

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):	Bellis perennis L.
Synonyms:	
Common names:	English daisy, daisy, dog daisy, day's eye, herb Margaret, bruise-work, bairnwort, bone flower, European daisy, lawndaisy, March daisy, marguerite
Evaluation date (mm/dd/yy):	03/11/05
Evaluator #1 Name/Title:	Tara Athan, Coordinator
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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 (Revised 9/13/05 Joe DiTomaso, Jake Sigg, Carla Bossard)
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	C	Rev'd, Sci. Pub'n
1.4	Impact on genetic integrity	D	Other Pub. Mat'l

Impact

Enter four characters from Q1.1-1.4 below:

DDCD

Using matrix, determine score and enter below:

D

2.1	Role of anthropogenic and natural disturbance	∩ (1 pt)	Observational
2.2	Local rate of spread with no management	∩ (1 pt)	Other Pub. Mat'l
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)	Observational
2.6	Potential for natural long-distance dispersal	∩ (1 pt)	Rev'd, Sci. Pub'n
2.7	Other regions invaded	∩ (2 pts)	Rev'd, Sci. Pub'n

Invasiveness

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

10

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	B	Rev'd, Sci. Pub'n
3.2	Distribution/Peak frequency Wksht C	D	Observational

Distribution

Using matrix, determine score and enter below:

C

Table 3. Documentation

Question 1.1 Impact on abiotic ecosystem processes	D Other Pub. Mat'l back
Identify ecosystem processes impacted: nutrient and mineral dynamics, but rarely found in wildlands. Primarily found on turf, but occasionally in moist grassy places, landscaped areas, gardens, pastures.	
Rationale: "has the potential to manufacture lime"	
Sources of information: Mitich, L.W. 1997 Weed Tech. 11:626-628. DiTomaso and Healy. 2006. Weeds of California. UC DANR Publ. #3488	
Question 1.2 Impact on plant community composition, structure, and interactions	D Observational back
Identify type of impact or alteration: Low impacts in wildlands, but can become locally dense. One of the assemblage of species invading coastal prairie.	
Rationale:	
Sources of information: Peter Warner, California Dept. of Parks and Recreation, pers. obs.	
Question 1.3 Impact on higher trophic levels	C Rev'd, Sci. Pub'n back
Identify type of impact or alteration: Minor impact to foraging sites for insects	
Rationale: "has an acrid secretion in its foliage that makes it unpalatable to insects"	
Sources of information: Mitich, L.W. 1997 Weed Tech. 11:626-628	
Question 1.4 Impact on genetic integrity	D Other Pub. Mat'l back
Identify impacts: None.	
Rationale: There are no species native to California in the genus Bellis.	
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 Other Pub. Mat'l back
Describe role of disturbance: Disturbance and cultural practices, esp. mowing and grazing, strongly affect the establishment of B. perennis.	
Rationale: "Disturbed or trampled moist grassy areas with bare patches favors English daisy establishment and	

spread. Closely mowed turf also encourages encroachment.	
Sources of information: DiTomaso, J. & Healy, E., "Weeds of California and Other Western States." As yet unpublished, Pg. 282-283.	
Question 2.2 Local rate of spread with no management	C Other Pub. Mat'l back
Describe rate of spread: Has been observed to spread rapidly under favorable conditions, but generally in urban areas.	
Rationale: In 1901, the following was written by Neltje Blanchan in Nature's Garden. "A naturalized immigrant from Europe and Asia, how could it so quickly take possession? In the over-cultivated Old World no weed can have half the chance for unrestricted colonizing that it has in our vast unoccupied area. Once released ... they find life here easy, pleasant; as if to make up for lost time, they increase a thousandfold... Small wonder that our fields are white with daisies"	
Sources of information: Durant, M. 1976. Who Named the Daisy? Who Named the Rose? New York, Dodd, Mead. 214 pp.	
Question 2.3 Recent trend in total area infested within state	C Observational back
Describe trend: no information	
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: reproduces vegetatively from rhizomes and by seed	
Rationale: Vegetative reproduction can occur by rhizomes or stolons, producing clonal mats. Rhizome fragments may also produce new plants. Also reproduces by seed. Flowering may occur year-round in mild climates. Pollination can be geitogonamous. Long-term adaptation to environmental conditions has occurred, as in the apparent reduction in stature in response to grazing pressure. Too many unknowns to score.	
Sources of information: DiTomaso, J. & Healy, E., "Weeds of California and Other Western States." As yet unpublished, Pg. 282-283. Mitich, L.W. 1997 Weed Tech. 11:626-628 Jenny-Dewajana Wild, E. M., and Gerhard Gottsberger. (2001, November 9-10). Pollinator attractants of Tussilago farfara and Bellis perennis (Asteraceae) in South Germany. Paper presented at the Workshop "Pflanzliche Signale in Tier-Pflanze-Interaktionen", Ulm. Warwick, W. I., & Briggs, D. (1980). The genecology of lawn weeds. IV. Adaptive significance of variation in Bellis perennis L. as revealed in a transplant experiment. New Phytologist, 85(2), 275-288.	

