

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):	Lobularia maritima (L.) Desv,
Synonyms:	Alyssum maritimum, A. odoratum, Clypeola maritima, Koniga m.
Common names:	sweet alyssum, sweet alison, seaside alyssum, seaside lobularia
Evaluation date (mm/dd/yy):	01/20/06
Evaluator #1 Name/Title:	Peter J. Warner
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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:	Peter Warner, Jake Sigg, Joe DiTomaso, Cynthia Roye
Committee review date:	January 24, 2006
List date:	enter text here
Re-evaluation date(s):	enter text here

General comments on this assessment:

Not much quantified ecological information on this species is available. Assessment based primarily on limited internet search and personal observations by evaluator and others (see CalFlora reference).

Table 2. Criteria, Section, and Overall Scores

1.1	Impact on abiotic ecosystem processes	D	Observational
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:
DCUD
 Use matrix determine the score; enter below:
C

2.1	Role of anthropogenic and natural disturbance	B 2	Other Pub. Mat'l
2.2	Local rate of spread with no management	A 3	Observational
2.3	Recent trend in total area infested within state	B 2	Observational
2.4	Innate reproductive potential Wksht A	A 3	Other Pub. Mat'l
2.5	Potential for human-caused dispersal	A 3	Other Pub. Mat'l
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:
15
 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:
Low
No Alert

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

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

Table 3. Documentation

Question 1.1 Impact on abiotic ecosystem processes	D Observational back
Identify ecosystem processes impacted: Adds organic matter (litter) and undetermined amount of nutrients that could be substantial in some otherwise nutrient-poor substrates (e.g., rocky coastal bluffs) contributing to soil development or enrichment (1). However, this hypothesis has not been empirically validated.	
Rationale: Weak inference, based on observations of this species and its litter in rock crevices on coastal bluffs (1); this is essentially an untested hypothesis, so does not merit a higher score.	
Sources of information: 1. Warner, PJ. 2006. Personal observations, 1995-2006. San Mateo, San Francisco, Marin, Sonoma, Mendocino Counties. 707/937-2278; corylus@earthlink.net	
Question 1.2 Impact on plant community composition, structure, and interactions	C Observational back
Identify type of impact or alteration: In some habitats, such as coastal terrace prairie and coastal scrub, this plant displaces native plants (especially annuals), in others, may occupy habitats not otherwise populated with native plants (1).	
Rationale: Conservatively, has relatively minor impact on displacement of native plants, but this could be an underestimation of its impacts, especially on smaller native species (1).	
Sources of information: Warner, PJ. 2006. Personal observations, 1995-2006. San Mateo, San Francisco, Marin, Sonoma, Mendocino Counties. 707/937-2278; corylus@earthlink.net	
Question 1.3 Impact on higher trophic levels	U No Information back
Identify type of impact or alteration: No published or observational information.	
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 likely(1); no congeneric species are native to California (2, 3).	
Rationale: Inferred from lack of congeners native to California (1).	
Sources of information: 1. Warner, PJ. 2006. Inference from published information. 707/937-2278; corylus@earthlink.net	
2. CalFlora: Information on California plants for education, research and conservation. [web application]. 2000. Berkeley, California: The CalFlora Database [a non-profit organization]. Available: http://www.calflora.org/ . [Accessed: 20 January 2006.	

