

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

Instructions

For each species assessed, complete and return the Plant Assessment Form including the three tables, Worksheet A, and the appropriate state ecological types worksheet (either Worksheet B, C, or D). All light blue cells should be filled in for each of these tables and worksheets. Note that this is the “electronic” version of the form—a “printable” version of this form is also available, with formatting designed to allow an evaluator to fill in blanks by hand. The electronic version is preferred for final submissions to the list committee.

Step 1: Complete Table 1 with information on the species being assessed and the individual(s) performing the assessment. Enter the information in the light blue spaces below.

Table 1. Species and Evaluator Information

Species name (Latin binomial):	Ageratina adenophora (Sprengel) R. King & H. Robinson
Synonyms:	Eupatorium adenophorum, E. glandulosum, E. pasadense.
Common names:	eupatory, croftonweed, thoroughwort, sticky snakeroot, catweed, hemp agrimony, sticky agrimony, sticky eupatorium
Evaluation date (mm/dd/yy):	8/26/03
Evaluator #1 Name/Title:	Cynthia L. Roye, Associate State Park Resource Ecologist
Affiliation:	California State Parks
Phone numbers:	(916) 653-9083
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Address:	P.O. Box 942896, Sacramento, CA 94296-0001
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:	Matt Brooks, Peter Warner, Joe DiTomaso, Doug Johnson
Committee review date:	9/4/03
List date:	enter text here
Re-evaluation date(s):	enter text here

Table 2. Criteria, Section, and Overall Scores

1.1	Impact on abiotic ecosystem processes	U	Other Pub. Mat'l
1.2	Impact on plant community	B	Other Pub. Mat'l
1.3	Impact on higher trophic levels	B	Other Pub. Mat'l
1.4	Impact on genetic integrity	U	Other Pub. Mat'l

“Impact”
Enter four characters from Q1.1-1.4 below:
UBBU
Use matrix determine the score; enter below:
B

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

“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:
16
Use matrix to determine score and enter below:
B

“Plant Score”
Using matrix, determine the Overall Score and Alert Status from the three section scores and enter them below:
Medium
No Alert

3.1	Ecological amplitude	A	Observational
3.2	Distribution	D	Observational

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

Table 3. Documentation

Question 1.1 Impact on abiotic ecosystem processes
Identify ecosystem processes impacted: U.
Rationale:
Sources of information:
Question 1.2 Impact on plant community composition, structure, and interactions
Identify type of impact or alteration: B. Often replaces desirable species, either in agricultural fields or in native vegetation. Grows rapidly and produces many shoots and branches which form dense thickets.
Rationale: Is a serious agricultural weed , especially in rangeland. In Australia following ten years of drought and overgrazing the plant spread so quickly overrunning dairy land and horticultural land that farmers abandoned their holdings. Release of inhibitors, perhaps allelopathic compounds, into the soil Authors did not state specific source for this information.
Sources of information: Lichti and Hoshovsky IN: Bossard et al. 2000.
Question 1.3 Impact on higher trophic levels
Identify type of impact or alteration: B. Fatally toxic to horses causing acute edema of lungs and hemorrhaging. Unpalatable to cattle. Effect on native fauna unknown.
Rationale: Although no references to the effects on native fauna were found, the dire effect on horses has led me to infer that the effect on native fauna could be serious if the plant is consumed. It is eaten by sheep and goats without ill effect if other pasture is available.
Sources of information: Lichti and Hoshovsky IN: Bossard et al. 2000; Parsons and Cuthbertson. 1992. Noxious Weeds of Australia. Inkata Press, Melbourne and Sidney, AU. 692 pp.
Question 1.4 Impact on genetic integrity
Identify impacts: U; Unknown, but there are three closely-related California plants: A. herbacea, A. occidentalis, A. shastensis, so it could have an effect.
Rationale: Likelihood of genetic impact unknown, but possible.
Sources of information: Lichti and Hoshovsky IN: Bossard et al. 2000.

