

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

Electronic version, February 28, 2003

Table 1. Species and Evaluator Information

Species name (Latin binomial):	Vicia villosa Roth.
Synonyms:	V. villosa ssp. varia = Vicia dasycarpa
Common names:	V. villosa ssp. varia = winter vetch, hairy vetch, lana vetch, sand vetch, smooth vetch, tare, woollypod vetch V. villosa ssp. villosa = hairy vetch, winter vetch, sand vetch, tare
Evaluation date (mm/dd/yy):	3/24/05
Evaluator #1 Name/Title:	Elizabeth Brusati, project manager
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Evaluator #2 Name/Title:	Joseph M. DiTomaso
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Section below for list committee use—please leave blank

List committee members:	Jake Sigg, Peter Warner, Bob Case, John Knapp, Elizabeth Brusati
Committee review date:	7/8/05
List date:	enter text here
Re-evaluation date(s):	enter text here

General comments on this assessment:

enter text here

Table 2. Criteria, Section, and Overall Scores

1.1	Impact on abiotic ecosystem processes	D	Other Pub. Mat'l
1.2	Impact on plant community	D	Observational
1.3	Impact on higher trophic levels	D	Other Pub. Mat'l
1.4	Impact on genetic integrity	U	No Information

Impact

Enter four characters from Q1.1-1.4 below:

DDDU

Using matrix, determine score and enter below:

D

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

Invasiveness

Enter the sum total of all points for Q2.1-2.7 below:

9

Use matrix to determine score and enter below:

C

Plant Score

Using matrix, determine Overall Score and Alert Status from the three section scores and enter below:

Not listed

No Alert

3.1	Ecological amplitude/Range	A	Other Pub. Mat'l
3.2	Distribution/Peak frequency Wksht C	C	Other Pub. Mat'l

Distribution

Using matrix, determine score and enter below:

B

Table 3. Documentation

Question 1.1 Impact on abiotic ecosystem processes	D Other Pub. Mat'l back
Identify ecosystem processes impacted: Can fix large quantities of nitrogen, but is not often found in wildland areas..	
Rationale: 9/13/05: The committee decided that because this species rarely occurs in wildlands and has minimal impacts, it does not warrant inclusion on the list.	
Sources of information: Anonymous. 2002. Hairy vetch fact sheet. US Department of Agriculture, Natural Resource Conservation Service, Plant Materials Program. Available: http://usda.plants.gov	
Question 1.2 Impact on plant community composition, structure, and interactions	D Observational back
Identify type of impact or alteration: In plant communities along coast, but only in disturbed areas.	
Rationale: enter text here	
Sources of information: Peter Warner, California Dept. of Parks and Recreation, pers. obs.	
Question 1.3 Impact on higher trophic levels	D Other Pub. Mat'l back
Identify type of impact or alteration: Can poison cattle when vetch forms a major part of their diet. Causes dermatitis, weight loss, conjunctivitis, and diarrhea (1, 2). Typically this is considered a good forage for livestock when it is not the only food source.	
Rationale: enter text here	
Sources of information: 1. Knight A.P., Walter R.G. 2001. A Guide to Plant Poisoning of Animals of North America. Teton NewMedia: Jackson, Wyoming 2. Kingsbury J.M. Poisonous Plants of the United States and Canada. 1964. Prentice-Hall Inc.: Englewood Cliffs, New Jersey	
Question 1.4 Impact on genetic integrity	U No Information back
Identify impacts: There are four native species of Vicia in California. No information on hybridization with V. villosa.	
Rationale: enter text here	
Sources of information: Hickman, J. C. (ed.) 1993. The Jepson Manual, Higher Plants of California. University of California Press. Berkeley, CA enter text here	

Question 2.1 Role of anthropogenic and natural disturbance in establishment	C Rev'd, Sci. Pub'n back
Describe role of disturbance: Inhabits disturbed areas such as roadsides, waste places, meadows, and agricultural fields (1).	
Rationale: enter text here	
Sources of information: 1. Aarssen L.W., Hall I.V., Jenson K.I.N. 1986. The Biology of Canadian Weeds. 76. <i>Vicia villosa</i> L., <i>V. cracca</i> L., <i>V. sativa</i> , <i>V. tetrasperma</i> (L.) Schreb. and <i>V. villosa</i> Roth.” Canadian Journal of Plant Science 66: 711-737	
Question 2.2 Local rate of spread with no management	C Observational back
Describe rate of spread: Populations do not seem to spread in wildland areas that lack disturbance.	
Rationale: enter text here	
Sources of information: DiTomaso, observational	
Question 2.3 Recent trend in total area infested within state	C Observational back
Describe trend: Appears to be static.	
Rationale: enter text here	
Sources of information: DiTomaso, observational	
Question 2.4 Innate reproductive potential	B Rev'd, Sci. Pub'n back
Describe key reproductive characteristics: Annual, biennial, or short-lived perennial. Seed production reported as 386 to 502 kg seed/ha in Canada. No vegetative reproduction. Self-fertilized and cross-pollinated. Requires insects for selfing. Seeds can germinate while submersed in water. Buried seeds of related <i>V. sativa</i> can survive many years. <i>V. villosa</i> seeds can retain most of their viability after 20 months storage under the right conditions.	
Rationale: enter text here	
Sources of information: Aarssen L.W., Hall I.V., Jenson K.I.N. 1986. The Biology of Canadian Weeds. 76. <i>Vicia villosa</i> L., <i>V. cracca</i> L., <i>V. sativa</i> , <i>V. tetrasperma</i> (L.) Schreb. and <i>V. villosa</i> Roth. Canadian Journal of Plant Science 66: 711-737 DiTomaso, J, and E. Healy. in prep. Weeds of California and Other Western States.	
Question 2.5 Potential for human-caused dispersal	B Rev'd, Sci. Pub'n back
Identify dispersal mechanisms: Planted as a cover crop. Can be spread in contaminated seed, hay, or straw.	

