

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):	Aeschynomene rudis
Synonyms:	Aeschynomene natans
Common names:	rough jointvetch
Evaluation date (mm/dd/yy):	08/17/04
Evaluator #1 Name/Title:	Joseph M. DiTomaso/ UC Cooperative Extension Specialist
Affiliation:	University of California
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Address:	Weed Science Program, Robbins Hall, Davis, CA 95616
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:	Peter Warner, Cynthia Roye, John Randall, Joe DiTomaso, Alison Stanton, Jake Sigg
Committee review date:	8/27/2004
List date:	enter text here
Re-evaluation date(s):	enter text here

General comments on this assessment:

Plant is generally considered a weed of rice.

Table 2. Criteria, Section, and Overall Scores

1.1	Impact on abiotic ecosystem processes	D	Rev'd, Sci. Pub'n
1.2	Impact on plant community	D	Other Pub. Mat'l
1.3	Impact on higher trophic levels	B	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:
DDBD
 Use matrix determine the score; enter below:
D

2.1	Role of anthropogenic and natural disturbance	D 0	Other Pub. Mat'l
2.2	Local rate of spread with no management	B 2	Other Pub. Mat'l
2.3	Recent trend in total area infested within state	D 0	Other Pub. Mat'l
2.4	Innate reproductive potential Wksht A	A 3	Other Pub. Mat'l
2.5	Potential for human-caused dispersal	D 0	Other Pub. Mat'l
2.6	Potential for natural long-distance dispersal	A 3	Other Pub. Mat'l
2.7	Other regions invaded	B 2	Rev'd, Sci. Pub'n

“Invasiveness”
 For questions at left, recall that an A gets 3 points, a B gets 2, a C gets 1, and a D or U gets=0. Enter the sum total of all points for Q2.1-2.7 below:
10
 Use matrix to determine score and enter below:
C

“Plant Score”
 Using matrix, determine the Overall Score and Alert Status from the three section scores and enter them below:
Not listed
Alert Status

3.1	Ecological amplitude/Range	D	Rev'd, Sci. Pub'n
3.2	Distribution/Peak frequency Wksht C	D	Other Pub. Mat'l

“Distribution”
 Use matrix determine the score; enter below:
D

Table 3. Documentation

Question 1.1 Impact on abiotic ecosystem processes	D Rev'd, Sci. Pub'n back
Identify ecosystem processes impacted: Associated with nitrogen-fixing bacteria. Restricted to rice fields so there is no impact in wildlands.	
Rationale: enter text here	
Sources of information: Alazard, D. and E. Duhoux. 1988. Diversity of stem nodulation sites in <i>Aeschynomene</i> spp. <i>Journal of Plant Physiology</i> 132(1):123-125.; DiTomaso, J.M. and E.A. Healy. 2003. Aquatic and Riparian Weeds of the West. Univ. Calif. Ag. Nat. Res. Publ. #3421.	
Question 1.2 Impact on plant community composition, structure, and interactions	D Other Pub. Mat'l back
Identify type of impact or alteration: May have an impact in wildlands, but is currently restricted to rice fields.	
Rationale: enter text here	
Sources of information: DiTomaso, J.M. and E.A. Healy. 2003. Aquatic and Riparian Weeds of the West. Univ. Calif. Ag. Nat. Res. Publ. #3421.	
Question 1.3 Impact on higher trophic levels	B Other Pub. Mat'l back
Identify type of impact or alteration: May have a serious impact if it escapes into wetlands and bird habitat areas in the Sacramento Valley. Without control it would be expected to invade these areas, outcompete more desirable vegetation, and jeopardize grower's efforts to contribute to the improvement of adjacent wildlife habitat.	
Rationale: enter text here	
Sources of information: Roberson, R.C. 1997. Pest rating for rough jointvetch (<i>Aeschynomene rudis</i>). In Cal-IPC files. Electronic communication.	
Question 1.4 Impact on genetic integrity	D Other Pub. Mat'l back
Identify impacts: No native species within the genus in California.	
Rationale: enter text here	
Sources of information: Hickman, J.C. ed. 1993. <i>The Jepson Manual. Higher Plants of California</i> . UC Press, Berkeley	
Question 2.1 Role of anthropogenic and natural disturbance in establishment	D Other Pub. Mat'l back
Describe role of disturbance: Appears to be found only in disturbed agricultural sites.	

