

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):	Avena fatua L.
Synonyms:	
Common names:	wild oats
Evaluation date (mm/dd/yy):	12/27/04
Evaluator #1 Name/Title:	Elizabeth Brusati, project manager
Affiliation:	California Invasive Plant Council
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Address:	1442A Walnut St. #462, Berkeley, CA 94709
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, John Randall, Cynthia Roye, Jake Sigg, Peter Warner
Committee review date:	2/11/05
List date:	enter text here
Re-evaluation date(s):	enter text here

<p>General comments on this assessment:</p> <p>enter text here</p>

Table 2. Criteria, Section, and Overall Scores

1.1	Impact on abiotic ecosystem processes	U	No Information
1.2	Impact on plant community	A	Rev'd, Sci. Pub'
1.3	Impact on higher trophic levels	C	Pers Observation
1.4	Impact on genetic integrity	D	Rev'd, Sci. Pub'

Impact
Enter four characters from Q1.1-1.4 below:
UACD
Using matrix, determine score and enter below:
B

2.1	Role of anthropogenic and natural	3 (2 pts)	Rev'd, Sci. Pub'
2.2	Local rate of spread with no management	C	Pers. Obs.
2.3	Recent trend in total area infested within	2 (1 pt)	Other Pub. Mat
2.4	Innate reproductive potential <i>Wksht</i>	3 (3 pts)	Rev'd, Sci. Pub'
2.5	Potential for human-caused dispersal	3 (3 pts)	Rev'd, Sci. Pub'
2.6	Potential for natural long-distance	2 (1pt)	Rev'd, Sci. Pub'
2.7	Other regions invaded	2 (1 pt)	Rev'd, Sci. Pub'

Invasiveness
Enter the sum total of all points for Q2.1-2.7 below:
12
Use matrix to determine score and enter below:
B

Plant Score
Using matrix, determine Overall Score and Alert Status from the three section scores and enter below:
B
No alert

3.1	Ecological amplitude/Rang	A	Rev'd, Sci. Pub'
3.2	Distribution/Peak frequency <i>Wksht C</i>	A	Doc'n level

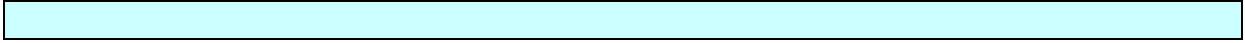
Distribution
Using matrix, determine score and enter below:
A

Table 3. Documentation

Question 1.1 Impact on abiotic ecosystem processes	U No Information back
Identify ecosystem processes impacted:	
Rationale:	
Sources of information:	
Question 1.2 Impact on plant community composition, structure, and interactions	A Rev'd, Sci. Pub'n back
Identify type of impact or alteration: Outcompete other grasses (1). Allelopathic (2). Forms extensive, fibrous root system (3,4).	
Rationale: "Wild oats are renowned for their competitive ability" (1).	
Sources of information: 1. Medd, R. W. 1996. Wild oats-what is the problem? Plant Protection Quarterly 11(SUPPL. 1): 183-184 2. Sharma, M. P. and W. H. Vanden Born 1978. The Biology of Canadian Weeds Part 27 Avena-Fatua. Canadian Journal of Plant Science 58(1): 141-158 3. DiTomaso, J., and E. Healy. Weeds of California and Other Western States. in prep. 4. Holm, L. G., D. L. Plunckett, J. V. Pancho, and J. P. Herberger. 1977. The World's Worst Weeds. pg 96-103	
Question 1.3 Impact on higher trophic levels	C Pers. Obs. back
Identify type of impact or alteration: Has both positive and negative effects.	
Rationale: enter text here	
Sources of information: Weed committee personal observations	
Question 1.4 Impact on genetic integrity	D Rev'd, Sci. Pub'n back
Identify impacts: none	
Rationale: No native Avena species.	
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 Rev'd, Sci. Pub'n back
Describe role of disturbance: Needs disturbance to establish. Often associated with agricultural fields.	
Rationale: In Canada, virtually absent from land that has not been recently disturbed. Common in pastures and along roadsides (1), and on "neglected land" (2).	

