

NAME OF SPECIES: <i>Caragana arborescens</i> Lam.	
Synonyms: <i>Caragana arborescens</i> Lam. var. <i>pendula</i> Carriere; <i>Caragana fruticosa</i> (Pall.) Besser; (1, 2); <i>Caragana arborescens</i> f. <i>lorbergii</i> Koehne; <i>Caragana arborscens</i> var. <i>redowskii</i> Bean; <i>Caragana sibirica</i> Medik.; <i>Robinia altagana</i> var. <i>fruticosa</i> Pall.; <i>Robinia caragana</i> L. (2)	
Common Name: Siberian pea-shrub; Siberian peatree	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> : Most reports are cultivations. Fairly scattered naturalized reports.
	3. <u>Geographic Range</u> : Reports scattered throughout state.
	4. <u>Habitat Invaded</u> : forest edges, trails, ROW, pine plantation Disturbed Areas <input checked="" type="checkbox"/> Undisturbed Areas <input checked="" type="checkbox"/>
	5. <u>Historical Status and Rate of Spread in Wisconsin</u> : Reports of cultivation starting in 1885 – naturalized populations reported in 1950's (3)
	6. <u>Proportion of potential range occupied</u> : Minimal portion of range occupied. Possibly underreported.
II. Invasive in Similar Climate Zones	1. YES <input checked="" type="checkbox"/> NO <input type="checkbox"/>
	<u>Where (include trends)</u> : Reported through most of upper Midwest and Great Plain states (8).
III. Invasive in Which Habitat Types	1. Upland <input 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 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: Forest, woodland edges, rights-of-way
IV. Habitat Affected	1. <u>Soil types favored or tolerated</u> : Prefers well-drained soils, but adaptable to variable conditions, including high salt (5, 8).
	2. <u>Conservation significance of threatened habitats</u> :
V. Native Range and Habitat	1. <u>List countries and native habitat types</u> : Siberia, Middle Asia, Mongolia, China (2, 4, 8). Forest margins, woodlands (4, 8)
VI. Legal Classification	1. <u>Listed by government entities?</u> No
	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 type="checkbox"/> Vine <input type="checkbox"/> Shrub <input checked="" type="checkbox"/> Tree <input checked="" type="checkbox"/>
	2. <u>Time to Maturity</u> : 3-5 years commercially
	3. <u>Length of Seed Viability</u> :
	4. <u>Methods of Reproduction</u> : Asexual <input type="checkbox"/> Sexual <input checked="" type="checkbox"/> <u>Notes</u> : Reproduces by seed; cultivars can be propagated by cuttings
	5. <u>Hybridization potential</u> :
II. Climate	1. <u>Climate restrictions</u> : Hardy to zone 2b- 7b(5, 7)

	2. <u>Effects of potential climate change</u> : Could move further North as the warmer temperatures set in.
III. Dispersal Potential	<p>1. <u>Pathways - Please check all that apply</u>:</p> <p><u>Unintentional</u>: Bird <input checked="" type="checkbox"/> Animal <input checked="" type="checkbox"/> Vehicles/Human <input type="checkbox"/> Wind <input type="checkbox"/> Water <input type="checkbox"/> Other:</p> <p><u>Intentional</u>: Ornamental <input checked="" type="checkbox"/> Forage/Erosion control <input checked="" type="checkbox"/> Medicine/Food: Used as shelter/food for animals; humans can eat as well (6) Other: borders, hedges, wind breaks, container plant (5)</p> <p>2. <u>Distinguishing characteristics that aid in its survival and/or inhibit its control</u>: Adaptable to varying soil conditions, extreme cold, salt, and fixed nitrogen (5).</p>
IV. Ability to go Undetected	1. HIGH <input type="checkbox"/> MEDIUM <input checked="" type="checkbox"/> LOW <input type="checkbox"/>
C. DAMAGE POTENTIAL	
I. Competitive Ability	<p>1. <u>Presence of Natural Enemies</u>: leaf-hoppers and a canker disease (5)</p> <p>2. <u>Competition with native species</u>: fixes nitrogen into soil (5).</p> <p>2. Rate of Spread: -changes in relative dominance over time: -change in acreage over time: HIGH(1-3 yrs) <input type="checkbox"/> MEDIUM (4-6 yrs) <input checked="" type="checkbox"/> LOW (7-10 yrs) <input checked="" 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: Nitrogen fixer – can alter poor soil communities by adding nitrogen to soil, therefore displacing species that are accustomed to poor soils.</p> <p>2. <u>Alteration of ecosystem/community structure?</u> YES <input checked="" type="checkbox"/> NO <input type="checkbox"/> Notes:</p> <p>3. <u>Alteration of ecosystem/community functions and processes?</u> YES <input checked="" type="checkbox"/> NO <input type="checkbox"/> Notes:</p> <p>4. <u>Allelopathic properties?</u> YES <input type="checkbox"/> NO <input type="checkbox"/> Notes:</p>
D. SOCIO-ECONOMIC EFFECTS	
I. Positive aspects of the species to the economy/society:	<p>Notes: Peas, pods, and flowers can all be consumed by humans and wildlife and are looked upon as an emergency food. Provides wind breaks to wildlife. Whole plant is used in breast cancer treatments and gynecological problems. Viewed as soil-improving plant due to nitrogen fixing (6). Chicken farmers use it as food source.</p> <p>Based on the 2011 WNA Economic Impact Survey, the following information was reported for this plant. Out of the 204 nurseries</p>

