

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):	Parkinsonia aculeata L.
Synonyms:	
Common names:	Mexican palo verde, Jerusalem thorn, horse-bean, retama
Evaluation date (mm/dd/yy):	1/26/05
Evaluator #1 Name/Title:	Elizabeth Brusati, project manager
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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:	Joe DiTomaso, Jake Sigg, Cyndi Roye, Peter Warner
Committee review date:	6/30/05
List date:	enter text here
Re-evaluation date(s):	enter text here

General comments on this assessment:

Need information from San Diego, Kern, and Inyo counties for distribution.

Table 2. Criteria, Section, and Overall Scores

<u>1.1</u>	Impact on abiotic ecosystem processes	D	Other Pub. Mat'l
<u>1.2</u>	Impact on plant community	D	Other Pub. Mat'l
<u>1.3</u>	Impact on higher trophic levels	U	No Information
<u>1.4</u>	Impact on genetic integrity	D	Rev'd, Sci. Pub'n

Impact <i>Enter four characters from Q1.1-1.4 below:</i> DDUD <i>Using matrix, determine score and enter below:</i> D
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<u>2.1</u>	Role of anthropogenic and natural disturbance	3 (2 pts)	Other Pub. Mat'l
<u>2.2</u>	Local rate of spread with no management	1 (0 pts)	No Information
<u>2.3</u>	Recent trend in total area infested within state	1 (0 pts)	No Information
<u>2.4</u>	Innate reproductive potential <u>Wksht A</u>	3 (3 pts)	Other Pub. Mat'l
<u>2.5</u>	Potential for human-caused dispersal	3 (2 pts)	Other Pub. Mat'l
<u>2.6</u>	Potential for natural long-distance dispersal	3 (2 pts)	Other Pub. Mat'l
<u>2.7</u>	Other regions invaded	3 (2 pts)	Other Pub. Mat'l

Invasiveness <i>Enter the sum total of all points for Q2.1-2.7 below:</i> 11 <i>Use matrix to determine score and enter below:</i> B

Plant Score <i>Using matrix, determine Overall Score and Alert Status from the three section scores and enter below:</i> Not listed No Alert
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<u>3.1</u>	Ecological amplitude/Range	D	Doc'n level
<u>3.2</u>	Distribution/Peak frequency <u>Wksht C</u>	D	Observational

Distribution <i>Using matrix, determine score and enter below:</i> D
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Table 3. Documentation

Question 1.1 Impact on abiotic ecosystem processes	D Other Pub. Mat'l back
Identify ecosystem processes impacted: Produces litter (1) that potentially could be a fire hazard. In Australia, decreases primary production because it replaces grasses, can dam watercourses, cause erosion, and lower watertables (2). Has not escaped to any degree here so has had no impact.	
Rationale: enter text here	
Sources of information: 1. Brenzel, K. N. 2001. Sunset Western Garden Book. Sunset Publishing Company, Menlo Park, CA. 2. CRC Weed Management. 2003. Parkinsonia (Parkinsonia aculeata). Weed Management Guide, Weeds of National Significance. Australian Government Dept. of Environment and Heritage. Accessed on-line: http://www.deh.gov.au/biodiversity/invasive/weeds/wons.html	
Question 1.2 Impact on plant community composition, structure, and interactions	D Other Pub. Mat'l back
Identify type of impact or alteration: Can form dense thickets in riparian areas. Shades out other plants (1) in Australia, but not in California yet.	
Rationale: enter text here	
Sources of information: 1. Parsons, W.T., and E. G. Cuthbertson. 2001. Noxious Weeds of Australia. Second edition. CSIRO Publishing, Collingwood, Victoria	
Question 1.3 Impact on higher trophic levels	U No Information back
Identify type of impact or alteration: Limits livestock access to watering places where it has formed dense thickets (1). No known impact in California.	
Rationale: enter text here	
Sources of information: 1. Parsons and Cuthbertson 2001	
Question 1.4 Impact on genetic integrity	D Other Pub. Mat'l back
Identify impacts: none	
Rationale: No native Parkinsonia	
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: Colonizes rangeland and floodplains (disturbed areas) (1).	
Rationale: enter text here	
Sources of information: 1. CRC Weed Management 2003	
Question 2.2 Local rate of spread with no management	U No Information back
Describe rate of spread: no information	
Rationale: enter text here	
Sources of information: enter text here	
Question 2.3 Recent trend in total area infested within state	U No Information back
Describe trend: no information	
Rationale: enter text here	
Sources of information: enter text here	
Question 2.4 Innate reproductive potential	A Other Pub. Mat'l back
Describe key reproductive characteristics: Plants flower in second or third year (1). Seed pods contain 1-4 seeds (occasionally as many as 11). In Australia, flowering occurs in the warmer months and seed pods ripen and drop three to four months after flowering. Mature trees typically produce 5000 seeds (up to 13,000). Seeds can be dormant for several years (2).	
Rationale: Could be A if we find more information.	
Sources of information: 1. Parsons and Cuthbertson 2001 2. CRC Weed Management	
Question 2.5 Potential for human-caused dispersal	B Other Pub. Mat'l back
Identify dispersal mechanisms: Planted as an ornamental (1, 2) but listed as uncommon escapee (1). Seeds can be moved in mud sticking to shoes or machinery (3). Can be spread along roads (see below) (4).	
Rationale: Check out the interchange of the 405 and 101 freeways in the San Fernando Valley, and along the 101 freeway from Woodman west toward the interchange - it is loaded with P. aculeata from seedlings and small plants to small and medium trees. One tree showed up in the Sepulveda Basin Wildlife Area! (4).	

