

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):	Medicago polymorpha L.
Synonyms:	enter text here
Common names:	Burr Medic, California Burelover
Evaluation date (mm/dd/yy):	3/19/05
Evaluator #1 Name/Title:	Bill Winans, Watershed Management Specialist
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Section below for list committee use—please leave blank

List committee members:	Joe DiTomaso, Joanna Clines, Cynthia Roye, Doug Johnson
Committee review date:	7/8/05
List date:	enter text here
Re-evaluation date(s):	enter text here

<p>General comments on this assessment: enter text here</p>
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Table 2. Criteria, Section, and Overall Scores

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

<p>Impact</p> <p><i>Enter four characters from Q1.1-1.4 below:</i></p> <p>CCCD</p> <p><i>Using matrix, determine score and enter below:</i></p> <p>C</p>

2.1	Role of anthropogenic and natural disturbance	C (1 pt)	Observational
2.2	Local rate of spread with no management	C (1 pt)	Rev'd, Sci. Pub'n
2.3	Recent trend in total area infested within state	C (1 pt)	Observational
2.4	Innate reproductive potential Wksht A	B (2 pts)	Other Pub. Mat'l
2.5	Potential for human-caused dispersal	C (1 pt)	Other Pub. Mat'l
2.6	Potential for natural long-distance dispersal	B (2 pts)	Other Pub. Mat'l
2.7	Other regions invaded	C (1 pt)	Observational

<p>Invasiveness</p> <p><i>Enter the sum total of all points for Q2.1-2.7 below:</i></p> <p>9</p> <p><i>Use matrix to determine score and enter below:</i></p> <p>C</p>

<p>Plant Score</p> <p><i>Using matrix, determine Overall Score and Alert Status from the three section scores and enter below:</i></p> <p>Low</p> <p>No Alert</p>
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3.1	Ecological amplitude/Range	A	Rev'd, Sci. Pub'n
3.2	Distribution/Peak frequency Wksht C	B	Observational

<p>Distribution</p> <p><i>Using matrix, determine score and enter below:</i></p> <p>A</p>

Table 3. Documentation

Question 1.1 Impact on abiotic ecosystem processes	C Observational back
Identify ecosystem processes impacted: Greater fire intensity may occur when nitrogen produced by this legume becomes available to other plants within the system.	
Rationale: Higher nutrient levels in the soil allow the production of more biomass.	
Sources of information: observation	
Question 1.2 Impact on plant community composition, structure, and interactions	C Observational back
Identify type of impact or alteration: Grasslands are the areas where burclover most commonly grows. Native grasslands in California have been dramatically altered over the last 200 years by the introduction of European grasses. The growth of this legume may increase the thatch layer which, may effect the germination of other native and non-native plants within the system. Increased nutrient levels in the soil produced by the legume will favor plant species that can utilize the enhanced resources.	
Rationale: Higher nutrient levels in the soil allow the production of more biomass.	
Sources of information: Observation	
Question 1.3 Impact on higher trophic levels	D Observational back
Identify type of impact or alteration: The higher nutrient levels in the legume will tend to stimulate herbivore populations.	
Rationale: Herbivores often show preference for plant materials with greater nutritional value.	
Sources of information: observation	
Question 1.4 Impact on genetic integrity	D Other Pub. Mat'l back
Identify impacts: No known hybridization occurs.	
Rationale: Not closely related to other native species.	
Sources of information: Hickman. 1993. The Jepson Manual.	
Question 2.1 Role of anthropogenic and natural disturbance in establishment	C Observational back
Describe role of disturbance: Grazing livestock provide adequate disturbance for successful establishment of this plant. A prostrate growth habit increases it's survival even in the presence of moderate grazing pressure. The low growth habit also can work against the plant, as an overstory of taller grasses will cause the Burclover to fade out until the next disturbance event.	

Rationale: The plant is very low growing and easily shaded out by taller vegetation.	
Sources of information: Winan, observation	
Question 2.2 Local rate of spread with no management	C Rev'd, Sci. Pub'n back
Describe rate of spread: This plant has been in the state for two hundred years. It has likely spread to most of the locations where it can survive.	
Rationale: The long term presence of this plant has provided opportunities for its spread to most suitable locations.	
Sources of information: Spira, T. P. and L. K. Wagner (1983) "Viability of Seeds up to 211 years old extracted from adobe brick building of California USA and Northern Mexico"	
Question 2.3 Recent trend in total area infested within state	C Observational back
Describe trend: Grazed grasslands are the areas where this plant shows it's best growth. The plant does not appear to thrive well in areas outside of these parameters.	
Rationale: The plant requires little overstory vegetation and higher levels of available phosphate and sulfur to dominate a site.	
Sources of information: observational	
Question 2.4 Innate reproductive potential	B Other Pub. Mat'l back
Describe key reproductive characteristics: This is an annual plant, which produces seed within one year. Seeds remain viable for many years. The plant can recover from grazing as long as the grazing is not too severe.	
Rationale: The plant produces many seeds and they remain viable for years.	
Sources of information: DiTomaso and Healy. 2006. Weeds of California. UC DANR Publ. #3488.	
Question 2.5 Potential for human-caused dispersal	C Other Pub. Mat'l back
Identify dispersal mechanisms: Human caused dispersal is not expected to be frequent. Seeds also disperse as commercial seed contaminants.	
Rationale: this not a commercially available seed.	
Sources of information: DiTomaso and Healy. 2006. Weeds of California. UC DANR Publ. #3488.	

Question 2.6 Potential for natural long-distance dispersal	B Other Pub. Mat'l back
Identify dispersal mechanisms: The seed pods are covered with small hooks that effectively attach to animal hair. When livestock are moved the seed pods can be moved with them.	
Rationale: seed pods appear to be adapted to cling to animal hair.	
Sources of information: DiTomaso and Healy. 2006. Weeds of California. UC DANR Publ. #3488.	
Question 2.7 Other regions invaded	C Observational back
Identify other regions: This plant is wide spread throughout the world, but most prevalent in grasslands.	
Rationale: The long term presence of this plant in the state would lead one to expect it to be already present in most grasslands.	
Sources of information: observational	
Question 3.1 Ecological amplitude/Range	A Rev'd, Sci. Pub'n back
Describe ecological amplitude, identifying date of source information and approximate date of introduction to the state, if known: This plant is thought to have been introduced into Calif. in the 1700's when livestock was brought on sailing ships. Common in turf, roadsides, fields, grassland, pastures, agronomic crops, especially alfalfa, vegetable crops, orchards, vineyards, gardens, and other disturbed places.	
Rationale: The plant is primarily found in grasslands.	
Sources of information: Spira, T. P. and L. K. Wagner (1983) "Viability of Seeds up to 211 years old extracted from adobe brick building of California USA and Northern Mexico"	
DiTomaso and Healy. 2006. Weeds of California. UC DANR Publ. #3488.	
Joanna Clines, US Forest Service, pers. obs.	
Question 3.2 Distribution/Peak frequency	B Observational back
Describe distribution: Primarily found in grasslands. More frequent in grazed grasslands. Very wide spread throughout the states grasslands. High levels of infestation are not generally found unless the site is fertilized and moderately grazed.	
Rationale: Dense infestations require specific management for dominance to persist.	
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	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	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	C. 5-20%
	valley and foothill grassland	B. 21-50%
	Great Basin grassland	D. present
	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	C. 5-20%
	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	D. present
	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).