Rationale: enter text here	
Sources of information: DiTomaso, J.M. and E.A. Healy. 2003. Aquatic and Riparian Weeds of the West. Univ. Calif. Ag. Nat. Res. Publ. #3421.	
Question 2.2 Local rate of spread with no management	B Other Pub. Mat'l back
Describe rate of spread: Spread quickly in a rice field without management.	
Rationale: enter text here	
Sources of information: Roberson, R.C. 1997. Pest rating for rough jointvetch (<i>Aeschynomene rudis</i>). In Cal-IPC files. Electronic communication.	
Question 2.3 Recent trend in total area infested within state	D Other Pub. Mat'l back
Describe trend: Nearly eradicated in California through the efforts of CDFG. In 1997, the species was restricted to two rice fields in Colusa County.	
Rationale: enter text here	
Sources of information: DiTomaso, J.M. and E.A. Healy. 2003. Aquatic and Riparian Weeds of the West. Univ. Calif. Ag. Nat. Res. Publ. #3421.	
Question 2.4 Innate reproductive potential	A Other Pub. Mat'l back
Describe key reproductive characteristics: Flowers from July to October. Seeds can survive at least 10 years in the soil. Self and cross pollinated.	
Rationale: enter text here	
Sources of information: DiTomaso, J.M. and E.A. Healy. 2003. Aquatic and Riparian Weeds of the West. Univ. Calif. Ag. Nat. Res. Publ. #3421.; Hitchcock, J. 2004. Reevaluation of the rating change for <i>Aeschynomene rudis</i> (jointvetch), ie. from “Q” to “A”, not “Q” to “B”. Memo to Don Henry, 9/7/1991	
Question 2.5 Potential for human-caused dispersal	D Other Pub. Mat'l back
Identify dispersal mechanisms: Some movement in rice seed, but not generally to wildland areas.	
Rationale: enter text here	
Sources of information: DiTomaso, J.M. and E.A. Healy. 2003. Aquatic and Riparian Weeds of the West. Univ.	

Calif. Ag. Nat. Res. Publ. #3421.	
Question 2.6 Potential for natural long-distance dispersal	A Other Pub. Mat'l back
Identify dispersal mechanisms: Can move long distance in water.	
Rationale: enter text here	
Sources of information: DiTomaso, J.M. and E.A. Healy. 2003. Aquatic and Riparian Weeds of the West. Univ. Calif. Ag. Nat. Res. Publ. #3421.	
Question 2.7 Other regions invaded	B Rev'd, Sci. Pub'n back
Identify other regions: Appears to have been in California for only a short time. Also weedy in the southern US and in Western Africa. Always found in aquatic habitats, could invade lakes, ponds and reservoirs.	
Rationale: enter text here	
Sources of information: Alazard, D. and E. Duhoux. 1988. Diversity of stem nodulation sites in <i>Aeschynomene</i> spp. <i>Journal of Plant Physiology</i> 132(1):123-125.; DiTomaso, J.M. and E.A. Healy. 2003. Aquatic and Riparian Weeds of the West. Univ. Calif. Ag. Nat. Res. Publ. #3421.; Hitchcock, J. 2004. Reevaluation of the rating change for <i>Aeschynomene rudis</i> (jointvetch), ie. from "Q" to "A", not "Q" to "B". Memo to Don Henry, 9/7/1991	
Question 3.1 Ecological amplitude/Range	D Rev'd, Sci. Pub'n back
Describe ecological amplitude, identifying date of source information and approximate date of introduction to the state, if known: Introduced from South America as a contaminant in dry bean seeds. First reported as a weed in the US in Louisiana in 1842. Grows along edges of ponds and as a weed in rice. Also found in standing water.	
Rationale: enter text here	
Sources of information: DiTomaso, J.M. and E.A. Healy. 2003. Aquatic and Riparian Weeds of the West. Univ. Calif. Ag. Nat. Res. Publ. #3421.; Rudd, V.E. 1955. The Amercian species of <i>Aeschynomene</i> . Contributions from the United States National Herbarium. 32, part 1. Smithsonian Institution: Washington D.C.; Isely, D. 1985. Miscellaneous new records for Leguminosae Papilionoideae in the Southeastern USA. <i>Journal of the Elisha Mitchell Scientific Society</i> 101(1):19-22.; Carulli, J.P., A.O. Tucker et al. 1988. <i>Aeschynomene rudis</i> Benth. Fabaceae in the USA. <i>Bartonia</i> 54:18-20.	
Question 3.2 Distribution/Peak frequency	D Other Pub. Mat'l back
Describe distribution: Primarily inhabits the edges of rice fields and nearby ditches. Not often found in wildlands.	
Rationale: enter text here	

Sources of information: DiTomaso, J.M. and E.A. Healy. 2003. Aquatic and Riparian Weeds of the West. Univ. Calif. Ag. Nat. Res. Publ. #3421.

Worksheet A

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Reaches reproductive maturity in 2 years or less	Yes: 1 pt
Dense infestations produce >1,000 viable seed per square meter	No: 0 pts
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	Yes: 1 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	No: 0 pts
Resprouts readily when cut, grazed, or burned	No: 0 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	D. present
	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)	score
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).