

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):	Bromus hordeaceus L.
Synonyms:	Bromus confertus Boreau. (B. racemosus and B. scoparius mistakenly used in some older references)
Common names:	soft brome, soft chess, lopgrass
Evaluation date (mm/dd/yy):	2/24/05
Evaluator #1 Name/Title:	Elizabeth Brusati, project manager
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Evaluator #2 Name/Title:	Joseph DiTomaso
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Section below for list committee use—please leave blank

List committee members:	Carla Bossard, John Randall, Carri Pirosko, Dan Gluesenkamp, Gina Skurka, Brianna Richardson
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	B	Observational
1.2	Impact on plant community	A	Other Pub. Mat'l
1.3	Impact on higher trophic levels	C	Other Pub. Mat'l
1.4	Impact on genetic integrity	U	No Information

Impact

Enter four characters from Q1.1-1.4 below:

BACU

Using matrix, determine score and enter below:

B

2.1	Role of anthropogenic and natural disturbance	B (2 pts)	Other Pub. Mat'l
2.2	Local rate of spread with no management	C (1 pt)	Other Pub. Mat'l
2.3	Recent trend in total area infested within state	C (1 pt)	Other Pub. Mat'l
2.4	Innate reproductive potential Wksht A	B (2 pts)	Rev'd, Sci. Pub'n
2.5	Potential for human-caused dispersal	B (2 pts)	Other Pub. Mat'l
2.6	Potential for natural long-distance dispersal	D (0 pts)	Other Pub. Mat'l
2.7	Other regions invaded	C (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:

Low

No Alert

3.1	Ecological amplitude/Range	A	Rev'd, Sci. Pub'n
3.2	Distribution/Peak frequency Wksht C	A	Other Pub. Mat'l

Distribution

Using matrix, determine score and enter below:

A

Table 3. Documentation

Question 1.1 Impact on abiotic ecosystem processes	B Observational back
Identify ecosystem processes impacted: A dominant part of the grassland system in California. Undoubtedly has contributed to the increased frequency of fires.	
Rationale: enter text here	
Sources of information: DiTomaso, observational Dan Gluesenkamp, Audubon Canyon Ranch, pers. obs. John Randall, The Nature Conservancy, pers. obs.	
Question 1.2 Impact on plant community composition, structure, and interactions	A Other Pub. Mat'l back
Identify type of impact or alteration: Displaces perennial grasses by outcompeting them for moisture early in the season.	
Rationale: enter text here	
Sources of information: DiTomaso, J., and E. Healy. in prep. Weeds of California and Other Western States.	
Question 1.3 Impact on higher trophic levels	D Other Pub. Mat'l back
Identify type of impact or alteration: Good forage species	
Rationale: enter text here	
Sources of information: DiTomaso and Healy. 2006. Weeds of California. UC DANR Publ. #3488.	
Question 1.4 Impact on genetic integrity	U No Information back
Identify impacts: There are numerous native and introduced species of Bromus. No information on hybridization but probably unlikely.	
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	B Other Pub. Mat'l back
Describe role of disturbance: Inhabits open disturbed sites.	