Sources of information: 1. Sharma, M. P. and W. H. Vanden Born. 1978. The Biology of Canadian Weeds Part 27 Avena-Fatua. Canadian Journal of Plant Sciences. 58:141-157 2. Holm, L. G., D. L. Plunckett, J. V. Pancho, and J. P. Herberger. 1977. The World's Worst Weeds. pg 96-103.	
Question 2.2 Local rate of spread with no management	C Doc'n level back
Describe rate of spread: Historically spread quickly. This question is not really applicable now because this species is ubiquitous.	
Rationale: enter text here	
Sources of information: Weed committee personal observations.	
Question 2.3 Recent trend in total area infested within state	C Other pub. back
Describe trend: Well-established throughout California, so probably not spreading very much.	
Rationale: "Nearly ubiquitous in California" (1)	
Sources of information: 1. DiTomaso and Healy. In prep.	
Question 2.4 Innate reproductive potential	A Rev'd, Sci. Pub'n back
Describe key reproductive characteristics: Cool-season annual grass. In California, seeds germinate after first significant rain in the fall, until early spring. Flowers March-June. Wind-pollinated and self-compatible (1). Buried seeds often remain dormant until exposed by cultivation or other disturbance (1). Seeds can survive 4-7 years (2), although < 1% were viable after 3.7 years (3). Seed-bank half-life is 6 months, with a small proportion of seeds surviving several years (4). Produce 1000 to 10,000 seeds/m ² (4). Little cold requirement for floral induction (5). Some natural crossing may occur (6).	
Rationale: enter text here	
Sources of information: 1. DiTomaso and Healy in prep 2. Holm et al. 1997 3. Conn, J. S. and R. E. Deck. 1995. Seed viability and dormancy of 17 weed species after 9.7 years of burial in Alaska. Weed Science 43(4): 583-585. 4. Medd 1996 5. Paterson, J. G., W. J. R. Boyd, and N. A. Goodchild. 1976. Vernalization and photoperiod requirement of naturalized Avena-Fatua and Avena-Barbata in western Australia. Journal of Applied Ecology 13(1): 265-272 6. Sharma and Vanden born 1978	
Question 2.5 Potential for human-caused dispersal	A Rev'd, Sci. Pub'n back
Identify dispersal mechanisms: Contaminant of grain, spread by agricultural machinery (1). Often contaminates seeds stocks in U.S. (2)	

Rationale: enter text here	
Sources of information: 1. Medd, R. W. 1996. Wild oats-what is the problem? Plant Protection Quarterly 11(SUPPL. 1): 183-184. 2. Holm et al. 1997	
Question 2.6 Potential for natural long-distance dispersal	C Rev'd, Sci. Pub'n back
Identify dispersal mechanisms: Possibly wind, but unlikely	
Rationale: Wild oats have no adaptations to aid long distance dispersal, and under natural conditions most seeds probably fall within 1m of origin (1)	
Sources of information: 1. Medd, R. W. 1996. Wild oats-what is the problem? Plant Protection Quarterly 11(SUPPL. 1): 183-184.	
Question 2.7 Other regions invaded	C Rev'd, Sci. Pub'n back
Identify other regions: "Present almost everywhere in the world where cereals are grown" (1), including most of the contiguous U.S. except some southeastern states (2). In Australia, prefers warmer areas with lower rainfall compared to <i>A. barbata</i> (3).	
Rationale: enter text here	
Sources of information: 1. Holm et al. 1997 2. DiTomaso and Healy 1997 3. Paterson, J. G. 1976. The distribution of <i>Avena</i> -Spp naturalized in Western Australia. Journal of Applied Ecology 13(1): 257-264.	
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: May have arrived with contaminated grain (1). Planted for forage and well-established by late 1700's (2). Grows on wide range of light to heavy soil types and both acid and alkaline soils (3).	
Rationale: enter text here	
Sources of information: 1. Sharma and Vanden born 1978 2. DiTomaso and Healy in prep. 3. Holm et al. 1997.	
Question 3.2 Distribution/Peak frequency	A Doc'n level back
Describe distribution: "Ubiquitous"	
Rationale: Scored as A because so widespread	
Sources of information: DiTomaso and Healy in prep	



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	Yes: 1 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
	8 pts Total Unknowns
	A (6+ pts)
Note any related traits: enter text here	

Worksheet C - California Ecological Types

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Major Ecological	Minor Ecological Types	Code*
Marine Systems	marine systems	score
Freshwater and Aquatic Svstems	lakes, ponds, reservoirs	score
	rivers, streams, canals	score
	estuaries	score
Dunes	coastal	D. pres
	desert	score
	interior	score
Scrub and Chaparral	coastal bluff scrub	D
	coastal scrub	D. pres
	Sonoran desert scrub	score
	Mojavean desert scrub (incl. Joshua tree	score
	Great Basin scrub	score
	chenopod scrub	score
	montane dwarf scrub	score
	Upper Sonoran subshrub scrub	score
chaparral	D. pres	
Grasslands, Vernal Meadows, and other Communities	coastal prairie	B
	valley and foothill grassland	A
	Great Basin grassland	D. pres
	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	riparian forest	score
	riparian woodland	score
	riparian scrub (incl. desert washes)	score
Woodland	cismontane woodland	D. pres
	piñon and juniper woodland	score
	Sonoran thorn woodland	score
Forest	broadleaved upland forest	score
	North Coast coniferous forest	D. pres
	closed cone coniferous forest	score
	lower montane coniferous forest	score
	upper montane coniferous forest	score
Alpine Habitats	subalpine coniferous forest	score
	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).