

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):	Ricinus communis L.
Synonyms:	none
Common names:	castor bean
Evaluation date (mm/dd/yy):	12/22/04
Evaluator #1 Name/Title:	Elizabeth Brusati, project manager
Affiliation:	California Invasive Plant Council
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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:	Carla Bossard, Matt Brooks, Joe DiTomaso, Peter Warner, Jake Sigg, Cynthia Roye
Committee review date:	5/16/05
List date:	enter text here
Re-evaluation date(s):	enter text here

General comments on this assessment:

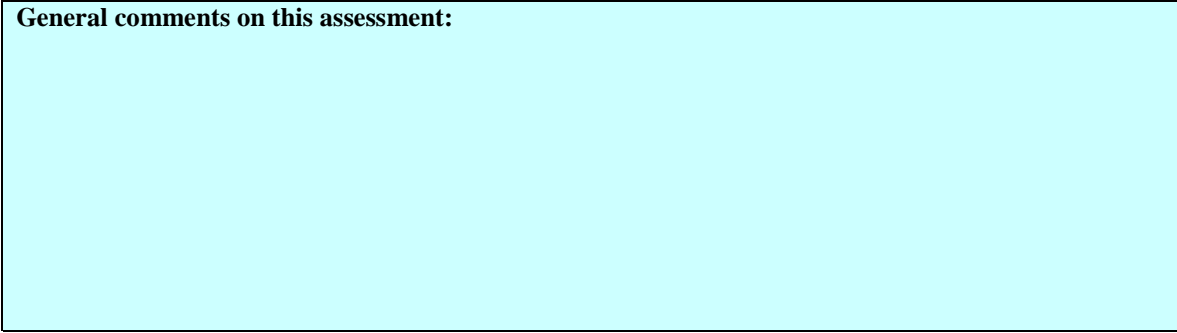


Table 2. Criteria, Section, and Overall Scores

1.1	Impact on abiotic ecosystem processes	U	No information
1.2	Impact on plant community	B	Other Pub. Mat'l
1.3	Impact on higher trophic levels	C	Other Pub. Mat'l
1.4	Impact on genetic integrity	D	Other Pub. Mat'l

Impact

Enter four characters from Q1.1-1.4 below:

UBCD

Using matrix, determine score and enter below:

C

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

Invasiveness

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 Overall Score and Alert Status from the three section scores and enter below:

Low
No alert

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

Distribution

Using matrix, determine score and enter below:

B

Table 3. Documentation

Question 1.1 Impact on abiotic ecosystem processes	U No information back
Identify ecosystem processes impacted: No information available.	
Rationale:	
Sources of information:	
Question 1.2 Impact on plant community composition, structure, and interactions	B Other Pub. Mat'l back
Identify type of impact or alteration: Grows fast and forms dense monoculture that displaces native vegetation in riparian zones (1,2). However, these monocultures are generally restricted to railroad tracks or other disturbed areas and native species can coexist with Ricinus (3).	
Rationale: enter text here	
Sources of information: 1. Burrascano, C. 2000. 269-273. in Bossard, C. M., J. M. Randall, and M. C. Hoshovsky (ed.) Invasive plants of California's wildlands. University of California Press. Berkeley, CA. 2. Perala, C., D.A. Hoover, and E.A. Parra-Szijj. 1993. Control of exotic plants in an herbaceous understory. CalEPPC News 1(3): 4-6. 3. Matt Brooks, Research Botanist, USGS, Henderson, NV. Personal communication	
Question 1.3 Impact on higher trophic levels	C Other Pub. Mat'l back
Identify type of impact or alteration: All parts of plants are toxic (1). Probably displaces some riparian species because it replaces native vegetation with much denser cover, but I found no information on this.	
Rationale: enter text here	
Sources of information: 1. Fuller and McClintock. 1986. Poisonous plants of California.	
Question 1.4 Impact on genetic integrity	D Other Pub. Mat'l back
Identify impacts: None	
Rationale: No related native species	
Sources of information: Burrascano 2000	
Question 2.1 Role of anthropogenic and natural disturbance in establishment	B Other Pub. Mat'l back
Describe role of disturbance: Escapes from cropland and landscaping. Common in abandoned fields, along roads and railroad tracks, and in drainage ditches. Seeds can germinate quickly after fire.	

