

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):	Pennisetum clandestinum Hochst ex Chiov.
Synonyms:	
Common names:	kikuyugrass
Evaluation date (mm/dd/yy):	4/5/05
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:

All of the available information on kikuyu grass refers to its invasiveness in turf rather than wildlands.

Table 2. Criteria, Section, and Overall Scores

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

Impact

Enter four characters from Q1.1-1.4 below:

UCUD

Using matrix, determine score and enter below:

C

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

Low

No Alert

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

Distribution

Using matrix, determine score and enter below:

B

Table 3. Documentation

Question 1.1 Impact on abiotic ecosystem processes	U No Information back
Identify ecosystem processes impacted: Unknown, generally a landscape or turf problem.	
Rationale: enter text here	
Sources of information: enter text here	
Question 1.2 Impact on plant community composition, structure, and interactions	C Observational back
Identify type of impact or alteration: Some indication that the species can act as a cover crop and smother native species. Little published since it is not commonly a problem in wildlands.	
Rationale: enter text here	
Sources of information: DiTomaso, observational.	
Question 1.3 Impact on higher trophic levels	U No Information back
Identify type of impact or alteration: Unknown	
Rationale: enter text here	
Sources of information: enter text here	
Question 1.4 Impact on genetic integrity	D Other Pub. Mat'l back
Identify impacts: None	
Rationale: No native Pennisetum 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: In native range, occurs at forest margins and moves rapidly into cleared areas in the first stages of succession.	
Rationale: enter text here	
Sources of information: Wilen, C. A., and J. S. Holt. 1996. Physiological mechanisms for the rapid growth of	

Pennisetum clandestinum in Mediterranean climates. Weed Research. 36:213-225	
Question 2.2 Local rate of spread with no management	B Observational back
Describe rate of spread: Creeping rhizomes can increase population. Produces little seed so spread is mainly vegetative.	
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: no information	
Rationale: enter text here	
Sources of information: DiTomaso, observational	
Question 2.4 Innate reproductive potential	C Other Pub. Mat'l back
Describe key reproductive characteristics: Can rapidly produce new nodes and secondary stolons or rhizomes from the parent ramet (1).	
Rationale: enter text here	
Sources of information: 1. Wilen, C. A., and J. S. Holt. 1996. Physiological mechanisms for the rapid growth of Pennisetum clandestinum in Mediterranean climates. Weed Research. 36:213-225 DiTomaso and Healy. 2006. Weeds of California. UC DANR Publ. #3488.	
Question 2.5 Potential for human-caused dispersal	B Observational back
Identify dispersal mechanisms: Used as a turf grass in some coastal areas.	
Rationale: enter text here	
Sources of information: DiTomaso, observational.	
Question 2.6 Potential for natural long-distance dispersal	D Other Pub. Mat'l back
Identify dispersal mechanisms: Passage through gut of animals (1). Planted for turf or forage. Not much opportunity for natural long-distance movement.	

Rationale: Seeds can survive up to 10 days in the rumen of cattle (1).	
Sources of information: 1. Gardener, C.J., J. G. McIvor, A. Jansen. 1993. Survival of seeds of tropical grassland species subjected to bovine digestion. <i>Journal of Applied Ecology</i> . 30:75-85 DiTomaso and Healy. 2006. Weeds of California. UC DANR Publ. #3488.	
Question 2.7 Other regions invaded	B Rev'd, Sci. Pub'n back
Identify other regions: Native to the east and central highlands of Africa. Has become invasive in many parts of the world, including Australia and New Zealand (1). Also in Hawaii, Puerto Rico, and the Virgin Islands (2). Could possibly move into rangeland areas.	
Rationale: enter text here	
Sources of information: 1. Wilen, C. A., and J. S. Holt. 1996. Physiological mechanisms for the rapid growth of <i>Pennisetum clandestinum</i> in Mediterranean climates. <i>Weed Research</i> . 36:213-225 2. USDA, NRCS. 2005. The PLANTS Database, Version 3.5 (http://plants.usda.gov). National Plant Data Center, Baton Rouge, LA 70874-4490 USA.	
Question 3.1 Ecological amplitude/Range	A Other Pub. Mat'l back
Describe ecological amplitude, identifying date of source information and approximate date of introduction to the state, if known: Invasive in temperate coastal and near-coastal areas of California. Tolerates moderately cool temperatures (1). Present along coast from Mendocino to San Diego counties, and in Nevada county (2). Was introduced into California around 1918 and has spread inland to the Los Angeles Basin, and parts of the Sacramento and San Joaquin Valleys (3). Also gardens, landscaped areas, orchards, cropland, turf, forested sites, and occasionally wetland areas (4).	
Rationale: enter text here	
Sources of information: 1. Wilen, C. A., and J. S. Holt. 1996. Physiological mechanisms for the rapid growth of <i>Pennisetum clandestinum</i> in Mediterranean climates. <i>Weed Research</i> . 36:213-225 2. USDA, NRCS. 2005. The PLANTS Database, Version 3.5 (http://plants.usda.gov). National Plant Data Center, Baton Rouge, LA 70874-4490 USA 3. Elmore, C. L., V. A. Gibeault, and D. W. Cudney. 1997. Invasion resistance of tall fescue (<i>Festuca arundinaceae</i>) and perennial ryegrass (<i>Lolium perenne</i>) to kikuyugrass (<i>Pennisetum clandestinum</i>). <i>Weed Technology</i> . 11:24-29 4. DiTomaso and Healy. 2006. Weeds of California. UC DANR Publ. #3488.	
Question 3.2 Distribution/Peak frequency	D Observational back
Describe distribution: Not commonly encountered except in some areas of the central and southern coast.	

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.	No: 0 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	No: 0 pt
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
	3 pts Total Unknowns
	C (1-3)

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	D. presen
	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. presen
	valley and foothill grassland	score
	Great Basin grassland	score
	vernal pool	score
	meadow and seep	D. presen
	alkali playa	score
	pebble plain	score
Bog and Marsh	bog and fen	score
	marsh and swamp	D. presen
Riparian and Bottomland	riparian forest	D. presen
	riparian woodland	score
	riparian scrub (incl. desert washes)	D. presen
Woodland	cismontane woodland	score
	piñon and juniper woodland	score
	Sonoran thorn woodland	score
Forest	broadleaved upland forest	score
	North Coast coniferous forest	D. presen
	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).