Rationale: enter text here	
Sources of information: Aarssen L.W., Hall I.V., Jenson K.I.N. 1986. The Biology of Canadian Weeds. 76. <i>Vicia villosa</i> L., <i>V. cracca</i> L., <i>V. sativa</i> , <i>V. tetrasperma</i> (L.) Schreb. and <i>V. villosa</i> Roth. Canadian Journal of Plant Science 66: 711-737	
Question 2.6 Potential for natural long-distance dispersal	C Rev'd, Sci. Pub'n back
Identify dispersal mechanisms: Seed can be spread by birds, horses, and sheep, and remains viable after passing through their guts, but the vast majority of seed fall below parent plant.	
Rationale: enter text here	
Sources of information: Aarssen L.W., Hall I.V., Jenson K.I.N. 1986. The Biology of Canadian Weeds. 76. <i>Vicia villosa</i> L., <i>V. cracca</i> L., <i>V. sativa</i> , <i>V. tetrasperma</i> (L.) Schreb. and <i>V. villosa</i> Roth. Canadian Journal of Plant Science 66: 711-737	
Question 2.7 Other regions invaded	C Other Pub. Mat'l back
Identify other regions: Both species are in Canada (1). <i>V. villosa</i> ssp. <i>varia</i> is also in Oregon, Washington, most southern and eastern states. <i>V. villosa</i> ssp. <i>villosa</i> is in all contiguous states (2).	
Rationale: Scoring as C because already widespread in California.	
Sources of information: 1. Aarssen L.W., Hall I.V., Jenson K.I.N. 1986. The Biology of Canadian Weeds. 76. <i>Vicia villosa</i> L., <i>V. cracca</i> L., <i>V. sativa</i> , <i>V. tetrasperma</i> (L.) Schreb. and <i>V. villosa</i> Roth. Canadian Journal of Plant Science 66: 711-737 2. DiTomaso, J, and E. Healy. in prep. Weeds of California and Other Western States.	
Question 3.1 Ecological amplitude/Range	C Other Pub. Mat'l back
Describe ecological amplitude, identifying date of source information and approximate date of introduction to the state, if known: Throughout California, except deserts and Great Basin, to 1000m (1). Generally associated with sandy or gravelly soils but not highly specialized (2).	
Rationale: enter text here	
Sources of information: 1. DiTomaso, J, and E. Healy. in prep. Weeds of California and Other Western States. 2. Aarssen L.W., Hall I.V., Jenson K.I.N. 1986. The Biology of Canadian Weeds. 76. <i>Vicia villosa</i> L., <i>V. cracca</i> L., <i>V. sativa</i> , <i>V. tetrasperma</i> (L.) Schreb. and <i>V. villosa</i> Roth. Canadian Journal of Plant Science 66: 711-737	

Question 3.2 Distribution/Peak frequency	C Observational back
Describe distribution: Uncommon in wildland area. Can find it in valley and foothill grasslands,, primarily those that are rangelands, but generally transient and only there due to discurbance.	
Rationale: enter text here	
Sources of information: DiTomaso, observational	

Worksheet A[back](#)

Reaches reproductive maturity in 2 years or less	Yes: 1 pt
Dense infestations produce >1,000 viable seed per square meter	No: 0 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: 0 pt
Seeds remain viable in soil for three or more years	Yes: 2 pts
Viable seed produced with <i>both</i> self-pollination and cross-pollination	Yes: 1 pt
Has quickly spreading vegetative structures (rhizomes, roots, etc.) that may root at nodes	No: 0 pt
Fragments easily and fragments can become established elsewhere	No: 0 pts
Resprouts readily when cut, grazed, or burned	No: 0 pt
	5 pts Total Unknowns
	B (4-5 pts)
Note any related traits: enter text here	

Worksheet C - California Ecological Types

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(*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	D. present
	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
	chaparral	D. present
Grasslands, Vernal Pools, Meadows, and other Herb Communities	coastal prairie	D. present
	valley and foothill grassland	C. 5-20%
	Great Basin grassland	score
	vernal pool	score
	meadow and seep	D. present
	alkali playa	score
	pebble plain	score
Bog and Marsh	bog and fen	score
	marsh and swamp	score
Riparian and Bottomland	riparian forest	score
	riparian woodland	score
	riparian scrub (incl. desert washes)	D. present
Woodland	cismontane woodland	C. 5-20%
	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).