

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):	Melilotus officinalis (L.) Lam.
Synonyms:	M. graveolens, M. vulgaris, Trifolium melilotus var. officinalis, T. officinale
Common names:	yellow sweetclover, field melilot, ribbed melilot, yellow melilot
Evaluation date (mm/dd/yy):	4/5/05
Evaluator #1 Name/Title:	Elizabeth Brusati, project manager
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Section below for list committee use—please leave blank

List committee members:	Carla Bossard, John Randall, Carri Pirosko, Dan Gluesenkamp, Gina Skurka, Brianna Richardson
Committee review date:	7/8/05
List date:	enter text here
Re-evaluation date(s):	enter text here

General comments on this assessment:

enter text here

Table 2. Criteria, Section, and Overall Scores

1.1	Impact on abiotic ecosystem processes	C	Rev'd, Sci. Pub'n
1.2	Impact on plant community	D	Rev'd, Sci. Pub'n
1.3	Impact on higher trophic levels	D	Rev'd, Sci. Pub'n
1.4	Impact on genetic integrity	D	Other Pub. Mat'l

Impact

Enter four characters from Q1.1-1.4 below:

CDDD

Using matrix, determine score and enter below:

C

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

9

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	C	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

Question 1.1 Impact on abiotic ecosystem processes	C Rev'd, Sci. Pub'n back
Identify ecosystem processes impacted: Good nitrogen fixer and therefore could shift competitive balance from stress-tolerating perennials to invasive plants that thrive in N-enriched soils.	
Rationale: enter text here	
Sources of information: Lesica, P.; DeLuca, T.H. 2000. Sweetclover: a potential problem for the Northern Great Plains. <i>Journal of Soil and Water Conservation</i> . V. 55(3): 259-261.	
Question 1.2 Impact on plant community composition, structure, and interactions	D Rev'd, Sci. Pub'n back
Identify type of impact or alteration: Displaces native plant species in some areas, but it typically found in disturbed sites. Has tall and vigorous growth (1).	
Rationale: enter text here	
Sources of information: Turkington R.A., Cavers P.B., Rempel E. 1978. The Biology of Canadian Weeds: <i>Melilotus alba</i> Desr. and <i>M. officinalis</i> (L.) Lam. <i>J. Plant Sci.</i> 58: 523-537.	
Question 1.3 Impact on higher trophic levels	D Rev'd, Sci. Pub'n back
Identify type of impact or alteration: Palatable to wild and domestic ungulates (1). Provides good forage and is attractive to honey bees (2). Is not toxic itself, but when it becomes moldy it hosts fungi that are toxic (3). Could affect species that depend on the native plants it displaces, but there is no information on this.	
Rationale: enter text here	
Sources of information: 1. Lesica et al. 2000 2. Turkington et al. 1978 3. Knight A.P., Walter R.G. 2001. A Guide to Plant Poisoning of Animals in North America. Teton NewMedia, Jackson, Wyoming. Pgs. 192-194.	
Question 1.4 Impact on genetic integrity	D Other Pub. Mat'l back
Identify impacts: None	
Rationale: No native <i>Melilotus</i> species in California.	
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	C Other Pub. Mat'l back
Describe role of disturbance: Occurs in dry, disturbed places.	
Rationale: enter text here	
Sources of information: DiTomaso, J., and E. Healy in prep. Weeds of California and Other Western States.	
Question 2.2 Local rate of spread with no management	C Other Pub. Mat'l back
Describe rate of spread: Already widespread, so likely not spreading much.	
Rationale: enter text here	
Sources of information: DiTomaso and Healy in prep.	
Question 2.3 Recent trend in total area infested within state	C Other Pub. Mat'l back
Describe trend: Already widespread, so probably not expanding.	
Rationale: enter text here	
Sources of information: DiTomaso and Healy in prep.	
Question 2.4 Innate reproductive potential	A Rev'd, Sci. Pub'n back
Describe key reproductive characteristics: Reproduces by seed. Seeds generally germinate fall through spring in California (1). Self-incompatible. A large plant can produce 100,000 seeds or more. Seeds can remain viable for 20 years (2). Cutting plants to control seed production can control plants, but burning can stimulate seed production (1).	
Rationale: enter text here	
Sources of information: 1. DiTomaso and Healy in prep. 2. Turkington et al. 1978	
Question 2.5 Potential for human-caused dispersal	C Rev'd, Sci. Pub'n back
Identify dispersal mechanisms: Seeds fall near parent plant and can be spread longer distances by vehicles and human activities, or as contaminants in seed and feed (1, 2).	
Rationale: enter text here	

Sources of information: 1. DiTomaso and Healy in prep. 2. Turkington et al. 1978	
Question 2.6 Potential for natural long-distance dispersal	C Other Pub. Mat'l back
Identify dispersal mechanisms: Seeds may be able to be spread on the feet and fur of animals.	
Rationale: enter text here	
Sources of information: DiTomaso and Healy in prep.	
Question 2.7 Other regions invaded	C Other Pub. Mat'l back
Identify other regions: Native to Eurasia. Naturalized throughout Europe and Asia to China, and in southern Canada (1). Occurs in all contiguous US states (2).	
Rationale: Scoring as C because already widespread in California.	
Sources of information: 1. Turkington et al. 1978 2. DiTomaso, J., and E. Healy in prep. Weeds of California and Other Western States.	
Question 3.1 Ecological amplitude/Range	C Other Pub. Mat'l back
Describe ecological amplitude, identifying date of source information and approximate date of introduction to the state, if known: Occurs throughout California, except low deserts, to 1500m. Locally abundant in some areas. Inhabits dry, disturbed places, including open fields (1). Present in coastal counties from Mendocino to Santa Barbara, northwestern California, Kern, Tulare, Mono, Inyo, San Bernadino, Butte, Nevada, and El Dorado counties (2).	
Rationale: enter text here	
Sources of information: 1. DiTomaso and Healy in prep. 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 3.2 Distribution/Peak frequency	D Observational back
Describe distribution: Not common in any ecotype.	
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	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
	6 pts Total Unknowns
	A (6+ 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	D. presen
	valley and foothill grassland	D. presen
	Great Basin grassland	D. presen
	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).