

# 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>	Polygonum cuspidatum Sieb. and Zucc.
<b>Synonyms:</b>	Reynoutria japonica, Fallopia baldschuanica
<b>Common names:</b>	Japanese knotweed, Mexican bamboo
<b>Evaluation date (mm/dd/yy):</b>	4/21/05
<b>Evaluator #1 Name/Title:</b>	Elizabeth Brusati, project manager
<b>Affiliation:</b>	California Invasive Plant Council
<b>Phone numbers:</b>	510-843-3902
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<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>	enter text here
<b>Committee review date:</b>	enter text here
<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>B</b>	<b>Other Pub. Mat'l</b>
<a href="#">1.2</a>	Impact on plant community	<b>A</b>	<b>Rev'd, Sci. Pub'n</b>
<a href="#">1.3</a>	Impact on higher trophic levels	<b>B</b>	<b>Other Pub. Mat'l</b>
<a href="#">1.4</a>	Impact on genetic integrity	<b>U</b>	<b>No Information</b>

**Impact**

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

**BABU**

*Using matrix, determine score and enter below:*

**B**

<a href="#">2.1</a>	Role of anthropogenic and natural disturbance	<b>B (2 pts)</b>	<b>Other Pub. Mat'l</b>
<a href="#">2.2</a>	Local rate of spread with no management	<b>A (3 pts)</b>	<b>Observational</b>
<a href="#">2.3</a>	Recent trend in total area infested within state	<b>B (2 pts)</b>	<b>Other Pub. Mat'l</b>
<a href="#">2.4</a>	Innate reproductive potential <a href="#">Wksht A</a>	<b>B (2 pts)</b>	<b>Other Pub. Mat'l</b>
<a href="#">2.5</a>	Potential for human-caused dispersal	<b>D (0 pts)</b>	<b>Other Pub. Mat'l</b>
<a href="#">2.6</a>	Potential for natural long-distance dispersal	<b>A (3 pts)</b>	<b>Other Pub. Mat'l</b>
<a href="#">2.7</a>	Other regions invaded	<b>A (3 pts)</b>	<b>Other Pub. Mat'l</b>

**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:*

**Medium**

**Red Alert**

<a href="#">3.1</a>	Ecological amplitude/Range	<b>D</b>	<b>Other Pub. Mat'l</b>
<a href="#">3.2</a>	Distribution/Peak frequency <a href="#">Wksht C</a>	<b>D</b>	<b>Other Pub. Mat'l</b>

