

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):	Conicosia pugioniformis (L.) N.E. Br.
Synonyms:	Mesembryanthemum elongatum
Common names:	narrow-leafed iceplant, false iceplant, conicosia
Evaluation date (mm/dd/yy):	4/6/05
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

<p>General comments on this assessment: Information needed on dispersal mechanisms.</p>
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Table 2. Criteria, Section, and Overall Scores

1.1	Impact on abiotic ecosystem processes	U	No Information
1.2	Impact on plant community	C	Other Pub. Mat'l
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)	Other Pub. Mat'l
2.2	Local rate of spread with no management	B (2 pts)	Other Pub. Mat'l
2.3	Recent trend in total area infested within state	B (2 pts)	Anecdotal
2.4	Innate reproductive potential Wksht A	A (3 pts)	Other Pub. Mat'l
2.5	Potential for human-caused dispersal	C (1 pt)	Anecdotal
2.6	Potential for natural long-distance dispersal	D (0 pts)	Observational
2.7	Other regions invaded	C (1 pt)	Other Pub. Mat'l

Invasiveness

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

11

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:

Low
No Alert

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

Distribution

Using matrix, determine score and enter below:

C

Table 3. Documentation

<p>Question 1.1 Impact on abiotic ecosystem processes</p>	<p>U No Information back</p>
<p>Identify ecosystem processes impacted: No information</p>	
<p>Rationale: Other members of this family are known to alter soil chemistry, but there is no information for Conicosia pugioniformis.</p>	
<p>Sources of information: 1. Albert, M., and C. D'Antonio. 2000. Conicosia pugioniformis. pp. 116-119 in Bossard, C. C. , J. M. Randall, and M. C. Hoshovsky. Invasive Plants of California's Wildlands. University of California Press, Berkeley, CA. Also on-line: http://groups.ucanr.org/ceppc/Invasive_Plants_of_California's_Wildlands/</p>	
<p>Question 1.2 Impact on plant community composition, structure, and interactions</p>	<p>C Other Pub. Mat'l back</p>
<p>Identify type of impact or alteration: Can cover or be interspersed with other vegetation and can be locally abundant. However, unlike Carpobrotus iceplant, it does not form large clonal mats (1). Can overtake rare native plants on dunes (2). Locally abundant on Tomales Bay, Marin County (3) and in Morro Bay (4).</p>	
<p>Rationale: enter text here</p>	
<p>Sources of information: 1. Albert, M., and C. D'Antonio. 2000. Conicosia pugioniformis. pp. 116-119 in Bossard, C. C. , J. M. Randall, and M. C. Hoshovsky. Invasive Plants of California's Wildlands. University of California Press, Berkeley, CA. Also on-line: http://groups.ucanr.org/ceppc/Invasive_Plants_of_California's_Wildlands/</p> <p>2. Land Conservancy of San Luis Obispo. 2004. Dune Restoration Framework. Available: http://www.special-places.org/dunesframework.htm. Accessed: 4/6/05</p> <p>3. Gluesenkamp, Dan, biologist, Audubon Canyon Ranch. personal communication 2/24/05</p> <p>4. Knapp, John. Catalina Island Conservancy. pers. obs.</p>	
<p>Question 1.3 Impact on higher trophic levels</p>	<p>U No Information back</p>
<p>Identify type of impact or alteration: No information</p>	
<p>Rationale: enter text here</p>	
<p>Sources of information: enter text here</p>	
<p>Question 1.4 Impact on genetic integrity</p>	<p>D Other Pub. Mat'l back</p>
<p>Identify impacts: None</p>	
<p>Rationale: No native Conicosia (or Mesembryanthemum) in California</p>	

