

**Australia/New Zealand Weed Risk Assessment adapted for Florida.**

**Data used for analysis published in: Gordon, D.R., D.A. Onderdonk, A.M. Fox, R.K. Stocker, and C. Gantz. 2008. Predicting Invasive Plants in Florida using the Australian Weed Risk Assessment. Invasive Plant Science and Management 1: 178-195.**

<i>Rhododendron simsii (formosa azalea)</i>			
Question number	Question	Answer	Score
1.01	Is the species highly domesticated?	n	0
1.02	Has the species become naturalised where grown?		
1.03	Does the species have weedy races?		
2.01	Species suited to Florida's USDA climate zones (0-low; 1-intermediate; 2-high)	2	
2.02	Quality of climate match data (0-low; 1-intermediate; 2-high)	2	
2.03	Broad climate suitability (environmental versatility)		
2.04	Native or naturalized in habitats with periodic inundation	n	0
2.05	Does the species have a history of repeated introductions outside its natural range?	y	
3.01	Naturalized beyond native range	n	-2
3.02	Garden/amenity/disturbance weed	n	0
3.03	Weed of agriculture	n	0
3.04	Environmental weed	n	0
3.05	Congeneric weed	y	0
4.01	Produces spines, thorns or burrs	n	0
4.02	Allelopathic	n	0
4.03	Parasitic	n	0
4.04	Unpalatable to grazing animals		
4.05	Toxic to animals	y	1
4.06	Host for recognised pests and pathogens		
4.07	Causes allergies or is otherwise toxic to humans	y	1
4.08	Creates a fire hazard in natural ecosystems	n	0
4.09	Is a shade tolerant plant at some stage of its life cycle	?	
4.1	Grows on infertile soils (oligotrophic, limerock, or excessively draining soils)	n	0
4.11	Climbing or smothering growth habit	n	0
4.12	Forms dense thickets	n	0
5.01	Aquatic	n	0

5.02	Grass	n	0
5.03	Nitrogen fixing woody plant	n	0
5.04	Geophyte		
6.01	Evidence of substantial reproductive failure in native habitat		
6.02	Produces viable seed	y	1
6.03	Hybridizes naturally		
6.04	Self-compatible or apomictic	n	-1
6.05	Requires specialist pollinators	n	0
6.06	Reproduction by vegetative fragmentation	y	1
6.07	Minimum generative time (years)		
7.01	Propagules likely to be dispersed unintentionally (plants growing in heavily trafficked areas)		
7.02	Propagules dispersed intentionally by people	y	1
7.03	Propagules likely to disperse as a produce contaminant	n	-1
7.04	Propagules adapted to wind dispersal	y?	1
7.05	Propagules water dispersed	n	-1
7.06	Propagules bird dispersed	n	-1
7.07	Propagules dispersed by other animals (externally)	n	-1
7.08	Propagules dispersed by other animals (internally)	n	-1
8.01	Prolific seed production	n	-1
8.02	Evidence that a persistent propagule bank is formed (>1 yr)		
8.03	Well controlled by herbicides		
8.04	Tolerates, or benefits from, mutilation or cultivation	y	1
8.05	Effective natural enemies present in Florida, or east of the continental divide		
<b>Total Score</b>			<b>0</b>

<b>Outcome</b>	<b>Accept*</b>
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\*Used secondary screen from: Daehler, C. C., J.L. Denslow, S. Ansari, and H. Kuo. 2004. A risk assessment system for screening out harmful invasive pest plants from Hawaii's and other Pacific islands. *Conserv. Biol.* 18: 360-368.

section	# questions answered	satisfy minimum?
A	7	yes
B	9	yes
C	16	yes
total	32	yes

Data collected 2006-2007

Question number	Reference	Source data
1.01		used horticulturally, but no evidence of selection for reduced weediness
1.02		
1.03		
2.01		
2.02		
2.03		
2.04	Dehgan, B. (1998) Landscape Plants for Subtropical Climates. University Press of Florida.	"Not suited for excessively dry or wet sites"
2.05	Dehgan, B. (1998) Landscape Plants for Subtropical Climates. University Press of Florida.	horticultural species
3.01		no evidence
3.02		no evidence
3.03		no evidence
3.04		no evidence
3.05	Weber (2003) Invasive Plant Species of the World. CABI Publishing.	<i>R. ponticum</i> considered invasive in the British Isles.
4.01	Dehgan, B. (1998) Landscape Plants for Subtropical Climates. University Press of Florida.	no description of these traits
4.02		no evidence
4.03	Dehgan, B. (1998) Landscape Plants for Subtropical Climates. University Press of Florida.	no description of this
4.04		
4.05	Bruneton (1999) Toxic Plants: Dangerous to Humans and Animals. Lavoisier Publishing, Paris.	<i>Rhododendron</i> spp. are very toxic to animals.
4.06		
4.07	Bruneton (1999) Toxic Plants: Dangerous to Humans and Animals. Lavoisier Publishing, Paris.	The nectar (and resulting honey), leaves, and flowers of <i>Rhododendron</i> spp. can be toxic to humans.
4.08		no evidence
4.09	Dehgan, B. (1998) Landscape Plants for Subtropical Climates. University Press of Florida.	partial shade
4.1	Dehgan, B. (1998) Landscape Plants for Subtropical Climates. University Press of Florida.	fertile, well-drained soils
4.11	Dehgan, B. (1998) Landscape Plants for Subtropical Climates. University Press of Florida.	much-branched shrub

