

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):	Aegilops triuncialis
Synonyms:	barbed goatgrass, several other scientific names
Common names:	barb goatgrass
Evaluation date (mm/dd/yy):	July 27, 2004
Evaluator #1 Name/Title:	Joseph M. DiTomaso
Affiliation:	University of California, Davis
Phone numbers:	530-754-8715
Email address:	ditomaso@vegmail.ucdavis.edu
Address:	Weed Science Program, Robbins Hall, Davis, CA 95616
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:	Jake Sigg, Peter Warner, Alison Stanton, Cynthia Roye, Joe DiTomaso, John Randall
Committee review date:	8/27/2004
List date:	enter text here
Re-evaluation date(s):	enter text here

General comments on this assessment:

Table 2. Criteria, Section, and Overall Scores

1.1	Impact on abiotic ecosystem processes	A	Observational
1.2	Impact on plant community	A	Rev'd, Sci. Pub'n
1.3	Impact on higher trophic levels	A	Rev'd, Sci. Pub'n
1.4	Impact on genetic integrity	D	Rev'd, Sci. Pub'n

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

2.1	Role of anthropogenic and natural disturbance	B 2	Rev'd, Sci. Pub'n
2.2	Local rate of spread with no management	A 3	Rev'd, Sci. Pub'n
2.3	Recent trend in total area infested within state	A 3	Rev'd, Sci. Pub'n
2.4	Innate reproductive potential Wksht A	B 2	Rev'd, Sci. Pub'n
2.5	Potential for human-caused dispersal	A 3	Rev'd, Sci. Pub'n
2.6	Potential for natural long-distance dispersal	A 3	Rev'd, Sci. Pub'n
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:
17
 Use matrix to determine score and enter below:
A

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

3.1	Ecological amplitude/Range	B	Rev'd, Sci. Pub'n
3.2	Distribution/Peak frequency Wksht C	C	Observational

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

Table 3. Documentation

Question 1.1 Impact on abiotic ecosystem processes	A Observational back
Identify ecosystem processes impacted: Changes fire frequency, utilizes high amounts of soil moisture.	
Rationale: enter text here	
Sources of information: DiTomaso, J.M. observational 2004 and yet unpublished research	
Question 1.2 Impact on plant community composition, structure, and interactions	A Rev'd, Sci. Pub'n back
Identify type of impact or alteration: Can form near monotypic stands. Populations of 50% cover and greater are common.	
Rationale: enter text here	
Sources of information: DiTomaso, J.M., K.L. Heise, G.B. Kyser, A. M. Merenlender, and R. J. Keiffer. 2001. Carefully timed burning can control barb goatgrass. California Agriculture 55(6):47-53	
Question 1.3 Impact on higher trophic levels	A Rev'd, Sci. Pub'n back
Identify type of impact or alteration: Awns can be harmful to wildlife. Documented to be mechanically injurious to livestock. Can also reduce forage for wildlife, has been show to reduce forage for livestock by 50-75%.	
Rationale: enter text here	
Sources of information: Kennedy, P.B. 1928. Goatgrass or wild wheat (<i>Aegilops triuncialis</i>). Journal of the American Society of Agronomy 20(12):1292-1296.; Peters, A., D.E. Johnson and M.R. George. 1996. Barb goatgrass: a threat to California rangelands. Rangelands 18(1):8-10.	
Question 1.4 Impact on genetic integrity	D Rev'd, Sci. Pub'n back
Identify impacts: There are no native <i>Aegilops</i> in California. It can hybridize with <i>Triticum</i> , but there are not native as well.	
Rationale: enter text here	
Sources of information: Kennedy, P.B. 1928. Goatgrass or wild wheat (<i>Aegilops triuncialis</i>). Journal of the American Society of Agronomy 20(12):1292-1296.; Hickman, J.C. (ed.). 1993. The Jepson Manual. UC Press.	
Question 2.1 Role of anthropogenic and natural disturbance in establishment	B Rev'd, Sci. Pub'n back
Describe role of disturbance: Often found in disturbed roadside environments, but has been observed to be in other sites, including ponds and open grassy areas, particularly with some moisture.	

