

NAME OF SPECIES: <i>Centuarea nigra</i>	
Synonyms: <i>Centaurea nigra</i> var. <i>radiata</i>	
Common Name: Lesser knapweed, Black knapweed, Hardheads, Spanish Buttons, Common knapweed	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 (1)
	3. <u>Geographic Range:</u> Scattered reports: Waukesha, Sheboygan Douglas and Portage counties (1)
	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> The first sighting was in Douglas county on 8/13/1942 in sandy soil. The second was in portage county on 10/5/1999 near a trail amongst other knapweeds. (2)
	6. <u>Proportion of potential range occupied:</u> Low (1)
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, IA, ID, IL, IN, KY, MA, MD, ME, MI, MO, MT, NC, NH, NJ, NY, OH, OR, PA, RI, VA, VT, WA, WI, WV, and CAN (NB, NF, NS, ON, PE, QC) (1)
III. Invasive in Which Habitat Types	1. Upland <input checked="" type="checkbox"/> Wetland <input type="checkbox"/> Dune <input type="checkbox"/> Prairie <input checked="" 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: Roadsides (4)
IV. Habitat Affected	1. <u>Soil types favored or tolerated:</u> 6.1 to 6.5 (mildly acidic), 6.6 to 7.5 (neutral), or 7.6 to 7.8 (mildly alkaline) (3)
	2. <u>Conservation significance of threatened habitats:</u> uncertain which habitats could be impacted in WI
V. Native Range and Habitat	1. <u>List countries and native habitat types:</u> Native to western Europe (British Isles and western Norway) eastward to Sweden, and central Italy. Black knapweed has been collected occasionally in Washington since 1895. (5)
VI. Legal Classification	1. <u>Listed by government entities?</u> WA (terrestrial) (1) WY, and CO (only in seed) (8)
	2. <u>Illegal to sell?</u> YES <input checked="" type="checkbox"/> NO <input type="checkbox"/> Notes: WA, WY, CO
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> Bloom time mid summer to early fall (3)
	3. <u>Length of Seed Viability:</u> Viable for over 1 year. No evidence of any seed remaining viable for over 10 years. (4)
	4. <u>Methods of Reproduction:</u> Asexual <input type="checkbox"/> Sexual <input checked="" type="checkbox"/> <u>Notes:</u> Regrowth from ground level meristem; extensive underground root system not apparent. (4)
	5. <u>Hybridization potential:</u> Yes (3)
II. Climate	1. <u>Climate restrictions:</u> tolerates full sun (3)

	2. <u>Effects of potential climate change:</u>
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: Seeds are smallish and light and flat. (4)</p> <p><u>Intentional:</u> Ornamental <input type="checkbox"/> Forage/Erosion control <input type="checkbox"/> Medicine/Food: _____ Other: Contaminated hay or seed mixtures; also by mowing equipment (4)</p> <p>2. <u>Distinguishing characteristics that aid in its survival and/or inhibit its control:</u> Perennial, ability to grow on poor soil. (4) Tolerates drought (7)</p>
IV. Ability to go Undetected	<p>1. HIGH <input type="checkbox"/> MEDIUM <input type="checkbox"/> LOW <input checked="" type="checkbox"/></p> <p>When in bud or fruit can still be recognized by the involucre bracts with long bristles. Unmistakable to people familiar with knapweeds when looking closely. (6) However, most people do not look closely and presume a purple knapweed is the much more common spotted knapweed.</p>
C. DAMAGE POTENTIAL	
I. Competitive Ability	1. <u>Presence of Natural Enemies:</u>
	2. <u>Competition with native species:</u>
	<p>2. Rate of Spread:</p> <p>-changes in relative dominance over time: -change in acreage over time:</p> <p>HIGH(1-3 yrs) <input checked="" type="checkbox"/> MEDIUM (4-6 yrs) <input type="checkbox"/> LOW (7-10 yrs) <input type="checkbox"/></p> <p>Notes: Can produce hundreds or up to a thousand seeds on a single plant. (4)</p>
II. Environmental Effects	<p>1. <u>Alteration of ecosystem/community composition?</u> YES <input checked="" type="checkbox"/> NO <input type="checkbox"/></p> <p>Notes: Slightly- Larger stands clearly reduce the number of individuals of native species. No evidence of significant or major alteration in community structure. (4)</p>
	<p>2. <u>Alteration of ecosystem/community structure?</u> YES <input checked="" type="checkbox"/> NO <input type="checkbox"/></p> <p>Notes: Slightly- Can increase density in herb layer; no evidence of significant impacts or major alteration of structure. (4)</p>
	<p>3. <u>Alteration of ecosystem/community functions and processes?</u> YES <input type="checkbox"/> NO <input checked="" type="checkbox"/></p> <p>Notes: No studies have been done because there is an absence of evidence of impact. (4)</p>
	<p>4. <u>Allelopathic properties?</u> YES <input type="checkbox"/> NO <input checked="" type="checkbox"/></p> <p>Notes:</p>
D. SOCIO-ECONOMIC EFFECTS	
I. Positive aspects of the species to the economy/society:	Notes: None reported

II. Potential Socio-Economic Effects of Requiring Controls:	Positive: Negative:
III. Direct and indirect Socio-Economic Effects of Plant :	Notes:
IV. Increased Costs to Sectors Caused by the Plant::	Notes:
V. Effects on human health:	Notes: Possible carcinogen. (7)
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: most likely to be imported via hay or seed from other states
II. Responsiveness to prevention efforts:	Notes:
III. Effective Control tactics:	Mechanical <input checked="" type="checkbox"/> Biological <input type="checkbox"/> Chemical <input checked="" type="checkbox"/> Times and uses: Difficult to pull or dig up. Control methods for large stands will in many cases require multiple herbicide treatments.(4) Glyphosate, 2,4-D, dicamba, or picloram are best. (5)
IV. Costs of Control:	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. (4)
V. Cost of prevention or control vs. Cost of allowing invasion to occur:	Notes:
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> (3)
	Names of hybrid cultivars:
II. Species cultivars	Names of cultivars, varieties and any information about the invasive behaviors of each:
	Notes: <i>Centaurea nigra</i> subsp. <i>rivularis</i> (3) <i>Centaurea nigra</i> var. <i>nemoralis</i>

G. REFERENCES USED:

- UW Herbarium
- WI DNR
- Bugwood
- Native Plant Conservation Alliance
- IPANE
- USDA Plants

Number	Reference
1	http://plants.usda.gov/java/profile?symbol=CENI2
2	http://wisplants.uwsp.edu/scripts/detail.asp?SpCode=CENNIG
3	http://davesgarden.com/guides/pf/go/32199/
4	http://newyorkinvasivespecies.org/PlantAssessments/Centaurea.jacea.NYS.pdf
5	http://www.nwcb.wa.gov/weed_info/Written_findings/Centaurea_nigra.html
6	http://www.plant-identification.co.uk/skye/compositae/centaurea-nigra.htm
7	http://web.extension.illinois.edu/cfiv/downloads/26622.pdf
8	http://www.ars-grin.gov/cgi-bin/npgs/html/taxon.pl?104128

Author(s), Draft number, and date completed: Stephanie Lind, Draft One, 10/11/11

Reviewer(s) and date reviewed: Kelly Kearns, 10/18/2011

Approved and Completed Date: 12/20/2011