4.12		no evidence
5.01		terrestrial
5.02	Dehgan, B. (1998) Landscape Plants for Subtropical Climates. University Press of Florida.	Ericaceae
5.03	Dehgan, B. (1998) Landscape Plants for Subtropical Climates. University Press of Florida.	Ericaceae
5.04		
6.01		
6.02	Ng and Corlett (2000) Comparative reproductive biology of the six species of <i>Rhododendron</i> (Ericaceae) in Hong Kong, South China. Canadian Journal of Botany 78: 221-229.	Seeds from open pollination of <i>R. simsii</i> were viable in germination experiments.
6.03		
6.04	1. Ng and Corlett (2000) Comparative reproductive biology of the six species of <i>Rhododendron</i> (Ericaceae) in Hong Kong, South China. Canadian Journal of Botany 78: 221-229. 2. Ramirez and Brito (1990) Reproductive biology of a tropical palm swamp community in the Venezuelan Llanos. American Journal of Botany 77: 1260-1271.	1. "All species [including <i>R. simsii</i> ] were more or less self-sterile", but <i>R. simsii</i> set 15.9 seeds per flower under the hand-selfing treatment and .4 seeds per flower under the bagging treatment (compared to 2 seeds per flower under open pollination). It had a self-compatibility index of .05. 2. Species with a self-compatibility index of less than 0.30 are considered self-incompatible.
6.05	Ng and Corlett (2000) Comparative reproductive biology of the six species of <i>Rhododendron</i> (Ericaceae) in Hong Kong, South China. Canadian Journal of Botany 78: 221-229.	<i>R. simsii</i> pollinated by a variety of insects (mostly honeybees and bumblebees).
6.06	Ng and Corlett (2002) The ecology of six <i>Rhododendron</i> species (Ericaceae) with contrasting local abundance and distribution patterns in Hong Kong, China. Plant Ecology 164: 225-233.	"Rooting of horizontal branches occurs occasionally in <i>R. simsii</i> "
6.07	1. Dehgan, B. (1998) Landscape Plants for Subtropical Climates. University Press of Florida. 2. Gilman (1999) <i>Rhododendron simsii</i> . FPS-507, University of Florida, IFAS Extension ().	1. rapid growth rate 2. slow growth rate
7.01		
7.02	Dehgan, B. (1998) Landscape Plants for Subtropical Climates. University Press of Florida.	horticultural species
7.03		no evidence
7.04	Ng and Corlett (2000) Comparative reproductive biology of the six species of <i>Rhododendron</i> (Ericaceae) in Hong Kong, South China. Canadian Journal of Botany 78: 221-229.	All 6 species studied (including <i>R. simsii</i> ) "produce tiny, wind-dispersed seeds" (though <i>R. simsii</i> "showed no morphological adaptation for wind dispersal other than small size").
7.05		no evidence
7.06		wind dispersed
7.07	Dehgan, B. (1998) Landscape Plants for	fruit is a woody capsule - no

	Subtropical Climates. University Press of Florida.	evidence of any means of attachment
7.08		wind dispersed
8.01	Ng and Corlett (2000) Comparative reproductive biology of the six species of <i>Rhododendron</i> (Ericaceae) in Hong Kong, South China. Canadian Journal of Botany 78: 221-229.	Estimated seeds per plant: 169 (mean number of flowers per plant X mean seed set per flower under open pollination).
8.02	Ng and Corlett (2000) Comparative reproductive biology of the six species of <i>Rhododendron</i> (Ericaceae) in Hong Kong, South China. Canadian Journal of Botany 78: 221-229.	Between 14 and 17% of <i>R. simsii</i> seeds germinated after > 1 year in storage. [not in soil...]
8.03		
8.04	1. Ng and Corlett (2000) Comparative reproductive biology of the six species of <i>Rhododendron</i> (Ericaceae) in Hong Kong, South China. Canadian Journal of Botany 78: 221-229. 2. Ng and Corlett (2002) The ecology of six <i>Rhododendron</i> species (Ericaceae) with contrasting local abundance and distribution patterns in Hong Kong, China. Plant Ecology 164: 225-233.	1. <i>R. simsii</i> "common in fire-maintained shrubland and grassland"; other <i>Rhododendron</i> spp. in the study are restricted to areas protected from fire. 2. Almost all <i>R. simsii</i> plants resprouted within 6 months after fire.
8.05		