Question 2.5 Potential for human-caused dispersal	B Observational back
Identify dispersal mechanisms: Commercial sale, grass seed contaminant, in soil, by human foot traffic.	
Rationale: Ornamental cultivars are widely available commercially. "Achenes ... disperse ... with landscape maintenance, ... human foot traffic, and possibly as a grass seed contaminant." This species is not used as forage, erosion control or revegetation.	
Sources of information: DiTomaso, J. & Healy, E., "Weeds of California and Other Western States." As yet unpublished, Pg. 282-283.	
Question 2.6 Potential for natural long-distance dispersal	C Rev'd, Sci. Pub'n back
Identify dispersal mechanisms: Fruits (achenes) disperse with soil movement, in mud, by animal traffic, birds and ants.	
Rationale: enter text here	
Sources of information: DiTomaso, J. & Healy, E., "Weeds of California and Other Western States." As yet unpublished, Pg. 282-283. Mitich, L.W. 1997 Weed Tech. 11:626-628.	
Question 2.7 Other regions invaded	B Rev'd, Sci. Pub'n back
Identify other regions: England, Chile, New Zealand, Canada and much of the United States,	
Rationale: English daisy is one of the most common meadow and pasture wildflowers in England, although it is not native there. In the U.S., <i>B. perennis</i> is established in: Alaska, California, Connecticut, Illinois, Hawaii, Kentucky, Maine, Massachusetts, Michigan, New Hampshire, North Carolina, North Dakota, Tennessee, Vermont, Virginia, West Virginia, and Wisconsin. Establishment in wildlands other than meadows, coastal prairies and wastelands such as roadsides have not been reported.	
Sources of information: Mitich, L.W. 1997 Weed Tech. 11:626-628. Randall, R.A Global Compendium of Weeds. Retrieved 11 March, 2005, from http://www.hear.org/gcw/html/autogend/species/2640.HTM Bellis perennis; English Daisy. Retrieved 11 March, 2005, from http://www.borealforest.org/world/herbs_shrubs/english_daisy.htm USDA, NRCS. 2005. The PLANTS Database, Version 3.5 (http://plants.usda.gov). National Plant Data Center, Baton Rouge, LA 70874-4490 USA. Polster, D. (2005). Personal communication.	
Question 3.1 Ecological amplitude/Range	C Rev'd, Sci. Pub'n back
Describe ecological amplitude, identifying date of source information and approximate date of introduction to	

the state, if known: lawns, damp, grassy areas, generally <200 m	
<p>Rationale: Is considered common in its range, including damp grasslands in the following California Floristic Provinces: North Coast, Klamath Ranges, High North Coast Ranges, Inner North Coast Ranges, Outer North Coast Ranges, Central Coast, San Francisco Bay Area, Inner South Coast Ranges, Outer South Coast Ranges, South Coast, N Channel Islands, S Channel Islands, Western Transverse Ranges, San Gabriel Mountains, San Bernadino Mountains, Peninsular Ranges, San Jacinto Mountains</p> <p>The earliest reported observation of B.perennis is 1888 in Humboldt County.</p>	
<p>Sources of information: Hickman, J. C. (ed.) 1993. The Jepson Manual, Higher Plants of California. University of California Press. Berkeley, CA</p> <p>Bowcutt, F. (1994). A floristic study of Sinkyone Wilderness State Park, Mendocino County, California. The Wasmann Journal of Biology, 51(1-2), 64-143.</p>	
Question 3.2 Distribution/Peak frequency	D Observational back
Describe distribution: Sparse wildland infestations are probable.	
Rationale: Sparse infestations in wildlands have been reported, and there are no known reports of dense infestations.	
Sources of information: Warner, P. (2005). personal communication.	

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	Yes: 1 pt
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: 0 pts
Resprouts readily when cut, grazed, or burned	Yes: 1 pt
	5 pts 2 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	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	D. present
	valley and foothill grassland	score
	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	score
	riparian scrub (incl. desert washes)	score
Woodland	cismontane woodland	score
	piñon and juniper woodland	score
	Sonoran thorn woodland	score
Forest	broadleaved upland forest	score
	North Coast coniferous forest	D. present
	closed cone coniferous forest	D. present
	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).