

Part IV. Plant Assessment Form

For use with “Criteria for Categorizing Invasive Non-Native Plants that Threaten Wildlands”

by the California Exotic Pest Plant Council and the Southwest Vegetation Management Association

Table 1. Species and Evaluator Information

Species name (Latin binomial):	Cardaria draba
Synonyms:	(heart podded) hoary cress, white-top
Common names:	enter text here
Evaluation date (mm/dd/yy):	04/15/04
Evaluator #1 Name/Title:	Milad Sarkis
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Evaluator #2 Name/Title:	enter text here
Affiliation:	enter text here
Phone numbers:	enter text here
Email address:	enter text here
Address:	enter text here

Section below for list committee use—please leave blank

List committee members:	Carla Bossard, Cynthia Roye, Alison Stanton, Peter Warner, Joe DiTomaso
Committee review date:	May 14, 2004
List date:	enter text here
Re-evaluation date(s):	enter text here

Table 2. Criteria, Section, and Overall Scores

1.1	Impact on abiotic ecosystem processes	B	Rev'd, Sci. Pub'n
1.2	Impact on plant community	B	Other Pub. Mat'l
1.3	Impact on higher trophic levels	C	Anecdotal
1.4	Impact on genetic integrity	D	Rev'd, Sci. Pub'n

“Impact”
 Enter four characters from Q1.1-1.4 below:
BBCD
 Use matrix determine the score; enter below:
B

2.1	Role of anthropogenic and natural disturbance	B 2	Rev'd, Sci. Pub'n
2.2	Local rate of spread with no management	B 2	Anecdotal
2.3	Recent trend in total area infested within state	B 2	Other Pub. Mat'l
2.4	Innate reproductive potential	A 3	Rev'd, Sci. Pub'n
2.5	Potential for human-caused dispersal	A 3	Other Pub. Mat'l
2.6	Potential for natural long-distance dispersal	C 1	Anecdotal
2.7	Other regions invaded	C 1	Other Pub. Mat'l

“Invasiveness”
 For questions at left, recall that an A gets 3 points, a B gets 2, a C gets 1, and a D or U gets=0. Enter the sum total of all points for Q2.1-2.7 below:
14
 Use matrix to determine score and enter below:
B

“Plant Score”
 Using matrix, determine the Overall Score and Alert Status from the three section scores and enter them below:
Medium
No Alert

3.1	Ecological amplitude	A	Other Pub. Mat'l
3.2	Distribution	C	Doc'n level

“Distribution”
 Use matrix determine the score; enter below:
B

Table 3. Documentation

Question 1.1 Impact on abiotic ecosystem processes
Identify ecosystem processes impacted: Possibly disrupts nitrogen cycle in soil
Rationale: Possibly disrupts Nitrogen cycle, thus weekeing out other native species
Sources of information: Corliss, Julie. Tall Whitetop's Crowding Out the Natives. Agricultural Research, May 16 1993.
Question 1.2 Impact on plant community composition, structure, and interactions
Identify type of impact or alteration: Decreases survivorship of native species
Rationale: large dispersal rate of seeds
Sources of information: Miller, Timothy W. Hoary Cress and Related Whitetops, Nov. 1991. 50/0/50
Question 1.3 Impact on higher trophic levels
Identify type of impact or alteration: No alteration of higher trophic levels
Rationale:
Sources of information: none noted
Question 1.4 Impact on genetic integrity
Identify impacts: Slight chance of hybridization with other Cardaria sp.
Rationale: enter text here
Sources of information: Mulligan, The biology of Canadian Weeds, 1974. Canadian Journal of Plant Science. 54:149-160
Question 2.1 Role of anthropogenic and natural disturbance in establishment
Describe role of disturbance: Can occasionally establish in undisturbed areas, but easily established in disturbed areas
Rationale: Can easily spread through human disturbances