Sources of information: 1. DiTomaso, J., and E. Healy. 2001. Weeds of California and Other Western States 2. Brenzel, K. N. 2001. Sunset Western Garden Book. Sunset Publishing Company, Menlo Park, CA. 3. Parsons and Cuthbertson 2001 4. E-mail from Steve Hastings, CNPS, San Diego	
Question 2.6 Potential for natural long-distance dispersal	B Other Pub. Mat'l back
Identify dispersal mechanisms: Seeds do not have any adaptation for dispersal, so most fall near the plant and are moved by water. Birds and animals also pass seeds through their guts (1). Seed pods float and can be carried long distances, especially in floods. Pods are relatively unpalatable, so spread by animals is probably not common.	
Rationale: enter text here	
Sources of information: 1. Parsons and Cuthbertson 2001 2. CRC Weed Management 2003.	
Question 2.7 Other regions invaded	B Other Pub. Mat'l back
Identify other regions: Native to southern US, the Caribbean, Mexico, and the northern part of South America. Invasive in Australia as an escaped ornamental (1). Escaped ornamental in many parts of the world. Considered invasive in Hawaii, Micronesia (2). A "Weed of National Significance" in Australia (3).	
Rationale: Scoring as B because it is not widespread in California but invades a wide range of habitats in Australia.	
Sources of information: 1. Parsons and Cuthbertson 2001 2. Starr, F., K. Starr, and L. Lloyd. 2003. Parkinsonia aculeata. USGS Biological Resources Division, Hawaiian Ecosystems at Risk Project, Maui, HI. www.hear.org 3. CRC Weed Management 2003	
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: As a weed, mostly found in better-watered areas receiving run-off, and near creeks, rivers, or dams (1). Occurs in climates ranging from moist sub-humid tropics to harsh arid interior. Thrives around watercourses such as drainage areas, dams, and rivers. Can also invade uplands that are never inundated, flood plains, and areas of run-off (2). In California, listed in San Diego, Kern, and Inyo counties (3). Uncommon escaped ornamental in dry, disturbed sites (4). Invasive along highway 101. One plant spread into the Sepulveda Basin Wildlife Area (5). Native to the desert areas in Baja California.	
Rationale: .	

Sources of information: 1. Parsons, W.T., and E. G. Cuthbertson. 2001. Noxious Weeds of Australia. Second edition. CSIRO Publishing, Collingwood, Victoria 2. CRC Weed Management 2003 3. USDA, NRCS. 2004. The PLANTS Database, Version 3.5 (http://plants.usda.gov). National Plant Data Center, Baton Rouge, LA 70874-4490 USA. 4. DiTomaso, J., and E. Healy. in prep. Weeds of California and Other Western States. 5. Personal communication. Steve Hartman, California Native Plant Society, Reseda, CA. E-mail on file at Cal-IPC.	
Question 3.2 Distribution/Peak frequency	D Observational back
Describe distribution: Rarely escapes cultivation.	
Rationale: enter text here	
Sources of information: DiTomaso, observational	

Worksheet A[back](#)

Reaches reproductive maturity in 2 years or less	No: 0 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	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	No: 0 pts
Resprouts readily when cut, grazed, or burned	Yes: 1 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	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)	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).