

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):	Glyceria declinata Breb.
Synonyms:	Glyceria plicata var. declinata (Bréb.) Druce, Glyceria plicata subsp. declinata (Bréb.) E.J. Weeda
Common names:	mannagrass, sweetgrass, waxy mannagrass
Evaluation date (mm/dd/yy):	7/18/05
Evaluator #1 Name/Title:	Elizabeth Brusati, project manager
Affiliation:	California Invasive Plant Council
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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, Cynthia Roye, Peter Warner, Joe DiTomaso
Committee review date:	8/15/05
List date:	enter text here
Re-evaluation date(s):	enter text here

General comments on this assessment:

This species has been thought to be the same as native *Glyceria occidentalis*. However, new taxonomic evidence shows that they are different species, and Carol Witham with CNPS says they differ in both habit and habitat.

Table 2. Criteria, Section, and Overall Scores

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

Impact

Enter four characters from Q1.1-1.4 below:

UBBU

Using matrix, determine score and enter below:

B

2.1	Role of anthropogenic and natural disturbance	3 pts	Rev'd, Sci. Pub'n
2.2	Local rate of spread with no management	2 pts	Observational
2.3	Recent trend in total area infested within state	2 pts	Other Pub. Mat'l
2.4	Innate reproductive potential Wksht A	2 pts	Observational
2.5	Potential for human-caused dispersal	0 pts	No Information
2.6	Potential for natural long-distance dispersal	1 pt	Anecdotal
2.7	Other regions invaded	1 pt	Other Pub. Mat'l

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:

Medium

No Alert

3.1	Ecological amplitude/Range	B	Other Pub. Mat'l
3.2	Distribution/Peak frequency Wksht C	C	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: Good at denitrification and reduction of NO ₃ - to ammonium. No evidence of this in wildland areas.	
Rationale: enter text here	
Sources of information: Matheson F.E. et al. 2002. Fate of 15N-nitrate in unplanted, planted and harvested riparian wetland soil microcosms. Ecological Engineering 19: 249-264.	
Question 1.2 Impact on plant community composition, structure, and interactions	B Observational back
Identify type of impact or alteration: Can form monoclonal stands, especially in vernal pools with a high clay content. Displaces and shades out native vegetation, decreases germination of native forbs. Threatens endangered Sacramento orcutt grass (<i>Orcuttia viscida</i>) in pools where <i>Glyceria</i> has invaded.	
Rationale: enter text here	
Sources of information: Carol Witham, vernal pool biologist, California Native Plant Society (Sacramento) and www.vernalpools.org . Personal observations.	
Question 1.3 Impact on higher trophic levels	B Observational back
Identify type of impact or alteration: Changes vernal pool food web towards more opportunistic feeders. Reduces abundance of listed Brachiopods	
Rationale: enter text here	
Sources of information: Carol Witham, vernal pool biologist, California Native Plant Society (Sacramento) and www.vernalpools.org . Personal observations Proceedings of the 1998 Vernal Pool .	
Question 1.4 Impact on genetic integrity	U No Information back
Identify impacts: There are six species of native <i>Glyceria</i> in California. No information on hybridization.	
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	A Rev'd, Sci. Pub'n back
Describe role of disturbance: Likes wet, disturbed places. In California, occurs in vernal pools that are disturbed	

