

# 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>	Asparagus asparagoides (L.) Druce
<b>Synonyms:</b>	Myriophyllum asparagoides, Asparagus medeoloides, Dracaena medeoloides, Elachanthera sewelliae, Luzuriaga sewelliae, Medeola asparagoides
<b>Common names:</b>	bridal creeper, African asparagus fern, ornamental asparagus, smilax asparagus
<b>Evaluation date (mm/dd/yy):</b>	1/24/05
<b>Evaluator #1 Name/Title:</b>	Elizabeth Brusati, project manager
<b>Affiliation:</b>	California Invasive Plant Council
<b>Phone numbers:</b>	510-843-3902
<b>Email address:</b>	edbrusati@cal-ipc.org
<b>Address:</b>	1442A Walnut St. #462, Berkeley, CA 94709
<b>Evaluator #2 Name/Title:</b>	Joseph M. DiTomaso
<b>Affiliation:</b>	University of California, Davis
<b>Phone numbers:</b>	530-754-8715
<b>Email address:</b>	jmditomaso@ucdavis.edu
<b>Address:</b>	Dept. Plant Sci., Mail Stop 4, Davis, CA 95616

Section below for list committee use—please leave blank

<b>List committee members:</b>	Jake Sigg, Peter Warner, Bob Case, John Knapp, Elizabeth Brusati
<b>Committee review date:</b>	7/8/05
<b>List date:</b>	enter text here
<b>Re-evaluation date(s):</b>	enter text here

**General comments on this assessment:**

enter text here

**Table 2. Criteria, Section, and Overall Scores**

<a href="#">1.1</a>	Impact on abiotic ecosystem processes	<b>B</b>	Rev'd, Sci. Pub'n
<a href="#">1.2</a>	Impact on plant community	<b>A</b>	Other Pub. Mat'l
<a href="#">1.3</a>	Impact on higher trophic levels	<b>C</b>	Observational
<a href="#">1.4</a>	Impact on genetic integrity	<b>D</b>	Other Pub. Mat'l

**Impact**

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

**BAUD**

*Using matrix, determine score and enter below:*

**B**

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

**Invasiveness**

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

**13**

*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>	Other Pub. Mat'l
<a href="#">3.2</a>	Distribution/Peak frequency <a href="#">Wksht C</a>	<b>D</b>	Observational

**Distribution**

*Using matrix, determine score and enter below:*

**D**

**Table 3. Documentation**

<b>Question 1.1</b> Impact on abiotic ecosystem processes	B Rev'd, Sci. Pub'n <a href="#">back</a>
Identify ecosystem processes impacted: Dense stems limit light levels (1). Dies back in the summer, leaving a blanket of entwined stems that can be a fire hazard.	
Rationale: enter text here	
Sources of information: Anonymous. 2000. Best Practice Management Guide for Environmental Weeds 6. "Bridal Creeper, <i>Asparagus asparagoides</i> ." Cooperative Research Centre for Weed Management Systems, Australia.  2. Stansbury, C. D. and J. K. Scott (1999). "The history, distribution and rate of spread of the invasive alien plant, bridal creeper, <i>Asparagus asparagoides</i> (L.) Wight, as determined from a questionnaire survey of landholders in south-western Australia." <i>Diversity &amp; Distributions</i> 5(3): 105-116.	
<b>Question 1.2</b> Impact on plant community composition, structure, and interactions	A Other Pub. Mat'l <a href="#">back</a>
Identify type of impact or alteration: Outcompetes other vegetation (1). Shoots form a dense canopy which shades shrubs, herbs, and seedlings. The tuber mat forms a thick barrier just below the surface which limits the access of other plants to soil moisture and nutrients. 87% of the plant weight is below ground when it is actively growing (2). Data from Australian literature. No information available from California. It is expected that a similar situation would occur in California if the species became well established.	
Rationale: enter text here	
Sources of information: 1. Parsons, W. T., and E. G. Cuthbertson. 2001. <i>Noxious weeds of Australia</i> . 2nd edition. CSIRO Publishing. Collingwood, VIC, Australia.  2. Anonymous. 2000. Best Practice Management Guide for Environmental Weeds 6. "Bridal Creeper, <i>Asparagus asparagoides</i> ." Cooperative Research Centre for Weed Management Systems, Australia.	
<b>Question 1.3</b> Impact on higher trophic levels	C Observational <a href="#">back</a>
Identify type of impact or alteration: Native vegetation germination and dispersal is reduced by <i>A. asparagoides</i> , but no direct evidence on other trophic levels known in California. Displacement of native vegetation has effects on wildlife..	
Rationale: Frugivorous birds disperse <i>A. asparagoides</i> fruits, therefore competing with native vegetation for avian dispersal and germination.	
Sources of information: Stansbury and Scott 1999  John Knapp, Catalina Conservancy, Avalon, CA. Per. obs.	
<b>Question 1.4</b> Impact on genetic integrity	D Other Pub. Mat'l <a href="#">back</a>
Identify impacts: none	

