

# 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**

<b>Species name (Latin binomial):</b>	Robinia pseudoacacia L.
<b>Synonyms:</b>	none
<b>Common names:</b>	black locust
<b>Evaluation date (mm/dd/yy):</b>	12/22/04
<b>Evaluator #1 Name/Title:</b>	Elizabeth Brusati, project manager
<b>Affiliation:</b>	California Invasive Plant Council
<b>Phone numbers:</b>	510-843-3902
<b>Email address:</b>	edbrusati@cal-ipc.org
<b>Address:</b>	1442A Walnut St. #462, Berkeley, CA 94709
<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 list committee use—please leave blank

<b>List committee members:</b>	Joe DiTomaso, John Randall, Carla Bossard
<b>Committee review date:</b>	3/11/05
<b>List date:</b>	enter text here
<b>Re-evaluation date(s):</b>	enter text here

<b>General comments on this assessment:</b>
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**Table 2. Criteria, Section, and Overall Scores**

<a href="#">1.1</a>	Impact on abiotic ecosystem processes	<b>C</b>	<b>Rev'd, Sci. Pub'n</b>
<a href="#">1.2</a>	Impact on plant community	<b>C</b>	<b>Other Pub. Mat'l</b>
<a href="#">1.3</a>	Impact on higher trophic levels	<b>U</b>	<b>No information</b>
<a href="#">1.4</a>	Impact on genetic integrity	<b>D</b>	<b>Rev'd, Sci. Pub'n</b>

**Impact**

*Enter four characters from Q1.1-1.4 below:*

**CCUD**

*Using matrix, determine score and enter below:*

**C**

<a href="#">2.1</a>	Role of anthropogenic and natural disturbance	<b>B (2 pts)</b>	<b>Rev'd, Sci. Pub'n</b>
<a href="#">2.2</a>	Local rate of spread with no management	<b>C</b>	<b>No Information</b>
<a href="#">2.3</a>	Recent trend in total area infested within state	<b>C</b>	<b>No Information</b>
<a href="#">2.4</a>	Innate reproductive potential <a href="#">Wksht A</a>	<b>B</b>	<b>Doc'n level</b>
<a href="#">2.5</a>	Potential for human-caused dispersal	<b>A (3 pts)</b>	<b>Rev'd, Sci. Pub'n</b>
<a href="#">2.6</a>	Potential for natural long-distance dispersal	<b>C (1 pt)</b>	<b>Other Pub. Mat'l</b>
<a href="#">2.7</a>	Other regions invaded	<b>C</b>	<b>Observational</b>

**Invasiveness**

*Enter the sum total of all points for Q2.1-2.7 below:*

**12**

*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**

<a href="#">3.1</a>	Ecological amplitude/Range	<b>A</b>	<b>Rev'd, Sci. Pub'n</b>
<a href="#">3.2</a>	Distribution/Peak frequency <a href="#">Wksht C</a>	<b>D</b>	<b>No Information</b>

**Distribution**

*Using matrix, determine score and enter below:*

**B**

**Table 3. Documentation**

<p><b>Question 1.1</b> Impact on abiotic ecosystem processes</p>	<p>C Rev'd, Sci. Pub'n <a href="#">back</a></p>
<p>Identify ecosystem processes impacted: Nitrogen cycling, light availability. However, infestations in California are too small to have these effects.</p>	
<p>Rationale: Nitrogen-fixing tree that increases the concentration of NO<sub>3</sub> in the soil. Fixed N is accumulated as biomass and enters the soil only in older (38yr) stands (1). Tall tree (100 ft), so creates shade where it invades open areas</p>	
<p>Sources of information: 1. Boring L. R., Swank W. T. 1984. The Role of Black Locust (<i>Robinia pseudoacacia</i>) in Forest Succession. <i>Journal of Ecology</i>. 72: 749-766. 2. Hunter, J. <i>Robinia pseudoacacia</i>. pp. 273-276 in Bossard, C. M., J. M. Randall, and M. C. Hoshovsky (ed.) <i>Invasive plants of California's wildlands</i>. University of California Press. Berkeley, CA.</p>	
<p><b>Question 1.2</b> Impact on plant community composition, structure, and interactions</p>	<p>C Other Pub. Mat'l <a href="#">back</a></p>
<p>Identify type of impact or alteration: Displaces native vegetation (1) but forms only patches in California.</p>	
<p>Rationale: enter text here</p>	
<p>Sources of information: 1. Hunter 2000</p>	
<p><b>Question 1.3</b> Impact on higher trophic levels</p>	<p>U Unknown <a href="#">back</a></p>
<p>Identify type of impact or alteration: Poisonous to livestock but they rarely eat it. No information on impacts to native species.</p>	
<p>Rationale: enter text here</p>	
<p>Sources of information: 1. Kingsbury J. M. 1964. <i>Poisonous Plants of the United States and Canada</i>. Prentice Hall Inc. New Jersey.</p>	
<p><b>Question 1.4</b> Impact on genetic integrity</p>	<p>D Rev'd, Sci. Pub'n <a href="#">back</a></p>
<p>Identify impacts: Possibility of hybridization with one related native tree (<i>R. neomexicana</i>) but this seems unlikely because the native inhabits drier areas and is uncommon, and <i>R. pseudoacacia</i> reproduces mostly by suckers rather than seed.</p>	
<p>Rationale: One closely-related California native</p>	
<p>Sources of information: Hickman, J. C. (ed.) 1993. <i>The Jepson Manual, Higher Plants of California</i>. University of California Press. Berkeley, CA</p>	

