

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):	Geranium dissectum L.
Synonyms:	Geranium laxum Hanks
Common names:	cutleaf geranium
Evaluation date (mm/dd/yy):	06/10/05
Evaluator #1 Name/Title:	Peter Warner
Affiliation:	California Dept. of Parks & Recreation
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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, Bob Case, Peter Warner, 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:

This PAF based primarily on the personal observations of the evaluator.

Table 2. Criteria, Section, and Overall Scores

1.1	Impact on abiotic ecosystem processes	U	No Information
1.2	Impact on plant community	D	Observational
1.3	Impact on higher trophic levels	U	No Information
1.4	Impact on genetic integrity	U	No Information

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

2.1	Role of anthropogenic and natural disturbance	B 2	Observational
2.2	Local rate of spread with no management	B 2	Observational
2.3	Recent trend in total area infested within state	C 1	Other Pub. Mat'l
2.4	Innate reproductive potential Wksht A	B 2	Observational
2.5	Potential for human-caused dispersal	A 3	Observational
2.6	Potential for natural long-distance dispersal	C 1	Observational
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:
12
 Use matrix to determine score and enter below:
B

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

3.1	Ecological amplitude/Range	A	Observational
3.2	Distribution/Peak frequency Wksht C	A	Observational

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

Table 3. Documentation

Question 1.1 Impact on abiotic ecosystem processes	U No Information back
Identify ecosystem processes impacted: None known.	
Rationale: enter text here	
Sources of information: enter text here	
Question 1.2 Impact on plant community composition, structure, and interactions	D Observational back
Identify type of impact or alteration: Once established, <i>G. dissectum</i> appears to displace herbaceous native plant species; dense infestations could preclude, to an unknown degree, development of perennials and even woody species. However, this plant is primarily dominant and weedy in disturbed areas, not so much so in relatively intact plant communities.	
Rationale: Impact assessed based on observed density and dominance of <i>G. dissectum</i> in some plant communities.	
Sources of information: Warner, PJ. 1996-2005. Personal observations in San Mateo, San Francisco, Marin, Sonoma, and Mendocino Counties, CA. 707-937-9172/pwarn@parks.ca.gov	
Question 1.3 Impact on higher trophic levels	U No Information back
Identify type of impact or alteration: Could sharp-tipped fruits be injurious to animals?	
Rationale: enter text here	
Sources of information: enter text here	
Question 1.4 Impact on genetic integrity	U No Information back
Identify impacts: This species could hybridize with its native congeners, but this potential element of risk is unknown.	
Rationale: enter text here	
Sources of information: enter text here	
Question 2.1 Role of anthropogenic and natural disturbance in establishment	B Observational back
Describe role of disturbance: <i>G. dissectum</i> appears to be more invasive in disturbed areas, such as long-grazed pastures or woodlands, trailsides, and sand dunes. However, some areas of relatively stable hind-dunes along the northern Calif. coast, as well as formerly grazed interior oak woodlands and grasslands, are infested with <i>G. dissectum</i> , suggesting that frequent or sustained disturbance are not necessary for its persistence in some areas.	

Rationale: Persistence in areas not recently or frequently disturbed.	
Sources of information: Warner, PJ. 1996-2005. Personal observations in San Mateo, San Francisco, Marin, Sonoma, and Mendocino Counties, CA. 707-937-9172/pwarn@parks.ca.gov	
Question 2.2 Local rate of spread with no management	B Observational back
Describe rate of spread: Without new disturbance, <i>G. dissectum</i> does not appear to spread rapidly. However, it will establish in new areas on a limited basis, but generally does not form dominant colonies where other species are already well established.	
Rationale: enter text here	
Sources of information: Warner, PJ. 1996-2005. Personal observations in San Mateo, San Francisco, Marin, Sonoma, and Mendocino Counties, CA. 707-937-9172/pwarn@parks.ca.gov	
Question 2.3 Recent trend in total area infested within state	C Observational back
Describe trend: This plant has been well established in California for many years; area infested would seem likely to be stable.	
Rationale: duration of establishment, and widespread distribution in CA	
Sources of information: Warner, PJ. 1996-2005. Personal observations in San Mateo, San Francisco, Marin, Sonoma, and Mendocino Counties, CA. 707-937-9172/pwarn@parks.ca.gov	
Question 2.4 Innate reproductive potential	B Observational back
Describe key reproductive characteristics: dense populations capable of producing copious amounts of seed over a prolonged period.	
Rationale: While uncertain of seed longevity, the widespread distribution and persistence of this species suggests that its reproductive strategy is well-suited to disturbance and to sustaining its populations on favorable sites.	
Sources of information: Warner, PJ. 1996-2005. Personal observations in San Mateo, San Francisco, Marin, Sonoma, and Mendocino Counties, CA. 707-937-9172/pwarn@parks.ca.gov	
Question 2.5 Potential for human-caused dispersal	A Observational back
Identify dispersal mechanisms: long--awned fruits that stick in clothing, machinery; also spread in contaminated hay or grain	
Rationale: inference	