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 Other Pub. Mat'l back
Describe role of disturbance: Invades areas with natural or anthropogenic disturbance, including open areas in foredunes and maritime chaparral after fire (1). Spreads along roadsides or trails (2).	
Rationale: enter text here	
Sources of information: 1. Albert and D'Antonio 2000 2. Bill Deneen, San Luis Obispo, personal communication. 2/24/05	
Question 2.2 Local rate of spread with no management	B Other Pub. Mat'l back
Describe rate of spread: Seeds from dense populations can spread into adjacent areas. Plants can grow to several feet in diameter in a single growing season (1).	
Rationale: Observed to be spreading around Tomales Bay, Marin County (2), and on the Guadalupe-Nipomo Dunes in San Luis Obispo (3, 4).	
Sources of information: 1. Albert and D'Antonio 2000 2. Gluesenkamp, Dan, biologist, Audubon Canyon Ranch. personal communication 2/24/05 3. Thackery, Wendy, ecologist/botanist, The Land Conservancy of San Luis Obispo. personal communication 2/24/05 4. Denneen, Bill, San Luis Obispo, personal communication, 2/24/05	
Question 2.3 Recent trend in total area infested within state	B Anecdotal back
Describe trend: Based on comments in e-mails above, it seems to be spreading. Was not present at Nipomo Dunes twenty years ago, but has become a significant problem since then. The USDA PLANTS database (http://plants.usda.gov) lists it only in Santa Barbara county, but obviously it has spread beyond that.	
Rationale: enter text here	
Sources of information: 1. Thackery, Wendy, ecologist/botanist, The Land Conservancy of San Luis Obispo. personal communication 2/24/05 2. Denneen, Bill, San Luis Obispo, personal communication, 2/24/05	
Question 2.4 Innate reproductive potential	A Other Pub. Mat'l back
Describe key reproductive characteristics: Short-lived succulent. Fruit is cone-shaped capsule that splits open when drying and is easily dispersed by wind, spilling seeds as it tumbles. Individual capsules produce tens to	

hundreds of seeds. Unlike Carpobrotus iceplant, Conicosia does not root along trailing shoots. No spread by vegetative propagules. Plants flower in summer or fall of their first or second year and every subsequent year. Evergreen shoots may grow year-round. Plants can resprout from the buried root crown after aboveground tissue is removed.
Rationale:
Sources of information: Albert and D'Antonio 2000
Question 2.5 Potential for human-caused dispersal C Anecdotal back
Identify dispersal mechanisms: Spreads along roadsides or trails (1), so seeds could be spread by human either directly by seed capsule sticking to clothing or indirectly by paths in the dunes. Means of dispersal unclear.
Rationale: enter text here
Sources of information: 1. Denneen, Bill, San Luis Obispo, personal communication, 2/24/05
Question 2.6 Potential for natural long-distance dispersal D Observational back
Identify dispersal mechanisms: Fruit is cone-shaped capsule that splits open when drying and can be dispersed by wind, spilling seeds as it tumbles. However, most seed simply fall at the base of parent plant and wind would not move seed 1 km.
Rationale: Unknown how far the seed is able to be carried.
Sources of information: DiTomaso, observational Albert and D'Antonio 2000
Question 2.7 Other regions invaded C Other Pub. Mat'l back
Identify other regions: Native to South Africa. Probably introduced to US as an ornamental in the early 1900's.
Rationale: Scoring as C because it already invades a range of habitats in California.
Sources of information: Albert and D'Antonio 2000
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: Found from Point Reyes Peninsula (1) to Point Conception (2). Has only recently (1980's) been recognized as an important component of California coastal habitats. In California, generally found on coastal dunes and bluff scrub, but possibly could invade coastal scrub, coastal prairie, and maritime chaparral. Seems to require well-drained, sandy soil (2).

Rationale: enter text here	
Sources of information: 1. Gluesenkamp, Dan, biologist, Audubon Canyon Ranch. personal communication 2/24/05 2. Albert and D'Antonio 2000	
Question 3.2 Distribution/Peak frequency	D Observational back
Describe distribution: Not very common in California.	
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	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	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	No: 0 pt
Fragments easily and fragments can become established elsewhere	Yes: 2 pts
Resprouts readily when cut, grazed, or burned	Yes: 1 pt
	7 pts 2 unknowns
	A (6+ pts)
Note any related traits:	

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	D. presen
	desert	score
	interior	score
Scrub and Chaparral	coastal bluff scrub	D. presen
	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	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	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).