as well as those in good condition.	
Rationale: In Poland, all habitats of <i>G. declinata</i> are moist, sodden, periodically flooded, subjected to moderate trampling or grazing. Typical areas are roadsides or paths over moist meadows and on the borders of ponds.	
Sources of information: Mirek, Z. and T. Zaluski. 1986. <i>Glyceria-Declinata</i> Breb. Gramineae in Poland Distribution and Habitats. <i>Acta Societatis Botanicorum Poloniae</i> 55(3): 505-516. Carol Witham, vernal pool biologist, California Native Plant Society (Sacramento) and www.vernalpools.org . Personal observations.	
Question 2.2 Local rate of spread with no management	B Observational back
Describe rate of spread: Has increased during the last several years.	
Rationale: enter text here	
Sources of information: Carol Witham, vernal pool biologist, California Native Plant Society (Sacramento) and www.vernalpools.org . Personal observations.	
Question 2.3 Recent trend in total area infested within state	B Observational back
Describe trend: A few years ago was seen only occasionally in Central Valley vernal pools, but now it occurs in many places, even pools that are relatively undisturbed.	
Rationale: enter text here	
Sources of information: Carol Witham, vernal pool biologist, California Native Plant Society (Sacramento) and www.vernalpools.org . Personal observations.	
Question 2.4 Innate reproductive potential	B Observational back
Describe key reproductive characteristics: Perennial, rhizomatous grass. Culms root at lower nodes.	
Rationale: enter text here	
Sources of information: <i>Glyceria</i> key from Mary Barkworth, Utah State University.	
Question 2.5 Potential for human-caused dispersal	U No Information back
Identify dispersal mechanisms: No information.	

Rationale: enter text here	
Sources of information: enter text here	
Question 2.6 Potential for natural long-distance dispersal	C Anecdotal back
Identify dispersal mechanisms: Seeds might be spread by sticking in mud on the feet of cows or birds.	
Rationale: enter text here	
Sources of information: Carol Witham, vernal pool biologist, California Native Plant Society (Sacramento) and www.vernalpools.org . Personal observations.	
Question 2.7 Other regions invaded	C Other Pub. Mat'l back
Identify other regions: Native to Europe. Introduced in New Zealand. Also found in Nevada and New York.	
Rationale: enter text here	
Sources of information: Shaw, W. B., and R. B. Allen. 2003. Ecological impacts of sea couch and saltwater paspalum in Bay of Plenty estuaries. DOC Science Internal Series 113. Department of Conservation, Wellington New Zealand. Available: http://www.doc.govt.nz/publications/004~science-and-research/DOC-Science-Internal-Series/PDF/DSIS113.pdf	
Champion, P., J. Clayton, and D. Rowe. 2003. Lake Manager's Handbook: Alien Invaders. 2002. New Zealand Ministry of the Environment. Ref. ME444. Available: http://www.mfe.govt.nz/publications/water/lm-alien-invaders-jun02.pdf	
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	B Other Pub. Mat'l back
Describe ecological amplitude, identifying date of source information and approximate date of introduction to the state, if known: Uncommon in moist canyons and meadows, also reported from Central Valley (GV) vernal pools, but genetic research is needed to confirm identify. Listed as "need more information" on Cal-IPC 1999 list.	
Mary Barkworth at Utah State University has confirmed that it is a different species than native <i>Glyceria occidentalis</i> . May also invade freshwater marshes and moist swales.	
Rationale:	
Sources of information: Clark, G.M., T. J. Roscoe, and M. J. Van Ess. 1998. Management considerations for small vernal pool preserves - the Phoenix vernal pools. pp. 250-254 in C. W. Witham, E. T. Bauder, D. Belk, W. R. Ferren Jrl, and R. Ornduff (eds). Ecology, conservation, management of vernal pool ecosystems -	

proceedings from a 1996 conference. California Native Plant Society, Sacramento, Ca.
<http://www.vernalpools.org/proceedings/roscoe.pdf>.

DiTomaso and Healy. 2006. Weeds of California. UC DANR Publ. #3488/

Carol Witham, vernal pool biologist, California Native Plant Society (Sacramento) and www.vernalpools.org.
Personal observations.

Question 3.2 Distribution/Peak frequency

C Observational [back](#)

Describe distribution: Becoming more common in Central Valley vernal pools.

Rationale: enter text here

Sources of information: DiTomaso, observational.

Carol Witham, vernal pool biologist, California Native Plant Society (Sacramento) and www.vernalpools.org.
Personal observations.

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	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
	4 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	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	score
	Great Basin grassland	score
	vernal pool	C. 5-20%
	meadow and seep	D. present
	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	score
	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).