized sightings have been reported. All three occurred in disturbed areas (roadsides) and in the months of July and August of 2005. (5)
	6. <u>Proportion of potential range occupied</u> : low (2)
II. Invasive in Similar Climate Zones	1. YES <input checked="" type="checkbox"/> NO <input type="checkbox"/>
	<u>Where (include trends)</u> : CA CT DC DE ID IL IN KY MA MD ME MI MT NH NJ NY OH OR PA RI UT VA VT WA WI WV (1)
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:
IV. Habitat Affected	1. <u>Soil types favored or tolerated</u> : tolerates a wide variety of soil types, but requires high soil moisture and cooler conditions are preferred (4)
	2. <u>Conservation significance of threatened habitats</u> : Aggressive grower particularly so in meadows and pastures, crowding out more desirable forage (1) Perennial, ability to grow on poor soil (6)
V. Native Range and Habitat	1. <u>List countries and native habitat types</u> : Asia (Lebanon, Syria and Turkey) and throughout Europe (GRIN). (2)
VI. Legal Classification	1. <u>Listed by government entities?</u> Noxious in Washington (2)
	2. <u>Illegal to sell?</u> YES <input type="checkbox"/> NO <input checked="" type="checkbox"/> Notes:
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> :
	3. <u>Length of Seed Viability</u> known to remain viable for over 1 year. (6)
	4. <u>Methods of Reproduction</u> : Asexual <input type="checkbox"/> Sexual <input checked="" type="checkbox"/> Notes:
	5. <u>Hybridization potential</u> : yes – see below
II. Climate	1. <u>Climate restrictions</u> : Frost intolerant, (7) is also drought-intolerant and quickly wilts, can survive only if the drought period is short (7)

	2. <u>Effects of potential climate change</u> : Extended growing season in the north
III. Dispersal Potential	<p>1. <u>Pathways - Please check all that apply</u>:</p> <p><u>Unintentional</u>: Bird <input type="checkbox"/> Animal <input checked="" type="checkbox"/> Vehicles/Human <input checked="" type="checkbox"/> Wind <input checked="" type="checkbox"/> Water <input type="checkbox"/> Other: Can be spread in contaminated hay or seed mixtures; also by mowing equipment. (6)</p> <p><u>Intentional</u>: Ornamental <input checked="" type="checkbox"/> Forage/Erosion control <input type="checkbox"/> Medicine/Food: <input checked="" type="checkbox"/> Other:</p>
	2. <u>Distinguishing characteristics that aid in its survival and/or inhibit its control</u> : Up to 800 seeds per plant and partially shade tolerant (4) and seeds ejected over 20 feet from the capsule (4). Seeds are small, light, and flat; Able to grow on poor soil (6).
IV. Ability to go Undetected	1. HIGH <input type="checkbox"/> MEDIUM <input type="checkbox"/> LOW <input checked="" type="checkbox"/>
C. DAMAGE POTENTIAL	
I. Competitive Ability	<p>1. <u>Presence of Natural Enemies</u>: no</p> <p>2. <u>Competition with native species</u>: yes</p> <p>2. Rate of Spread: -changes in relative dominance over time: -change in acreage over time: HIGH(1-3 yrs) <input checked="" type="checkbox"/> MEDIUM (4-6 yrs) <input type="checkbox"/> LOW (7-10 yrs) <input type="checkbox"/> Notes:</p>
II. Environmental Effects	<p>1. <u>Alteration of ecosystem/community composition?</u> YES <input checked="" type="checkbox"/> NO <input type="checkbox"/> Notes: Large stands clearly reduce the number of individuals of native species - Influences community composition (6)</p> <p>2. <u>Alteration of ecosystem/community structure?</u> YES <input checked="" type="checkbox"/> NO <input type="checkbox"/> Notes: Can increase the density in the herb layer (6)</p> <p>3. <u>Alteration of ecosystem/community functions and processes?</u> YES <input type="checkbox"/> NO <input type="checkbox"/> Notes: N/A</p> <p>4. <u>Allelopathic properties?</u> YES <input type="checkbox"/> NO <input type="checkbox"/> Notes: N/A</p>
D. SOCIO-ECONOMIC EFFECTS	
I. Positive aspects of the species to the economy/society:	Notes:
II. Potential Socio-Economic Effects of Requiring Controls:	Positive: Negative: Important to butterfly enthusiasts as it is a major source of pollen (7) May provide food for honeybees.
III. Direct and indirect Socio-Economic Effects of Plant :	Notes:
IV. Increased Costs to Sectors	Notes:

Caused by the Plant::	
V. Effects on human health:	Notes: some parts of the plant may be know to be mildly to severly toxic to animals and/or humans. Symptoms are both internal and external. However, the root is used as a bitter tonic, diuretic and stomachic (3). An excellent bitter for treating difficult digestive systems, it is still used in rural areas as a digestive and also to reduce the temperature of feverish children (3). A distilled water made from the leaves is used as an eye lotion in the treatment of conjunctivitis (3).
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:
II. Responsiveness to prevention efforts:	Notes:
III. Effective Control tactics: (provide only basic info)	Mechanical <input checked="" type="checkbox"/> Biological <input checked="" type="checkbox"/> Chemical <input checked="" type="checkbox"/> Times and uses:
IV. Costs of Control:	Notes: Mechanical-after being pulled, plant a healthy cover crop to prevent re-growth. Chemical-general herbicides such a glyphosate are effective. Biological- Gall flies (<i>Urophora affinis</i> and <i>Urophora quadrifasciata</i>) feed on developing seed heads.
V. Cost of prevention or control vs. Cost of allowing invasion to occur:	Notes: Management requires a major investment: e.g. more than 100 person-hours/year of manual effort, or more than 10 person hours/year using mechanical equipment, or the use of herbicide, grazing animals, fire, etc. for more than 5 years to suppress a 1 acre infestation. Eradication may be impossible. (6) It has a shallow root system and can be easily pulled. A seed bank is present with two year viability so follow up control is recommended. (4)
VI. Non-Target Effects of Control:	Notes:
VII. Efficacy of monitoring:	Notes:
VIII. Legal and landowner issues:	Notes:
F. HYBRIDS AND CULTIVARS AND VARIETIES	
I. Known hybrids? YES <input checked="" type="checkbox"/> NO <input type="checkbox"/>	Name of hybrid: <i>Centaurea jacea</i> x <i>nigra</i> (4) <i>C. xmoncktonii</i> (6) Names of hybrid cultivars:
II. Species cultivars and varieties	Names of cultivars, varieties and any information about the invasive behaviors of each:

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	http://www.na.fs.fed.us/fhp/invasive_plants/weeds/brown-knapweed.pdf#xml=http://na.fs.fed.us/cgi-bin/texis.exe/Webinator/search/xml.txt?query=Centaurea+jacea+L.+++seed+&pr=default&prox=page&rorder=500&rprox=500&rdfreq=500&rwfreq=500&rlead=500&sufs=0&order=r&cq=&id=4a31c4d714
2	http://www.natureserve.org/library/invasives_species_list_Jan1005.xls
3	Chiej. R. <i>Encyclopaedia of Medicinal Plants</i> . MacDonald 1984 ISBN 0-356-10541-5 Covers plants growing in Europe. Also gives other interesting information on the plants.
4	http://www.nwcb.wa.gov/weed_info/Written_findings/Centaurea_jacea.html
5	http://plants.usda.gov/java/county?state_name=Wisconsin&statefips=55&symbol=CEJA
6	Jordan, M.J., G. Moore and T.W. Weldy. 2008. Invasiveness ranking system for non-native plants of New York. Unpublished. The Nature Conservancy, Cold Spring Harbor, NY; Brooklyn Botanic Garden, Brooklyn, NY; The Nature Conservancy, Albany, NY. http://nyis.info/PlantAssessments/Centaurea.jacea.NYS.pdf

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