

# 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

**Table 1. Species and Evaluator Information**

<b>Species name</b> (Latin binomial):	<i>Egeria densa</i>
<b>Synonyms:</b>	
<b>Common names:</b>	Brazilian egeria, egeria
<b>Evaluation date</b> (mm/dd/yy):	5/22/03
<b>Evaluator #1 Name/Title:</b>	Joe DiTomaso
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<b>Address:</b>	Weed Science Program, Robbins Hall, Univ. California, Davis CA 95616
<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 review committee use—please leave blank

<b>Review committee members:</b>	Joe DiTomaso, Peter Warner, Alison Stanton, Carla Bossard, Cynthia Roye, Jake Sigg, Doug Johnson, Brianna Richardson
<b>Committee review date:</b>	06/06/03
<b>List date:</b>	enter text here
<b>Re-evaluation date(s):</b>	enter text here

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

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

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

2.1	Role of anthropogenic and natural disturbance	<b>A 3</b>	<b>Other Pub. Mat'l</b>
2.2	Local rate of spread with no management	<b>A 3</b>	<b>Observational</b>
2.3	Recent trend in total area infested within state	<b>B 2</b>	<b>Other Pub. Mat'l</b>
2.4	Innate reproductive potential	<b>B 2</b>	<b>Other Pub. Mat'l</b>
2.5	Potential for human-caused dispersal	<b>A 3</b>	<b>Other Pub. Mat'l</b>
2.6	Potential for natural long-distance dispersal	<b>A 3</b>	<b>Other Pub. Mat'l</b>
2.7	Other regions invaded	<b>C 1</b>	<b>Other Pub. Mat'l</b>

**“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:  
**17**  
 Use matrix to determine score and enter below:  
**A**

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

3.1	Ecological amplitude	<b>C</b>	<b>Other Pub. Mat'l</b>
3.2	Distribution	<b>B</b>	<b>Other Pub. Mat'l</b>

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

**Worksheet A.** Complete this worksheet to answer Question 2.4.

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: 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>No: 0 pts</b>
Viable seed produced with <i>both</i> self-pollination and cross-pollination	<b>No: 0 pt</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>Total Pts 4</b>	<b>Total Unknowns 0</b>
<b>Score B</b>	

**Table 3. Documentation**

<b>Question 1.1</b> Impact on abiotic ecosystem processes
Identify ecosystem processes impacted: Slows water flow. Causes increased sedimentation and nutrient loading.
Rationale:
Sources of information: De Winton, M.D. and J.S. Clayton. 1996. <i>Aquatic Botany</i> 53(1-2):31-45; Barko, J.W. and R.M. Smart. 1980. <i>Freshwater Biology</i> 10:229-238
<b>Question 1.2</b> Impact on plant community composition, structure, and interactions
Identify type of impact or alteration: Reduces the abundance and diversity of native plant seeds in lake bottoms.
Rationale:
Sources of information: De Winton, M.D. and J.S. Clayton. 1996. <i>Aquatic Botany</i> 53(1-2):31-45
<b>Question 1.3</b> Impact on higher trophic levels
Identify type of impact or alteration: Reduces oxygen level. Poor fish habitat. Fall River area with infestation has fewer trout than areas with native vegetation.
Rationale:
Sources of information: <a href="http://www.wa.gov/ecology/wq/plants/weeds/egeria.html">www.wa.gov/ecology/wq/plants/weeds/egeria.html</a> ; DiTomaso and D. Spencer-Observational
<b>Question 1.4</b> Impact on genetic integrity
Identify impacts: None
Rationale: Only male flowers in US.
Sources of information: Hoshovsky, M. and L. Anderson. 2000. <i>Egeria densa</i> . In, <i>Invasive Plants of California's Wildlands</i> . CalEPPC. UC Press, Berkeley
<b>Question 2.1</b> Role of anthropogenic and natural disturbance in establishment
Describe role of disturbance: Can readily invade an undisturbed aquatic site once introduced.
Rationale: Adapted to most slow or still water bodies in California.
Sources of information: Hoshovsky, M. and L. Anderson. 2000. <i>Egeria densa</i> . In, <i>Invasive Plants of California's Wildlands</i> . CalEPPC. UC Press, Berkeley
<b>Question 2.2</b> Local rate of spread with no management
Describe rate of spread: Once introduced, it spreads very rapidly in aquatic systems.
Rationale:
Sources of information: DiTomaso, Spencer and Anderson-Observational
<b>Question 2.3</b> Recent trend in total area infested within state
Describe trend: Probably continuing to spread in state, but some control effort has slowed the statewide spread.
Rationale:
Sources of information: DiTomaso, J.M. and E.A. Healy. 2005. <i>Weeds of California</i> . DANR (pre-print)
<b>Question 2.4</b> Innate reproductive potential
Describe key reproductive characteristics: Doesn't produce seed in US. Reproduces readily from stolons and stem fragments.
Rationale:
Sources of information: DiTomaso, J.M. and E.A. Healy. 2005. <i>Weeds of California</i> . DANR (pre-print); Hoshovsky, M. and L. Anderson. 2000. <i>Egeria densa</i> . In, <i>Invasive Plants of California's Wildlands</i> . CalEPPC. UC Press, Berkeley
<b>Question 2.5</b> Potential for human-caused dispersal
Identify dispersal mechanisms: Used as aquarium and pond ornamental. Also moved by boats from on body of water to another.
Rationale:
Sources of information: DiTomaso, J.M. and E.A. Healy. 2005. <i>Weeds of California</i> . DANR (pre-print); Hoshovsky, M. and L. Anderson. 2000. <i>Egeria densa</i> . In, <i>Invasive Plants of California's Wildlands</i> . CalEPPC. UC Press, Berkeley
<b>Question 2.6</b> Potential for natural long-distance dispersal
Identify dispersal mechanisms: Fragments can move downstream long distance and produce new plants.
Rationale:
Sources of information: DiTomaso, J.M. and E.A. Healy. 2005. <i>Weeds of California</i> . DANR (pre-print)
<b>Question 2.7</b> Other regions invaded
Identify other regions: Common weed throughout much of the world, including Australia.
Rationale:
Sources of information: Parsons, W.T. and E.G. Cuthbertson. 1992. <i>Noxious Weeds of Australia</i> . Inkata Press, Sydney

<b>Question 3.1</b> Ecological amplitude
Describe ecological amplitude, identifying date of source information and approximate date of introduction to the state, if known: Found throughout much of California and the US, primarily in cool to warm freshwater ponds, lakes, reservoirs and slowly flowing streams and sloughs. Earliest report in US was in 1893.
Rationale:
Sources of information: DiTomaso, J.M. and E.A. Healy. 2005. Weeds of California. DANR (pre-print); Hoshovsky, M. and L. Anderson. 2000. <i>Egeria densa</i> . In, Invasive Plants of California's Wildlands. CalEPPC. UC Press, Berkeley; <a href="http://www.wa.gov/ecology/wq/plants/weeds/aqua002.html">www.wa.gov/ecology/wq/plants/weeds/aqua002.html</a>
<b>Question 3.2</b> Distribution
Describe distribution: One of the most common non-native submerged aquatic plants in California.
Rationale:
Sources of information: Hoshovsky, M. and L. Anderson. 2000. <i>Egeria densa</i> . In, Invasive Plants of California's Wildlands. CalEPPC. UC Press, Berkeley

Complete the worksheet that corresponds to your state using the letter codes and instructions in Section 3.

### Worksheet C - California Ecological Types

(*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	B. 20-50%
	rivers, streams, canals	C. 5-20%
	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
<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	score
	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).