Rationale: No native <i>Asparagus</i> spp.	
Sources of information: Hickman, J. C. (ed.) 1993. The Jepson Manual, Higher Plants of California. University of California Press. Berkeley, CA enter text here	
<b>Question 2.1</b> Role of anthropogenic and natural disturbance in establishment	B Rev'd, Sci. Pub'n <a href="#">back</a>
Describe role of disturbance: Occurs as a weed along roadsides, waste places, and other disturbed areas near towns. However, it is generally not found in open areas and can tolerate heavy shade (1).Roadsides, gardens, and woodlands have been invaded, as well as extensive areas of crop lands. Undisturbed native habitats are invaded. A. asparagoides can germinate in a wide range of environmental conditions (2).	
Rationale: enter text here	
Sources of information: 1. Parsons and Cuthbertson 2001 2. Stansbury and Scott 1999	
<b>Question 2.2</b> Local rate of spread with no management	U No Information <a href="#">back</a>
Describe rate of spread: Peak spread in Australia was 0.6m/yr of radial spread for patches of 10 square m. In southwest Australia, <i>A. asparagoides</i> has been observed to spread kilometers per year. It is widespread and highly invasive in Australia. No information available in California.	
Rationale: enter text here	
Sources of information: 1. Stansbury and Scott 1999.	
<b>Question 2.3</b> Recent trend in total area infested within state	U No Information <a href="#">back</a>
Describe trend: no information	
Rationale: enter text here	
Sources of information: enter text here	
<b>Question 2.4</b> Innate reproductive potential	A Other Pub. Mat'l <a href="#">back</a>
Describe key reproductive characteristics: Perennial, erect or climbing herb. Seeds germinate in autumn or early winter. Plants become dormant over the summer. Roots can survive long droughts and resprout when rains come. Reproduces by seed, tuber, and rhizome. Seed is believed to be viable in California. Many seeds are produced per plant, and has a high fecundity. Seed remains persistent for 2-3 years if buried. Bud bank resprouts after disturbance such as fire and mowing. Time to reproductive maturity occurs between 2-3 years. In Australia, seed production occurs for two months.	