Rationale: Grazing and burning studies have given conflicting results. Yearly short-term moderate grazing by sheep followed by burning reduces annual grasses, including soft brome, at one site.	
Sources of information: DiTomaso and Healy. 2006. Weeds of California. UC DANR Publ. #3488.	
Question 2.2 Local rate of spread with no management	C Other Pub. Mat'l back
Describe rate of spread: Already present throughout California so probably not spreading much.	
Rationale: enter text here	
Sources of information: DiTomaso and Healy. 2006. Weeds of California. UC DANR Publ. #3488.	
Question 2.3 Recent trend in total area infested within state	C Other Pub. Mat'l back
Describe trend: Already present throughout California so probably not spreading much.	
Rationale: enter text here	
Sources of information: DiTomaso and Healy. 2006. Weeds of California. UC DANR Publ. #3488.	
Question 2.4 Innate reproductive potential	B Rev'd, Sci. Pub'n back
Describe key reproductive characteristics: Cool season annual. Flowers April-July. Often self-pollinated. Reproduces by seed. Most seeds germinate after first rains in fall, but can germinate in early to mid-spring (1). Seeds can germinate on or below the soil surface (2).	
Rationale: enter text here	
Sources of information: 1. DiTomaso and Healy. 2006. Weeds of California. UC DANR Publ. #3488. 2. Flood, R. G. Germination of soft brome (Bromus hordeaceus). Plant Protection Quarterly 1(4): 144-147.	
Question 2.5 Potential for human-caused dispersal	B Other Pub. Mat'l back
Identify dispersal mechanisms: Seeds dispersed by vehicle tires, human activities, and as seed contaminants.	
Rationale: enter text here	
Sources of information: DiTomaso and Healy. 2006. Weeds of California. UC DANR Publ. #3488.	
Question 2.6 Potential for natural long-distance dispersal	D Other Pub. Mat'l back
Identify dispersal mechanisms: Can be dispersed by mud, water, and animals, but long distance movement is	

probably very uncommon.	
Rationale: enter text here	
Sources of information: DiTomaso and Healy. 2006. Weeds of California. UC DANR Publ. #3488.	
Question 2.7 Other regions invaded	C Other Pub. Mat'l back
Identify other regions: Nearly worldwide. One or more subspecies occur in most contiguous states, except possibly Wyoming and a few southern, central, and eastern states (1).	
Rationale: enter text here	
Sources of information: DiTomaso and Healy. 2006. Weeds of California. UC DANR Publ. #3488.	
Question 3.1 Ecological amplitude/Range	A Rev'd, Sci. Pub'n back
Describe ecological amplitude, identifying date of source information and approximate date of introduction to the state, if known: Throughout California, mostly to 1000m, occasionally to 2100m. Common in northern and central regions of the state, uncommon in desert. Grasslands, sagebrush communities, rangeland, fields, open disturbed areas, roadsides. Thrives on fertile soil but can also colonize low-fertility soils such as serpentine (1). Inhabits grasslands near oaks but is outcompeted by <i>B. diandrus</i> under oak canopies (2). The only non-native species that invades the serpentine soil significantly (3).	
Rationale: enter text here	
Sources of information: 1. DiTomaso and Healy. 2006. Weeds of California. UC DANR Publ. #3488. 2. Rice, K.J., and E. S. Nagy. 2000. Oak canopy effects on the distribution patterns of two annual grasses: the role of competition and soil nutrients. <i>American Journal of Botany</i> . 87:1699-1706 3. Freitas, H. and H. Mooney. 1996. Effects of water stress and soil texture on the performance of two <i>Bromus hordeaceus</i> ecotypes from sandstone and serpentine soils. <i>Acta Oecologica</i> 17(4): 307-317.	
Question 3.2 Distribution/Peak frequency	A Other Pub. Mat'l back
Describe distribution: One of the most common annual grasses in the state. Found in nearly all grassland sites.	
Rationale: enter text here	
Sources of information: DiTomaso and Healy. 2006. Weeds of California. UC DANR Publ. #3488.	

Worksheet A[back](#)

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: 0 pt
Seeds remain viable in soil for three or more years	No: 0 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	D. present
	coastal scrub	C. 5-20%
	Sonoran desert scrub	score
	Mojavean desert scrub (incl. Joshua tree woodland)	score
	Great Basin scrub	C. 5-20%
	chenopod scrub	score
	montane dwarf scrub	score
	Upper Sonoran subshrub scrub	score
	chaparral	C. 5-20%
Grasslands, Vernal Pools, Meadows, and other Herb Communities	coastal prairie	A. >50%
	valley and foothill grassland	A. >50%
	Great Basin grassland	B. 21-50%
	vernal pool	score
	meadow and seep	score
	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)	score
Woodland	cismontane woodland	A. >50%
	piñon and juniper woodland	C. 5-20%
	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).