	responding, 17 reported selling this plant. 15 reported it comprised <1% of their gross plant sales. 1 reported it comprised 1 – 2.9% of their gross plant sales. The estimated total dollar amount contributed to Wisconsin's economy by this plant is \$47,905. It ranks 24th among the 63 taxa surveyed. The estimated wholesale value of plants in production is [REDACTED]. The majority of respondents said it took either <6 months or 1 to 2 years to produce this plant. The trend for the 2011 season was to remain unchanged (9).
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:
VI. Potential socio-economic effects of restricting use:	Positive: Negative: Forage and shelter for wildlife and livestock. Widely planted as ornamental in WI.
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 type="checkbox"/> Chemical <input checked="" type="checkbox"/> Times and uses: Small plants can be hand pulled or dug. Cut stump and basal bark treatments in fall (8)
IV. Costs of Control:	Notes: Labor, herbicide, tools, backpack sprayers, surfactant, dye.
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 type="checkbox"/> NO <input checked="" type="checkbox"/>	Name of hybrid: Names of hybrid cultivars:

<p>II. Species cultivars and varieties</p>	<p>Names of cultivars, varieties and any information about the invasive behaviors of each: 'Lorbergii'; 'Nana' more blossoms; 'Pendula'; 'Walker'; (5)</p> <p>Cultivars can be propagated through cuttings or grafting (5)</p> <p>Walker Weeping, Pendula, Weeping, and tree-form were reported by nursery survey respondents. One grower lists Walker's Weeping as being non-invasive. Of five growers commenting on invasiveness, none have ever seen seedlings or spreading. (9)</p> <p>The pre-screen meeting considered that weeping and cutleaf cultivars may not be invading, although the species is spreading. (10)</p>
	<p>Notes:</p>

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	USDA Plants; 9/23/11
2	USDA, ARS, National Genetic Resources Program. <i>Germplasm Resources Information Network - (GRIN)</i> [Online Database]. National Germplasm Resources Laboratory, Beltsville, Maryland. URL: http://www.ars-grin.gov/cgi-bin/npgs/html/taxon.pl?8923 (23 September 2011)
3	UW-Madison. Wisconsin State Herbarium [Online Database] URL: http://www.botany.wisc.edu/cgi-bin/detail.cgi?SpCode=CARARB&Genus=Caragana&Family=Fabaceae&Species=arborescens&Common=pea-tree%2C%20Siberian%20pea-shrub&photo=..%2Fphotos%2FCARARB_KKOHOUT.jpg&thumbmaps=..%2Fthumbmap%2FCARARB.gif&hand= Accessed 9.28.2011
4	Flora of China Vol 10 Page 530, 537, 538 (Online Resource); URL: http://www.efloras.org/florataxon.aspx?flora_id=2&taxon_id=200011995 Accessed 9.28.2011
5	University of Connecticut, Plant Database (UConn Plant Database of trees, shrubs, and vines by Mark H. Brand)[Online Database]. URL: http://www.hort.uconn.edu/plants/c/cararb/cararb1.html Accessed 9-28-2011
6	Montana Plant-Life. URL: http://montana.plant-life.org/species/cara_arbo.htm Accessed 9.28.2011
7	Dave's Garden. (Online Resource) URL: http://davesgarden.com/guides/pf/go/38171/ Accessed 9.28.2011
8	Czarapata, Elizabeth J. Invasive Plants of the Upper Midwest: An Illustrated Guide to Their Identification and Control, pg 123-4. The University of Wisconsin Press 2005.
9	Wiegrefe, Susan. 2011. Wisconsin Nursery Association Survey of the Economic impact of potentially invasive species in Wisconsin
10	Tree, shrub, vine species assessment group pre-screen meeting.

Author(s), Draft number, and date completed: Courtney LeClair, 1, 9.28.2011

Reviewer(s) and date reviewed: Tom Boos, 10/10/11

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