Sources of information: Warner, PJ. 1996-2005. Personal observations in San Mateo, San Francisco, Marin, Sonoma, and Mendocino Counties, CA. 707-937-9172/pwarn@parks.ca.gov	
Question 2.6 Potential for natural long-distance dispersal	C Observational back
Identify dispersal mechanisms: Fruits can become attached to animal fur.	
Rationale: same mechanism (long-awned fruits) as for human clothing would seem likely to apply to animal fur	
Sources of information: Warner, PJ. 1996-2005. Personal observations in San Mateo, San Francisco, Marin, Sonoma, and Mendocino Counties, CA. 707-937-9172/pwarn@parks.ca.gov	
Question 2.7 Other regions invaded	C Observational back
Identify other regions: Native to Europe; widespread in North America; not as common in Plains and intermountain West (1). From CalFlora Database, <i>G. dissectum</i> appears to have invaded most parts (and ecosystems) in CA (2).	
Rationale: widespread distribution	
Sources of information:	
<ol style="list-style-type: none"> 1. USDA, NRCS. 2004. The PLANTS Database, Version 3.5 (http://plants.usda.gov) .National Plant Data Center , Baton Rouge, LA 70874-4490 USA. 2. CalFlora: Information on California plants for education, research and conservation. [web application]. 2005. Berkeley, California: The CalFlora Database [a non-profit organization]. Available: http://www.calflora.org/. [Accessed: 65 July 2005] 	
Question 3.1 Ecological amplitude/Range	A Doc'n level back
Describe ecological amplitude, identifying date of source information and approximate date of introduction to the state, if known: I've observed <i>G. dissectum</i> in virtually every coastal plant community, as well as numerous North Coast Range lower elevation plant communities; the plant is also common in interior woodlands and grasslands (1). Most counties in Calif. report <i>G. dissectum</i> as occurring (2).	
Rationale: enter text here	
Sources of information: 1. Warner, PJ. 1996-2005. Personal observations in San Mateo, San Francisco, Marin,	

Sonoma, and Mendocino Counties, CA. 707-937-9172/pwarn@parks.ca.gov

2. CalFlora: Information on California plants for education, research and conservation. [web application]. 2005.

Berkeley, California: The CalFlora Database [a non-profit organization].

Available: <http://www.calflora.org/>.

[Accessed: 65 July 2005]

Question 3.2 Distribution/Peak frequency

A Doc'n level [back](#)

Describe distribution: Common in many ecological types, based on my plant lists of various habitat types in northern CA; also observed in several southern CA ecosystems.

Rationale: enter text here

Sources of information: Warner, PJ. 1996-2005. Personal observations in San Mateo, Marin, Sonoma, and Mendocino Counties, CA. 707-937-9172/pwarn@parks.ca.gov

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	Yes: 2 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	No: 0 pt
Fragments easily and fragments can become established elsewhere	No: 0 pts
Resprouts readily when cut, grazed, or burned	No: 0 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	B. 21-50
	desert	score
	interior	score
Scrub and Chaparral	coastal bluff scrub	B. 21-50
	coastal scrub	C. 5-20%
	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	A. >50%
	valley and foothill grassland	A. >50%
	Great Basin grassland	score
	vernal pool	score
	meadow and seep	C. 5-20%
	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	C. 5-20%
	riparian scrub (incl. desert washes)	score
Woodland	cismontane woodland	B. 21-50
	piñon and juniper woodland	score
	Sonoran thorn woodland	score
Forest	broadleaved upland forest	C. 5-20%
	North Coast coniferous forest	D. present
	closed cone coniferous forest	C. 5-20%
	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).