Sources of information: Stougaard, Robert et al. Weed Technology. 199 Volume 13:581-585
Question 2.2 Local rate of spread with no management
Describe rate of spread: Increasing rate of spread, but less rapidly without control
Rationale: 1,400-4,800 seeds per plant, which can allow for a decent increase. Described as a "prolific seed producer"
Sources of information: Stougaard, Robert et al. Weed Technology. 199 Volume 13:581-585
Question 2.3 Recent trend in total area infested within state
Describe trend: increasingly slowly due to efforts to stop control. over half of the state (CA) seems to be infested
Rationale: large infestation, but with slow growth effort by seeds
Sources of information: http://ucce.ucdavis.edu/datastore/detailreport.cfm?usernumber=23&surveynumber=182
Question 2.4 Innate reproductive potential
Describe key reproductive characteristics: High reproductive potential
Rationale: High seed producer, but greatest development from roots
Sources of information: Stougaard, Robert et al. Weed Technology. 199 Volume 13:581-585
Question 2.5 Potential for human-caused dispersal
Identify dispersal mechanisms: Hay, Soil, and cut alfalfa
Rationale: human caused dispersal is the most common means of dispersal
Sources of information: http://ucce.ucdavis.edu/datastore/detailreport.cfm?usernumber=23&surveynumber=182
Question 2.6 Potential for natural long-distance dispersal
Identify dispersal mechanisms: no long distance dispersal noted, unless by humans
Rationale: seed dispersal not important, but people are not abiotic dispersal
Sources of information: no source noted

Question 2.7 Other regions invaded
Identify other regions: unshaded, disturbed, grasslands, scrubs, generally alkali soil
Rationale: Grows easily in many dry soils
Sources of information: http://ucce.ucdavis.edu/datastore/detailreport.cfm?usernumber=23&surveynumber=182
Question 3.1 Ecological amplitude
Describe ecological amplitude, identifying date of source information and approximate date of introduction to the state, if known: Unknown when it entered California, but entered US via New York in 1898
Rationale: Introduced by ballast water, but spread easily
Sources of information: http://ucce.ucdavis.edu/datastore/detailreport.cfm?usernumber=23&surveynumber=182
Question 3.2 Distribution
Describe distribution: enter text here
Rationale: enter text here
Sources of information: enter text here

Worksheet A

Complete this worksheet to answer Question 2.4.

Reaches reproductive maturity in 2 years or less	Yes: 1 pt
Dense infestations produce >1,000 viable seed per square meter	Yes: 2 pts
Populations of this species produce seeds every year.	Yes: 1 pt
Seed production sustained over 3 or more months within a population annually	No
Seeds remain viable in soil for three or more years	Unknown: 0 pts
Viable seed produced with <i>both</i> self-pollination and cross-pollination	Unknown: 0 pts
Has quickly spreading vegetative structures (rhizomes, roots, etc.) that may root at nodes	Yes: 1 pt
Fragments easily and fragments can become established elsewhere	No
Resprouts readily when cut, grazed, or burned	Yes: 1 pt
	6 pts 3 unknowns
	A (6+ pts)

Note any related traits: enter text here

Worksheet C - California Ecological Types

(*sensu* Holland 1986)

Major Ecological Types	Minor Ecological Types	Code*
Marine Systems	marine systems	score
Freshwater and Estuarine Aquatic Systems	lakes, ponds, reservoirs	score
	rivers, streams, canals	score
	estuaries	score
Dunes	coastal	score
	desert	score
	interior	score
Scrub and Chaparral	coastal bluff scrub	score
	coastal scrub	score
	Sonoran desert scrub	score
	Mojavean desert scrub (incl. Joshua tree woodland)	score
	Great Basin scrub	score
	chenopod scrub	score
	montane dwarf scrub	score
	Upper Sonoran subshrub scrub	score
Grasslands, Vernal Pools, Meadows, and other Herb Communities	coastal prairie	score
	valley and foothill grassland	D
	Great Basin grassland	C
	vernal pool	score
	meadow and seep	C
	alkali playa	D
	pebble plain	score
Bog and Marsh	bog and fen	score
	marsh and swamp	score
Riparian and Bottomland	riparian forest	score
	riparian woodland	D
	riparian scrub (incl. desert washes)	D
Woodland	cismontane woodland	score
	piñon and juniper woodland	score
	Sonoran thorn woodland	score
Forest	broadleaved upland forest	score
	North Coast coniferous forest	score
	closed cone coniferous forest	score
	lower montane coniferous forest	score
	upper montane coniferous forest	score
	subalpine coniferous forest	score
Alpine Habitats	alpine boulder and rock field	score
	alpine dwarf scrub	score

* A. means >50% of type occurrences are invaded; B means >20% to 50%; C. means >5% to 20%; D. means present but ≤5%; U. means unknown (unable to estimate percentage of occurrences invaded).