**Distribution**

*Using matrix, determine score and enter below:*

**D**

**Table 3. Documentation**

<p><b>Question 1.1</b> Impact on abiotic ecosystem processes</p>	<p>B Other Pub. Mat'l <a href="#">back</a></p>
<p>Identify ecosystem processes impacted: Decreases water flow, increases erosion (1). However, impacts not severe (2).</p>	
<p>Rationale: Thickets can clog small water ways. Creates bank erosion problems and is considered a flood control hazard.</p>	
<p>Sources of information: 1. Anonymous. 2005. Invasive Knotweeds. King County (Washington) Noxious Weed Control Program Weed Alert. King County Department of Natural Resources and Parks, Water and Land Resources Division, Noxious Weed Control Program. Available: <a href="http://dnr.metrokc.gov/weeds">http://dnr.metrokc.gov/weeds</a> 2. John Randall, The Nature Conservancy, pers. obs.</p>	
<p><b>Question 1.2</b> Impact on plant community composition, structure, and interactions</p>	<p>A Rev'd, Sci. Pub'n <a href="#">back</a></p>
<p>Identify type of impact or alteration: Creates dense colonies that exclude other vegetation (1). Preliminary data indicates that knotweeds reduce the quantity of native leaf litter inputs into streams (3).</p>	
<p>Rationale: Early emergence and height of knotweeds (4m) allows them to shade out other species and prevent revegetation (2).</p>	
<p>Sources of information: 1. DiTomaso and Healy. 2006. Weeds of California. UC DANR Publ. #3488. 2. Seiger, L. 1991. Element Stewardship Abstract for Polygonum cuspidatum. The Nature Conservancy, Arlington, VA. Accessed on-line at <a href="http://www.tncweeds.ucdavis.edu">www.tncweeds.ucdavis.edu</a> 3. Lauren Urgenson, graduate student, University of Washington, pers. comm. E-mail 2/28/05</p>	
<p><b>Question 1.3</b> Impact on higher trophic levels</p>	<p>B Other Pub. Mat'l <a href="#">back</a></p>
<p>Identify type of impact or alteration: Decreases value of riparian habitat for fish and wildlife (1). Knotweed litter has a higher carbon-to-ratio than native plants along streams, giving it less nutritional value for aquatic insects than alder, willow, or cottonwood (2).</p>	
<p>Rationale: If it blocks streams, fish passage will be inhibited.</p>	
<p>Sources of information: 1. Anonymous 2005 3. Lauren Urgenson, graduate student, University of Washington, pers. comm. E-mail 2/28/05</p>	
<p><b>Question 1.4</b> Impact on genetic integrity</p>	<p>U No Information <a href="#">back</a></p>
<p>Identify impacts: There are numerous native and introduced Polygonum species in California (1). Most reproduction is vegetative so it is unlikely that it hybridizes with native species, but this is unknown.</p>	

Rationale: enter text here	
Sources of information: 1. Hickman, J. C. (ed.) 1993. The Jepson Manual, Higher Plants of California. University of California Press. Berkeley, CA 2. Tu, M., and J. Randall. 2003. 2003 Cal-IPC Red Alert! Proceedings of the California Invasive Plant Council Symposium 2003. Available: www.cal-ipc.org	
<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: Inhabits riparian areas, forest edges, and other disturbed moist places (1). Does not appear to be a threat in undisturbed forests (2).	
Rationale: enter text here	
Sources of information: 1. DiTomaso and Healy. 2006. Weeds of California. UC DANR Publ. #3488. 2. Seiger 1991	
<b>Question 2.2</b> Local rate of spread with no management	A Observational <a href="#">back</a>
Describe rate of spread: Rhizomes spread very quickly.	
Rationale: Sounds like an A but need better documentation for this.	
Sources of information: Mandy Tu, The Nature Conservancy, Oregon. pers. comm. Phone interview 2/05	
<b>Question 2.3</b> Recent trend in total area infested within state	B Other Pub. Mat'l <a href="#">back</a>
Describe trend: Currently present in a limited area, but has the potential to spread widely (1, 2, 3).	
Rationale: enter text here	
Sources of information: 1. DiTomaso and Healy. 2006. Weeds of California. UC DANR Publ. #3488. 2. Tu and Randall 2003 3. Tu, Mandy. Personal communication. The Nature Conservancy, Invasive Species Program. Portland, OR. www.tncweeds.ucdavis.edu	
<b>Question 2.4</b> Innate reproductive potential	B Other Pub. Mat'l <a href="#">back</a>
Describe key reproductive characteristics: Fast-growing perennial that can grow up to 4m tall in one year. Mostly vegetative reproduction through fast-growing rhizomes. Fragments can develop into new plants (1). Seed production thought not to be important in northwestern U.S. (2).	