Rationale: DiTomaso and Healy. 2005. Weeds of California and other western states. UC ANR (in press)	
Sources of information: Harrison,S., C. Hohn and S. Ratay. 2002. Distribution of exotic plants along roads in a peninsular nature reserve. Biological Invasions 4:425-430.; DiTomaso, J.M. observational 2004	
Question 2.2 Local rate of spread with no management	A Rev'd, Sci. Pub'n back
Describe rate of spread: Can rapidly take over a grassland area. Reported that barb goatgrass can expand from a single infestation to dominance of a ranch in 20 years.	
Rationale: enter text here	
Sources of information: DiTomaso and Healy. 2005. Weeds of California and other western states. UC ANR (in press); DiTomaso, J.M. observational 2004; Peters, A., D.E. Johnson and M.R. George. 1996. Barb goatgrass: a threat to California rangelands. Rangelands 18(1):8-10.	
Question 2.3 Recent trend in total area infested within state	A Rev'd, Sci. Pub'n back
Describe trend: Over past 10 years it appears to be rapidly expanding range in California.	
Rationale: enter text here	
Sources of information: DiTomaso and Healy. 2005. Weeds of California and other western states. UC ANR (in press); Dyer, A. 2003. Why babed goatgrass is different from other invasive annual grasses. Grasslands Winter:4-5.; Peters, A.. 1994. Biology and control of barb goatgrass (Aegilops triuncialis L.). MS thesis. Orgon State Univ.; DiTomaso, J.M. observational 2004	
Question 2.4 Innate reproductive potential	B Rev'd, Sci. Pub'n back
Describe key reproductive characteristics: Very little is known of the biology of this species. It is a shortlived bunchgrass perennial which produces numerous small seeds.	
Rationale: enter text here	
Sources of information: Hickman, J.C. (ed.). 1993. The Jepson Manual. UC Press.; DiTomaso and Healy. 2005. Weeds of California and other western states. UC ANR (in press); Dyer, A. 2003. Why babed goatgrass is different from other invasive annual grasses. Grasslands Winter:4-5.; Peters, A., D.E. Johnson and M.R. George. 1996. Barb goatgrass: a threat to California rangelands. Rangelands 18(1):8-10.; DiTomaso, J.M. observational 2004	
Question 2.5 Potential for human-caused dispersal	A Rev'd, Sci. Pub'n back
Identify dispersal mechanisms: Barb goatgrass can me moved long distances along roadsides.	

Rationale: enter text here	
Sources of information: Harrison,S., C. Hohn and S. Ratay. 2002. Distribution of exotic plants along roads in a peninsular nature reserve. Biological Invasions 4:425-430.; Peters, A., D.E. Johnson and M.R. George. 1996. Barb goatgrass: a threat to California rangelands. Rangelands 18(1):8-10.	
Question 2.6 Potential for natural long-distance dispersal	A Rev'd, Sci. Pub'n back
Identify dispersal mechanisms: Can be distributed on the fur and feathers of animals. Also shown to be moved by gophers.	
Rationale:	
Sources of information: Eviner, V.T. and F.S. Chapin, III. 2003. Gopher-plant-fungal interactions affect establishment of an invasive grass. Ecology 84(1):120-128.; DiTomaso and Healy. 2005. Weeds of California and other western states. UC ANR. (in press)	
Question 2.7 Other regions invaded	C Other Pub. Mat'l back
Identify other regions: New York, Pennsylvania, Maryland.	
Rationale: nter text here	
Sources of information: DiTomaso and Healy. 2005. Weeds of California and other western states. UC ANR. (in press)	
Question 3.1 Ecological amplitude/Range	B Rev'd, Sci. Pub'n back
Describe ecological amplitude, identifying date of source information and approximate date of introduction to the state, if known: Cascade Range foothills, southern North Coast Ranges, Sacramento Valley, northern and central Sierra Nevada foothills, Central Coast, San Francisco Bay region, South Coast Ranges, to 1100 m. Mainly found in grasslands and oak woodlands. It was probably inctroduced around 1915.	
Rationale: enter text here	
Sources of information: DiTomaso and Healy. 2005. Weeds of California and other western states. UC ANR. (in press); Kennedy, P.B. 1928. Goatgrass or wild wheat (Aegilops triuncialis). Journal of the American Society of Agronomy 20(12):1292-1296.; Peters, A., D.E. Johnson and M.R. George. 1996. Barb goatgrass: a threat to California rangelands. Rangelands 18(1):8-10.	
Question 3.2 Distribution/Peak frequency	C Observational back
Describe distribution: Becoming a dominant species in the foothill grasslands of Central California.	
Rationale: enter text here	

Sources of information: DiTomaso, J.M. observational 2004

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	Unknown: 0 pts
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	Unknown: 0 pts
	4 pts 3 unknowns
	B (4-5 pts)

Note any related traits: enter text here

Worksheet C - California Ecological Types

[back](#)

(*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
	chaparral	score
Grasslands, Vernal Pools, Meadows, and other Herb Communities	coastal prairie	score
	valley and foothill grassland	C. 5-20%
	Great Basin grassland	score
	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	D. present
	riparian scrub (incl. desert washes)	score
Woodland	cismontane woodland	D. present
	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).