Rationale: Information based on Australian literature.	
Sources of information: 1. Parsons, W. T., and E. G. Cuthbertson. 2001. Noxious weeds of Australia. 2 <sup>nd</sup> edition. CSIRO Publishing. Collingwood, VIC, Australia. Willis, A.J., McKay, R., Vranjic, J.A., Kilby, M.J., and Groves, R.H. 2003. Comparative seed ecology of the endangered shrub, <i>Pimelea spicata</i> and the threatening weed, bridal creeper: smoke, heat and other fire-related germination cues. <i>Ecological Management and Restoration</i> 4(1): 55-65. Brown, K. and Brooks, K. 1996. Bushland Weeds: a practical guide to their management with cases studies from the Swan Coastal Plain and beyond. Environmental Weeds Action Network. Pp. 52-52. Stansbury, C. Observations of birds feeding on bridal creeper ( <i>Asparagus asparagoides</i> ) fruits within Yanchep National Park, Western Australia. <i>Plant Protection Quarterly</i> . 11(2): 59-60. Stansbury, C.D. 2001. Dispersal of the environmental weed bridal creeper, <i>Asparagus asparagoides</i> , by silvereyes, <i>Zosterops lateralis</i> , in south-western Australia. <i>Emu</i> 101(1): 39-45. Giessow, J. 2001. Plants of Potential Concern <i>Asparagus asparagoides</i> . California Exotic Pest Plant Council News. 9(1):7-8.	
<b>Question 2.5</b> Potential for human-caused dispersal	B Other Pub. Mat'l <a href="#">back</a>
Identify dispersal mechanisms: Spread by dumped garden refuse (1) or by seeds adhering to animals, clothing, and machinery (2). On Catalina Island, <i>A. asparagoides</i> is commonly seen growing out of holes created by acorn wood peckers in Phoenix palms in the town of Avalon (3).	
Rationale: enter text here	
Sources of information: 1. Stansbury and Scott 1999 2. Parsons and Cuthbertson 2001 3. Knapp, J.J. Personal observations from 2001-2004 on Catalina Island, CA. (310) 510-1299, jknapp@catalinaconservancy.org.	
<b>Question 2.6</b> Potential for natural long-distance dispersal	A Rev'd, Sci. Pub'n <a href="#">back</a>
Identify dispersal mechanisms: Dispersed by frugivorous birds (up to 12 km in Australia) (1). Also dispersed by water. In an Australian study, 93% of bridal creeper occurrences were within 500m of drainage or watercourses (2). Rabbits and foxes can eat and disperse fruits and seeds (3).	
Rationale: enter text here	
Sources of information: 1. Stansbury, C. D. 2001. Dispersal of the environmental weed Bridal Creeper, <i>Asparagus asparagoides</i> , by Silvereyes, <i>Zosterops lateralis</i> , in south-western Australia. <i>Emu</i> 101(1): 39-45 2. Pigott, J. P. and P. Farrell. 1996. Factors affecting the distribution of bridal creeper ( <i>Asparagus asparagoides</i> ) in the lower south-west of Western Australia. <i>Plant Protection Quarterly</i> 11(2): 54-56 3. Anonymous 2000.	

<b>Question 2.7</b> Other regions invaded	A Other Pub. Mat'l <a href="#">back</a>
Identify other regions: Native to South Africa. Considered a noxious weed in Australia, where it invades coastal vegetation, wet and dry schlerophyll forests, heathlands, mallee shrublands, and riparian areas (1), as well as jarrah forest, and low woodland, and Eucalyptus stands (2). USDA does not list it in any other US state.	
Rationale: enter text here	
Sources of information: 1. Anonymous. 2000. Best Practice Management Guide for Environmental Weeds 6. "Bridal Creeper, Asparagus asparagoides." Cooperative Research Centre for Weed Management Systems, Australia. 2. Pigott and Farrell 1996	
<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 the state, if known: Invades disturbed areas and fields (1) in Alameda, Santa Barbara, and San Diego counties (2). Invades riparian areas in southern California (3).	
Rationale: enter text here	
Sources of information: 1. DiTomaso, J., and E. Healy. in prep. Weeds of California and Other Western States. 2. USDA, NRCS. 2004. The PLANTS Database, Version 3.5 ( <a href="http://plants.usda.gov">http://plants.usda.gov</a> ). National Plant Data Center, Baton Rouge, LA 70874-4490 USA 3. Giessow, J. 2000. Plants of Potential Concern Asparagus asparagoides. California Exotic Pest Plant Council News. Winter.	
<b>Question 3.2</b> Distribution/Peak frequency	D Observational <a href="#">back</a>
Describe distribution: Very uncommon in California.	
Rationale: enter text here	
Sources of information: Observational, DiTomaso.	

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

Reaches reproductive maturity in 2 years or less	<b>Yes: 1 pt</b>
Dense infestations produce >1,000 viable seed per square meter	<b>Unknown: 0 pts</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: 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>6 pts      3 unknowns</b>
	<b>A (6+ 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	score
	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).