Rationale: enter text here	
Sources of information: Burrascano 2000	
Question 2.2 Local rate of spread with no management	A Observational back
Describe rate of spread: In southern California, capable of doubling in riparian areas within less than five years.	
Rationale: enter text here	
Sources of information: E-mail from Cindy Burrascano, California Native Plant Society, 2/15/05	
Question 2.3 Recent trend in total area infested within state	B Observational back
Describe trend: In California, <i>R. communis</i> has naturalized below 1,000 feet elevation in the southern San Joaquin Valley, along the central and south coast, in the San Francisco Bay Area, in Trinity County, and in coastal southern California (1). Solstice Canyon Park, Santa Monica Mountains Recreation Area (2). Controlled in Laguna Hills to reduce fire hazards (3). Listed as a species that causes problems in wildlands in the Inland Empire (4). Listed for eradication in Santa Barbara County by the Santa Botanic Garden (5). Controlled repeatedly on Catalina Island (6). Spreading in riparian areas in Torrey Pines State Beach. Most open space districts in San Diego have to remove it if they have riparian areas. Spreading at Tijuana Estuary and Santa Monica mountains. Not as bad as tamarisk because frost knocks it back temporarily (7).	
Rationale: enter text here	
Sources of information: 1. Burrascano 2000 2. Perala et al. 1993 3. Ames, J. No date. City of Laguna Hills weed abatement supplemental guidelines. http://www.ci.laguna-hills.ca.us . 4. California State Parks. 2000. Urban edge effects and their relationship with the natural environment. Pp. 1-30. California State Parks Inland Empire District. 5. Santa Barbara Botanic Garden. No date. Worst invasive plants in Santa Barbara County: exotic species to eradicate if found on your property. http://www.santabarbarabotanicgarden.org/sections/visitor_info/visitor_level_3/visitor . 6. Knapp, J.J. 2003. Personal observation of Catalina Conservancy conservation efforts.. 7. E-mail from Cindy Burrascano, California Native Plant Society, 2/15/05	
Question 2.4 Innate reproductive potential	A Other Pub. Mat'l back
Describe key reproductive characteristics: Plants are monoecious. Spreads by seed and is capable of resprouting from root crown when cut. Seeds are spiny capsules (1), and are large (2). Seed pods dehisce when ripe and spread seeds near parent plant (1). Does not spread by root fragments (1). Annual or perennial, depending on whether it's killed by a cold winter. Seeds need long frost-free period to develop.	

Rationale: enter text here	
Sources of information: 1. Burrascano 2000 2. Smith, D. T. 1972. Survival and Emergence of Volunteer Castor Seed in Soil. Agronomy Journal 64(6): 799-801	
Question 2.5 Potential for human-caused dispersal	B Other Pub. Mat'l back
Identify dispersal mechanisms: Cultivated for oil and as an ornamental. Found in Cal-IPC 2004 nursery survey. Seeds can be spread by road maintenance machinery or by transport of soil. Not often sold in the nursery industry today.	
Rationale: enter text here	
Sources of information: Burrascano 2000	
Question 2.6 Potential for natural long-distance dispersal	B Other Pub. Mat'l back
Identify dispersal mechanisms: Moving water (1) and mammals (2).	
Rationale: enter text here	
Sources of information: 1. Burrascano 2000 2. Brown, K. and K. Brooks. 2002. Bushland weeds – a practical guide to their management. Environmental Weeds Action Network. Greenwood, Australia. Pp. 88-89.	
Question 2.7 Other regions invaded	C Other Pub. Mat'l back
Identify other regions: Cultivated and naturalized in Southern U.S., midwest, and Oregon (1). Invades riparian areas in Namibia (2). Listed as invasive in Florida and Wyoming (3).	
Rationale: enter text here	
Sources of information: 1. Burrascano 2000 2. Boyer, D. C. and H. J. Boyer 1989. The Status of Alien Invasive Plants in the Major Rivers of the Namib Naukluft Park Namibia. Madoqua 16(1): 51-58. 3. USDA PLANTS database. http://plants.usda.gov . Accessed 12/22/04	
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: Frequently found in riparian areas, especially along southern and central coast. Distribution limited by intolerance of cold temperatures (1). Locally abundant in riparian corridors and canyons near the	

urban/wildland interface in southern California and in some areas is invading uplands from roadsides (1).	
Rationale: enter text here	
Sources of information: 1. Burrascano 2000 2. E-mail from Bill Neil, 2/22/05	
Question 3.2 Distribution/Peak frequency	D Observational back
Describe distribution: Not common in wildland habitats. More common in southern California coastal riparian areas than elsewhere in the state.	
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	No
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	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	Yes: 2 pts
Resprouts readily when cut, grazed, or burned	Yes: 1 pt
	8 pts 1 unknown
	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	D: present
	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: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	score
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).