Rationale: enter text here	
Sources of information: 1. DiTomaso and Healy. 2006. Weeds of California. UC DANR Publ. #3488. 2. Tu, Mandy. Personal communication. The Nature Conservancy, Invasive Species Program. Portland, OR. www.tncweeds.ucdavis.edu	
<b>Question 2.5</b> Potential for human-caused dispersal	D Other Pub. Mat'l <a href="#">back</a>
Identify dispersal mechanisms: In Washington and Oregon, was originally introduced as a ornamental, but is no longer used for this purpose. Because it occurs along roadsides, rhizome fragments could be carried by vehicles. Other knotweeds are carried in fill dirt. Sometimes planted by basketweavers.	
Rationale:	
Sources of information: Tu and Randall 2003 Seigel 1991 DiTomaso and Healy. 2006. Weeds of California. UC DANR Publ. #3488 Carri Piroso, California Dept. of Food and Agriculture, pers. obs.	
<b>Question 2.6</b> Potential for natural long-distance dispersal	A Other Pub. Mat'l <a href="#">back</a>
Identify dispersal mechanisms: Because knotweed occurs along riparian areas, rhizome fragments could be transported by water.	
Rationale: enter text here	
Sources of information: 1. DiTomaso and Healy. 2006. Weeds of California. UC DANR Publ. #3488.	
<b>Question 2.7</b> Other regions invaded	A Other Pub. Mat'l <a href="#">back</a>
Identify other regions: A serious problem in the northeastern U.S., northern midwest, and England. Recent invader rapidly becoming a problem in the Pacific Northwest (1). Currently invades habitats in Oregon and Washington that are present but not invaded in California (2). Could still move into wetlands, marshes, and forests, particularly riparian forest. In the NW, it is a widespread invasive in all of these sites.	
Rationale: Not widely distributed in California. Large potential for spread.	
Sources of information: 1. Tu and Randall 2003 2. Tu, Mandy. Personal communication. The Nature Conservancy, Invasive Species Program. Portland, OR. www.tncweeds.ucdavis.edu	
<b>Question 3.1</b> Ecological amplitude/Range	D Other Pub. Mat'l <a href="#">back</a>
Describe ecological amplitude, identifying date of source information and approximate date of introduction to	

<p>the state, if known: Recent invader that is currently uncommon. Inhabits disturbed moist sites, roadsides, riparian areas, and wetlands. Has not invaded wetlands in California yet. Can also inhabit upland sites where water tables are shallow or in areas where seasonal rainfall is adequate. Tolerates some dryness and shade. In San Francisco Bay region, northern Sierra Nevada, northern Central Valley, Northwestern region, especially southern North Coast Ranges, Cascade Range, to 1000m (1). In the northwest, also invades forest edges and cobble bars in streams. Can tolerate some shade (2).</p>	
<p>Rationale:</p>	
<p>Sources of information: 1. DiTomaso and Healy. 2006. Weeds of California. UC DANR Publ. #3488. 2. Tu, Mandy. Personal communication. The Nature Conservancy, Invasive Species Program. Portland, OR. www.tncweeds.ucdavis.edu</p>	
<p><b>Question 3.2</b> Distribution/Peak frequency</p>	<p>D Other Pub. Mat'l <a href="#">back</a></p>
<p>Describe distribution: Uncommon in California so far (1, 2).</p>	
<p>Rationale: enter text here</p>	
<p>Sources of information: 1. DiTomaso and Healy. 2006. Weeds of California. UC DANR Publ. #3488. 2. Tu, Mandy. Personal communication. The Nature Conservancy, Invasive Species Program. Portland, OR. www.tncweeds.ucdavis.edu</p>	

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Reaches reproductive maturity in 2 years or less	<b>Yes: 1 pt</b>
Dense infestations produce >1,000 viable seed per square meter	<b>No: 0 pts</b>
Populations of this species produce seeds every year.	<b>No: 0 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>Unknown: 0 pts</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>Yes: 2 pts</b>
Resprouts readily when cut, grazed, or burned	<b>Yes: 1 pt</b>
	<b>5 pts      2 unknowns</b>
	<b>B (4-5 pts)</b>
<b>Note any related traits:</b> enter text here	

## Worksheet C - California Ecological Types

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(*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	score
	valley and foothill grassland	score
	Great Basin grassland	score
	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	D. present
	riparian woodland	D. present
	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).