Question 2.1 Role of anthropogenic and natural disturbance in establishment
Describe role of disturbance: B, Occurs in creek beds, on forest clearings and on slopes greater of than 20%. Naturalizes near areas where it has been cultivated.
Rationale: Requires light to germinate so unshaded conditions, such as disturbed areas, are necessary for establishment. Once established, however, seedlings can withstand considerable shading by compensating for reduced light by increasing leaf area. Deep shade will kill seedlings.
Sources of information: Lichti and Hoshovsky IN: Bossard et al. 2000. Parsons and Cuthbertson. 1992. Noxious Weeds of Australia.
Question 2.2 Local rate of spread with no management
Describe rate of spread: B. No hard data in California, in Australia spread very rapidly following drought, overgrazing where it had previously spread slowly.
Rationale: May spread quickly under certain environmental conditions.
Sources of information: Lichti and Hoshovsky IN: Bossard et al. 2000; Peter Warner, observational.
Question 2.3 Recent trend in total area infested within state
Describe trend: B: Scattered occurrence records from Alameda County south to Los Angeles County and even inland to San Bernardino County. Only reported from 8 California State Park units between Mt. Tamalpais and Topanga SP.
Rationale: This is an inference; many more occurrences would be expected over the 68 years since the first recorded escape if the increase were more rapid.
Sources of information: Jepson Treatment and SMASCH County records as accessed over the Internet at: http://ucjeps.berkeley.edu/cgi-bin/JM_map.pl?taxon=AGERATINA%20adenophora&hcode California State Parks 2002. Resource Condition Assessment
Question 2.4 Innate reproductive potential
Describe key reproductive characteristics: Score, A. Sets seeds apomictically; 7,000-10,000 seeds per plant per year; 15 to 30 % not viable; seeds mature and are shed April to mid-June; pappus allows easy dispersed by wind and water, buried seeds lose viability at rate of 20%/yr. but plant still spreads because of high seed prod.
Rationale: enter text here
Sources of information: Parsons & Cuthbertson 1992. Noxious Weeds of Australia. Inkata Press, Melbourne and Sidney, Australia. 692 pp.

Question 2.5 Potential for human-caused dispersal
Identify dispersal mechanisms: B;Originally planted horticulturally. Agricultural contaminant, sand and gravel for road construction, agricultural equipment and other vehicles, livestock.
Rationale: enter text here
Sources of information: Lishti and Hoshovsky IN: Bossard et al. 2000.
Question 2.6 Potential for natural long-distance dispersal
Identify dispersal mechanisms: A; seed has a pappus and can be dispersed by wind or water.
Rationale: Did not find data on actual dispersal distance.
Sources of information: Parsons and Cuthbertson. 1992.
Question 2.7 Other regions invaded
Identify other regions: B; In New Zealand, is also found on coastal dunes. In Australia, widespread on rangeland. Is found primarily below 1,000 ft elevation in California but up to nearly 6,600 feet in northeast India.
Rationale: enter text here
Sources of information: Holland, Wendy. 1997. A study of Environmental Weeds found on the coastal fringe of Bream Head and in private gardens at Ocean Beach and Urquhart's Bay as accessed on the Internet at: http://www/igrin.co.nz/trisha/Breamhead.html
Question 3.1 Ecological amplitude
Describe ecological amplitude, identifying date of source information and approximate date of introduction to the state, if known: Date of introduction to California unknown, but in 1935 was reported as a "rare escape" in the San Francisco Bay area and along the south coast. Has been reported in 8 units of the California State Park System from the Angeles District, the Santa Cruz District, the Monterey District and the Marin District. Is in three major ecological types and five minor types in California, so Score is A.
Rationale: Has been reported in 8 units of the California State Park System from the Angeles District to the Marin District.
Sources of information: Lichti and Hoshovsky IN: Bossard et al. 2000; California State Parks 2002. Natural Resources Condition Assessment; Roye and Boyd, 2001, Personal Observation of "throughwort" at Mt. Tamalpais SP.

Question 3.2 Distribution
Describe distribution: D, Is does not constitute more than 5% of any of the types where it is currently known.-
Rationale: I did not find actual data, but my reasoning is that if it were more common it would have also been reported in the Channel Coast and San Luis Obispo Coast Districts at more units of the California State Park System between those endpoints.
Sources of information: California State Parks 2002. Natural Resources Condition Assessment; Roye and Boyd, 2001, Personal Observation of "throughwort" at Mt. Tamalpais SP.

Worksheet A

Complete this worksheet to answer Question 2.4.

Reaches reproductive maturity in 2 years or less	Unknown: 0 pts
Dense infestations produce >1,000 viable seed per square meter	Yes: 2 pts
Populations of this species produce seeds every year.	Yes: 1 pt
Seed production sustained over 3 or more months within a population annually	No: 0 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	Yes: 1 pt
Fragments easily and fragments can become established elsewhere	Yes: 2 pts
Resprouts readily when cut, grazed, or burned	Yes: 1 pt
	9 pts 1 unknown
	A (6+ pts)
Note any related traits: Sets seeds apomictically; 7,000-10,000 seeds per plant per year; 15 to 30 % not viable; seeds mature and are shed April to mid-June; pappus allows easy dispersed by wind and water, buried seeds lose viability at rate of 20%/yr. but plant still spreads because of high seed prod. Parsons & Cuthbertson.	

Worksheet C - California Ecological Types

(*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	score
	coastal scrub	D. present
	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
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	D. present
	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	D. present
	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).