

# 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

**Table 1. Species and Evaluator Information**

<b>Species name</b> (Latin binomial):	<i>Centaurea melitensis</i>
<b>Synonyms:</b>	
<b>Common names:</b>	Malta starthistle, tocalote
<b>Evaluation date</b> (mm/dd/yy):	5/22/03
<b>Evaluator #1 Name/Title:</b>	Joe DiTomaso
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<b>Phone numbers:</b>	530-754-8715
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<b>Address:</b>	Weed Science Program, Robbins Hall, Univ. California, Davis CA 95616
<b>Evaluator #2 Name/Title:</b>	enter text here
<b>Affiliation:</b>	enter text here
<b>Phone numbers:</b>	enter text here
<b>Email address:</b>	enter text here
<b>Address:</b>	enter text here

Section below for review committee use—please leave blank

<b>Review committee members:</b>	Joe DiTomaso, Peter Warner, Alison Stanton, Carla Bossard, Cynthia Roye, Jake Sigg, Doug Johnson, Brianna Richardson
<b>Committee review date:</b>	06/06/03
<b>List date:</b>	enter text here
<b>Re-evaluation date(s):</b>	enter text here

**Table 2. Criteria, Section, and Overall Scores**

1.1	Impact on abiotic ecosystem processes	<b>B</b>	<b>Observational</b>
1.2	Impact on plant community	<b>B</b>	<b>Other Pub. Mat'l</b>
1.3	Impact on higher trophic levels	<b>C</b>	<b>Other Pub. Mat'l</b>
1.4	Impact on genetic integrity	<b>D</b>	<b>Observational</b>

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

2.1	Role of anthropogenic and natural disturbance	<b>B 2</b>	<b>Other Pub. Mat'l</b>
2.2	Local rate of spread with no management	<b>C 1</b>	<b>Observational</b>
2.3	Recent trend in total area infested within state	<b>C 1</b>	<b>Observational</b>
2.4	Innate reproductive potential	<b>A 3</b>	<b>Other Pub. Mat'l</b>
2.5	Potential for human-caused dispersal	<b>B 2</b>	<b>Other Pub. Mat'l</b>
2.6	Potential for natural long-distance dispersal	<b>C 1</b>	<b>Other Pub. Mat'l</b>
2.7	Other regions invaded	<b>C 1</b>	<b>Other Pub. Mat'l</b>

**“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:  
**11**  
 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:  
**Medium**  
**No Alert**

3.1	Ecological amplitude	<b>B</b>	<b>Other Pub. Mat'l</b>
3.2	Distribution	<b>C</b>	<b>Observational</b>

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

**Worksheet A.** Complete this worksheet to answer Question 2.4.

Reaches reproductive maturity in 2 years or less	<b>Yes: 1 pt</b>
Dense infestations produce >1,000 viable seed per square meter	<b>Yes: 2 pts</b>
Populations of this species produce seeds every year.	<b>Yes: 1 pt</b>
Seed production sustained over 3 or more months within a population annually	<b>No: 0 pt</b>
Seeds remain viable in soil for three or more years	<b>Yes: 2 pts</b>
Viable seed produced with <i>both</i> self-pollination and cross-pollination	<b>Yes: 1 pt</b>
Has quickly spreading vegetative structures (rhizomes, roots, etc.) that may root at nodes	<b>No: 0 pt</b>
Fragments easily and fragments can become established elsewhere	<b>No: 0 pts</b>
Resprouts readily when cut, grazed, or burned	<b>No: 0 pt</b>
<b>Total Pts</b>	<b>7</b>
<b>Total Unknowns</b>	
<b>Score A</b>	