<p>3. Hickman, JC (editor). 1993. The Jepson Manual: Higher Plants of California. University of California Press, Berkeley.</p>	
<p>Question 2.1 Role of anthropogenic and natural disturbance in establishment</p>	<p>B Other Pub. Mat'l back</p>
<p>Describe role of disturbance: Disturbance clearly facilitates establishment of this species (1, 2, 3) yet is not essential if seed sources are locally abundant, especially in available ecological niches. Invasiveness appears to be of greater potential in early successional or disturbed sites (4), including dunes, creekbeds, rocky bluffs.</p>	
<p>Rationale: Based on comments about habitat types, and physical characteristics of invaded sites (1, 2, 3), and observations of habitats and ecological niches occupied (4).</p>	
<p>Sources of information: 1. Hickman, JC (editor). 1993. The Jepson Manual: Higher Plants of California. University of California Press, Berkeley.</p> <p>2. CalFlora: Information on California plants for education, research and conservation. [web application]. 2000. Berkeley, California: The CalFlora Database [a non-profit organization]. Available: http://www.calflora.org/. [Accessed: 20 January 2006.</p> <p>3. http://plants.montara.com. 2006.</p> <p>4. Warner, PJ. 2006. Personal observations, 1995-2006. San Mateo, San Francisco, Marin, Sonoma, Mendocino Counties. 707/937-2278; corylus@earthlink.net</p>	
<p>Question 2.2 Local rate of spread with no management</p>	<p>A Observational back</p>
<p>Describe rate of spread: Observations from landscaped environments, as well as coastal scrub, dune, and coastal bluff habitats, suggest this plant is capable of spreading rapidly into suitable, available niches in the garden or in the wild (1).</p>	
<p>Rationale: In one garden I maintained (Sonoma Co.), a single alyssum plant planted one year often resulted in dozens of alyssum plants occupying several times more space by the following spring (1). Seeds are also clearly well-dispersed by wind along the coast, and plants flower and produce seeds much of the year (1).</p>	
<p>Sources of information: 1. Warner, PJ. 2006. Personal observations, 1995-2006. San Mateo, San Francisco, Marin, Sonoma, Mendocino Counties. 707/937-2278; corylus@earthlink.net</p>	
<p>Question 2.3 Recent trend in total area infested within state</p>	<p>B Observational back</p>
<p>Describe trend: Probably increasing.</p>	
<p>Rationale: Inference (3): Most observations have been posted within past 10 years (1), yet Jepson cites only waste sites as "habitat" (2). The sites I've observed supporting this plant, but yet have not been documented (3), suggest that occurrences of this species may be underreported.</p>	
<p>Sources of information: 1. CalFlora: Information on California plants for education, research and conservation. [web application]. 2000. Berkeley, California: The CalFlora Database [a non-profit organization]. Available:</p>	

<p>http://www.calflora.org/. [Accessed: 20 January 2006].</p> <p>2. Hickman, JC (editor). 1993. The Jepson Manual: Higher Plants of California. University of California Press, Berkeley.</p> <p>3. Warner, PJ. 2006. Personal observations, 1995-2006. San Mateo, San Francisco, Marin, Sonoma, Mendocino Counties. 707/937-2278; corylus@earthlink.net</p>	
Question 2.4 Innate reproductive potential	A Other Pub. Mat'l back
<p>Describe key reproductive characteristics: Prolific and dense flowering over extended periods in milder climates (1); seeds do not appear persistent in garden soils (1); produces embryonic roots along cotyledon margins (2); resprouts well in the garden following shearing, at least for a few years (1).</p>	
<p>Rationale: enter text here</p>	
<p>Sources of information: 1. Warner, PJ. 2006. Personal observations, 1995-2006. San Mateo, San Francisco, Marin, Sonoma, Mendocino Counties. 707/937-2278; corylus@earthlink.net</p> <p>2. Hickman, JC (editor). 1993. The Jepson Manual: Higher Plants of California. University of California Press, Berkeley.</p>	
Question 2.5 Potential for human-caused dispersal	A Other Pub. Mat'l back
<p>Identify dispersal mechanisms: Widely sold by too many businesses and web-merchandisers to list (e.g., see (1, 2); extremely common in window boxes, sidewalk planters, gardens, parking lots, flower pots (3).</p>	
<p>Rationale: sheer volume of this species I've observed being sold and planted (3)</p>	
<p>Sources of information: 1. http://davesgarden.com/pf/go/230/</p> <p>2. http://www.maltawildplants.com/CRUC/Lobularia_maritima.html</p> <p>3. Warner, PJ. 2006. Personal observations, 1995-2006. San Mateo, San Francisco, Marin, Sonoma, Mendocino Counties. 707/937-2278; corylus@earthlink.net</p>	
Question 2.6 Potential for natural long-distance dispersal	C Observational back
<p>Identify dispersal mechanisms: Not known for sure, but probably not great: fruits and seeds are relatively unsubstantial, although could be a food source for birds or rodents. Seeds probably do move in wind locally, given the observed spread of the species from adjacent gardens and other sources (1) into nearby wild landscapes.</p>	
<p>Rationale: Inference (1) from observations.</p>	
<p>Sources of information: 1. Warner, PJ. 2006. Personal observations, 1995-2006. San Mateo, San Francisco, Marin, Sonoma, Mendocino Counties. 707/937-2278; corylus@earthlink.net</p>	