<b>Question 2.1</b> Role of anthropogenic and natural disturbance in establishment	B Other Pub. Mat'l <a href="#">back</a>
Describe role of disturbance: Needs open areas for colonization . Early successional species that grows best on clear-cuts, abandoned pastures, or roadsides (1). Can invade undisturbed sand prairies (2).	
Rationale: Scored as B because disturbed areas seem to be by far the best places for colonization.	
Sources of information: 1. Boring and Swank 1984 2. Converse C. K. 1984 Elemental Species Abstract for Robinia pseudoacacia, The Nature Conservancy. Washington, D. C. <a href="http://tncweeds.ucdavis.edu/esadocs.html">http://tncweeds.ucdavis.edu/esadocs.html</a>	
<b>Question 2.2</b> Local rate of spread with no management	C Observational <a href="#">back</a>
Describe rate of spread: This species has been in California for many years but has not spread significantly.	
Rationale: enter text here	
Sources of information: enter text here	
<b>Question 2.3</b> Recent trend in total area infested within state	C Observational <a href="#">back</a>
Describe trend: Consensus of weed committee is that populations in California are stable.	
Rationale: enter text here	
Sources of information: enter text here	
<b>Question 2.4</b> Innate reproductive potential	B Rev'd, Sci. Pub'n <a href="#">back</a>
Describe key reproductive characteristics: Can reproduce from seeds, but mostly reproduces by suckers or sprouting from roots. Can grow to 8m within 3 yrs (1). Begins producing seeds at year 6, with best crops between ages 15-40. Heavy seed crops at 1-2 year intervals, and light crops in between. Produces 16,000 - 35,000 per pound of seed pods. Seedling reproduction is rare (2). Seeds disperse by wind or gravity (3)	
Rationale: enter text here	
Sources of information: 1. Boring and Swank 1984 2. Roach B. A. 1958 Silvical Characteristics of Black Locust. U. S. Department of Agriculture Forest Service. 1-15. 3. Hunter 2000	
<b>Question 2.5</b> Potential for human-caused dispersal	A Rev'd, Sci. Pub'n <a href="#">back</a>
Identify dispersal mechanisms: Planted for cultivation (1, 2) and landscaping. Has been used for panelling,	

construction, firewood, fenceposts, livestock forage, and nectar for honey production (2).	
Rationale: Found in Cal-IPC nursery survey 2004.	
Sources of information: 1. Hunter 2000 2. Roach 1958	
<b>Question 2.6</b> Potential for natural long-distance dispersal	C Other Pub. Mat'l <a href="#">back</a>
Identify dispersal mechanisms: Some seeds dispersed by wind, but as most reproduction is by suckers, this is probably a limited means of dispersal.	
Rationale: enter text here	
Sources of information: 1. Hunter 2000 2. Roach 1958	
<b>Question 2.7</b> Other regions invaded	C Observational <a href="#">back</a>
Identify other regions: Cultivated as a horticultural species, but rarely escapes.	
Rationale:	
Sources of information: Joe DiTomaso, UC Davis, and John Randall, The Nature Conservancy Invasive Species Initiative, pers. Obs.	
<b>Question 3.1</b> Ecological amplitude/Range	A Rev'd, Sci. Pub'n <a href="#">back</a>
Describe ecological amplitude, identifying date of source information and approximate date of introduction to the state, if known: Mostly inhabits disturbed sites. Early successional species, needs open areas (1). Invades dry prairies, sand prairies and savannas (2). Widespread in northern California below 6300 ft, also common in Great Basin area (3). Found in disturbed woodlands and ravines in Tahoe National Forest and John Muir National Monument (4).	
Rationale:	
Sources of information: 1. Boring and Swank 1984 2. Converse 1984 3. Hickman 1993 4. Hunter 2000	

<b>Question 3.2</b> Distribution/Peak frequency	D Observational <a href="#">back</a>
Describe distribution: Present only in small patches in California.	
Rationale: enter text here	
Sources of information: Joe DiTomaso, UC Davis, and John Randall, The Nature Conservancy Invasive Species Initiative, pers.obs.	

**Worksheet A**[back](#)

Reaches reproductive maturity in 2 years or less	<b>No: 0 pt</b>
Dense infestations produce >1,000 viable seed per square meter	<b>No</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</b>
Seeds remain viable in soil for three or more years	<b>Yes</b>
Viable seed produced with <i>both</i> self-pollination and cross-pollination	<b>Unknown: 0 pts</b>
Has quickly spreading vegetative structures (rhizomes, roots, etc.) that may root at nodes	<b>Yes: 1 pt</b>
Fragments easily and fragments can become established elsewhere	<b>No: 0 pts</b>
Resprouts readily when cut, grazed, or burned	<b>Yes: 1 pt</b>
	<b>4 Total Unknowns</b>
	<b>B</b>
<b>Note any related traits:</b> enter text here	

## Worksheet C - California Ecological Types

[back](#)

(*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
	chaparral	score
<b>Grasslands, Vernal Pools, Meadows, and other Herb Communities</b>	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
<b>Bog and Marsh</b>	bog and fen	score
	marsh and swamp	score
<b>Riparian and Bottomland</b>	riparian forest	score
	riparian woodland	D. presen
	riparian scrub (incl. desert washes)	score
<b>Woodland</b>	cismontane woodland	score
	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).