**Table 3. Documentation**

<b>Question 1.1</b> Impact on abiotic ecosystem processes
Identify ecosystem processes impacted: May increase erosion, reduce water percolation. Does not survive as long as yellow starthistle so it is not likely to have same effect on soil moisture depletion.
Rationale:
Sources of information: DiTomaso-Observational
<b>Question 1.2</b> Impact on plant community composition, structure, and interactions
Identify type of impact or alteration: Dense stands can displace native plants and animals. Significantly reduces seed production of the endangered plant <i>Acanthiminta ilicifolia</i> .
Rationale:
Sources of information: DiTomaso, J.M. and J.D. Gerlach, Jr.. <i>Centaurea melitensis</i> . In, Invasive Plants of California's Wildlands. CalEPPC. UC Press, Berkeley
<b>Question 1.3</b> Impact on higher trophic levels
Identify type of impact or alteration: Can be poisonous to horses and may cause mechanical damage to wildlife. Probably reduces other better forage species.
Rationale:
Sources of information: DiTomaso, J.M. and J.D. Gerlach, Jr.. <i>Centaurea melitensis</i> . In, Invasive Plants of California's Wildlands. CalEPPC. UC Press, Berkeley
<b>Question 1.4</b> Impact on genetic integrity
Identify impacts: None
Rationale: No native <i>Centaurea</i> in California
Sources of information: DiTomaso-Observational
<b>Question 2.1</b> Role of anthropogenic and natural disturbance in establishment
Describe role of disturbance: Primarily found in disturbed sites, but will move into annual grass dominated grasslands.
Rationale:
Sources of information: DiTomaso, J.M. and E.A. Healy. 2005. Weeds of California. DANR (pre-print
<b>Question 2.2</b> Local rate of spread with no management
Describe rate of spread: Seems to be stable in most areas.
Rationale: Has been in California for over 150 years.
Sources of information: DiTomaso-Observational
<b>Question 2.3</b> Recent trend in total area infested within state
Describe trend: Stable in northern California. Possibly slightly increasing in southern California. This could be due to confusion in past with yellow starthistle.
Rationale:
Sources of information: DiTomaso-Observational
<b>Question 2.4</b> Innate reproductive potential
Describe key reproductive characteristics: Annual with seed production only. Averages 1,500 seeds/plant.
Rationale:
Sources of information: DiTomaso, J.M. and J.D. Gerlach, Jr.. <i>Centaurea melitensis</i> . In, Invasive Plants of California's Wildlands. CalEPPC. UC Press, Berkeley; Gerlach, J.D. Jr. 2000. Ph.D. Dissertation, UC Davis
<b>Question 2.5</b> Potential for human-caused dispersal
Identify dispersal mechanisms: Probably through human activity including equipment, seed and soil contamination, and vehicles, but because it is not as widespread as yellow starthistle, the rate is not as great.
Rationale:
Sources of information: DiTomaso, J.M. and J.D. Gerlach, Jr.. <i>Centaurea melitensis</i> . In, Invasive Plants of California's Wildlands. CalEPPC. UC Press, Berkeley
<b>Question 2.6</b> Potential for natural long-distance dispersal
Identify dispersal mechanisms: Short distance wind dispersal. Animals can occasionally move seed longer distances in hair or birds after ingestion.
Rationale: Seeds only blow short distance. Most seed fall to ground just below parent plant.
Sources of information: DiTomaso, J.M. and J.D. Gerlach, Jr.. <i>Centaurea melitensis</i> . In, Invasive Plants of California's Wildlands. CalEPPC. UC Press, Berkeley
<b>Question 2.7</b> Other regions invaded
Identify other regions: Has invaded other southwestern states to the eastern US, but not reported as a problem in other countries. Similar habitats occupied elsewhere.
Rationale:

Sources of information: DiTomaso, J.M. and E.A. Healy. 2005. Weeds of California. DANR (pre-print
<b>Question 3.1</b> Ecological amplitude
Describe ecological amplitude, identifying date of source information and approximate date of introduction to the state, if known: Mainly found in grasslands, throughout the state but more commonly in southern California. Introduced as early as 1797.
Rationale:
Sources of information: DiTomaso, J.M. and E.A. Healy. 2005. Weeds of California. DANR (pre-print
<b>Question 3.2</b> Distribution
Describe distribution: Most common in grasslands, probably <20% of the grasslands, however.
Rationale:
Sources of information: DiTomaso-Observational

Complete the worksheet that corresponds to your state using the letter codes and instructions in Section 3.

### Worksheet C - California Ecological Types

(*sensu* Holland 1986)

Major Ecological Types	Minor Ecological Types	Code
<b>Marine Systems</b>	marine systems	score
<b>Freshwater and Estuarine Aquatic Systems</b>	lakes, ponds, reservoirs	score
	rivers, streams, canals	score
	estuaries	score
<b>Dunes</b>	coastal	score
	desert	score
	interior	score
<b>Scrub and Chaparral</b>	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
<b>Grasslands, Vernal Pools, Meadows, and other Herb Communities</b>	coastal prairie	D. present
	valley and foothill grassland	C. 5-20%
	Great Basin grassland	D. present
	vernal pool	score
	meadow and seep	score
	alkali playa	score
	pebble plain	score
<b>Bog and Marsh</b>	bog and fen	score
	marsh and swamp	score
<b>Riparian and Bottomland</b>	riparian forest	score
	riparian woodland	score
	riparian scrub (incl. desert washes)	score
<b>Woodland</b>	cismontane woodland	C. 5-20%
	piñon and juniper woodland	score
	Sonoran thorn woodland	score
<b>Forest</b>	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
<b>Alpine Habitats</b>	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).