Question 2.7 Other regions invaded	C Other Pub. Mat'l back
Identify other regions: Numerous islands in Pacific (1) including Hawai'i; Australia (2); Washington (state; 3); Wyoming (4); California coastal counties, a few interior counties (5, 6). Maritime influence appears a common denominator for most out-of-state occurrences, with the notable exception of Wyoming.	
Rationale: Not much specific information on the types of habitats invaded in other states or countries; general distribution suggests Lobularia is weedy mostly in milder coastal areas, with the notable exception of Wyoming. It's possible that new habitat types could be invaded, but most likely would appear to be coastal types already invaded.	
Sources of information: 1. Pacific Island Ecosystems at Risk. 2006. http://www.hear.org/pier/species/lobularia_maritima.htm 2. http://tncweeds.ucdavis.edu/global/australia/ath.html 3. http://admin.urel.washington.edu 4. http://www.uwyo.edu/ 5. CalFlora: Information on California plants for education, research and conservation. [web application]. 2000. Berkeley, California: The CalFlora Database [a non-profit organization]. Available: http://www.calflora.org/ . [Accessed: 20 January 2006]. 6. Warner, PJ. 2006. Personal observations, 1995-2006. San Mateo, San Francisco, Marin, Sonoma, Mendocino Counties. 707/937-2278; corylus@earthlink.net	
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: Coastal bluffs and dunes, coastal scrub, coastal terrace prairie, coastal salt marshes, riparian corridors, dry interior S. Calif. washes, disturbed urban and waste sites (1, 2, 3, 4, 5, 6)	
Rationale: enter text here	
Sources of information: 1. CalFlora: Information on California plants for education, research and conservation. [web application]. 2000. Berkeley, California: The CalFlora Database [a non-profit organization]. Available: http://www.calflora.org/ . [Accessed: 20 January 2006]. 2. http://plants.montara.com 3. http://www.asla-sandiego.org 4. http://www.friendsofcortemaderacreek.org 5. Hickman, JC (editor). 1993. The Jepson Manual: Higher Plants of California. University of California Press, Berkeley. 6. Warner, PJ. 2006. Personal observations, 1995-2006. San Mateo, San Francisco, Marin, Sonoma, Mendocino Counties. 707/937-2278; corylus@earthlink.net	
Question 3.2 Distribution/Peak frequency	D Observational back
Describe distribution: Close to unknown, but does not appear widely distributed except in scattered locations (1)	

Rationale: No documentation, so a conservative estimate (1) of the species' distribution in the listed types invaded.

Sources of information: 1. Warner, PJ. 2006. Personal observations, 1995-2006. San Mateo, San Francisco, Marin, Sonoma, Mendocino Counties. 707/937-2278; corylus@earthlink.net

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	Yes: 1 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	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
	8 pts 1 unknown
	A (6+ pts)

Note any related traits: Prolific and dense flowering over extended periods in milder climates (1); seeds do not appear persistent in garden soils (1); produces embryonic roots along cotyledon margins (2); resprouts well in the garden following shearing, at least for a few years (1).

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. present
	desert	score
	interior	score
Scrub and Chaparral	coastal bluff scrub	D. present
	coastal scrub	D. present
	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	D. present
Riparian and Bottomland	riparian forest	score
	riparian woodland	D. present
	riparian scrub (incl. desert washes)	D. present
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).