

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>Tradescantia fluminensis (white-flowered wandering jew)</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	y	1
2.05	Does the species have a history of repeated introductions outside its natural range?	y	
3.01	Naturalized beyond native range	y	0
3.02	Garden/amenity/disturbance weed	y	0
3.03	Weed of agriculture	n	0
3.04	Environmental weed	y	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	n	0
4.06	Host for recognised pests and pathogens		
4.07	Causes allergies or is otherwise toxic to humans	n	0
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	y	1
4.1	Grows on infertile soils (oligotrophic, limerock, or excessively draining soils)	?	
4.11	Climbing or smothering growth habit	y	1
4.12	Forms dense thickets	y	1
5.01	Aquatic	n	0
5.02	Grass	n	0
5.03	Nitrogen fixing woody plant	n	0
5.04	Geophyte	n	0
6.01	Evidence of substantial reproductive failure in native habitat		

6.02	Produces viable seed	?	
6.03	Hybridizes naturally		
6.04	Self-compatible or apomictic		
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)	y	1
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	?	
7.05	Propagules water dispersed	y	1
7.06	Propagules bird dispersed		
7.07	Propagules dispersed by other animals (externally)	y	1
7.08	Propagules dispersed by other animals (internally)		
8.01	Prolific seed production		
8.02	Evidence that a persistent propagule bank is formed (>1 yr)		
8.03	Well controlled by herbicides	y	-1
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		
Total Score			18

Outcome **Reject***

*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	13	yes
total	29	yes

Data collected 2006-2007

Question number	Reference	Source data
1.01		cultivated, but no evidence of selection for reduced weediness
1.02		
1.03		
2.01	New Zealand Plant Conservation Network (http://www.nzpcn.org.nz/exotic_plant_life_and_weeds/index02.asp?Filter=t&FilterStatus=1).	intolerant to frost
2.02		
2.03		
2.04	1. Global Invasive Species Database (http://www.issg.org/database/species/ecology.asp?si=497&fr=1&sts=sss). 2. New Zealand Plant Conservation Network (http://www.nzpcn.org.nz/exotic_plant_life_and_weeds/index02.asp?Filter=t&FilterStatus=1).	1. occurs in wetlands 2. very tolerant to poor drainage
2.05	1. Kelly and Skipworth (1984) <i>Tradescantia fluminensis</i> in a Manawatu (New Zealand) forest: I. Growth and effects on regeneration. New Zealand Journal of Botany 22: 393-397. 2. Global Invasive Species Database (http://www.issg.org/database/species/ecology.asp?si=497&fr=1&sts=sss).	1. Introduced into New Zealand for erosion control. 2. " <i>T. fluminensis</i> is widely grown and valued as an easy-care houseplant."
3.01	1. New Zealand Plant Conservation Network (2005) New Zealand Adventive Vascular Plant List. 2. Kairo, Ali, Cheesman, Haysom, and Murphy (2003) Invasive Species Threats in the Caribbean Region. Report to the Nature Conservancy.	1. Fully naturalized in New Zealand. 2. Naturalized in Bermuda.
3.02	Langeland and Burks, eds. (1998) Identification and Biology of Nonnative Plants in Florida's Natural Areas. University of Florida.	"Also a weed of disturbed areas in New South Wales, Australia"
3.03	Global Invasive Species Database (http://www.issg.org/database/species/ecology.asp?si=497&fr=1&sts=sss).	" <i>T. fluminensis</i> does not appear to be a significant weed of crops."
3.04	1. Weber (2003) Invasive Plant Species of the World. CABI Publishing. 2. Standish, Robertson, and Williams (2001) The impact of an invasive weed <i>Tradescantia fluminensis</i> on native forest regeneration. Journal of Applied Ecology 38: 1253-1263.	1. Considered invasive in natural areas in southern Europe, Australia, and New Zealand. 2. " <i>Tradescantia fluminensis</i> is an invasive weed of New Zealand, eastern Australia..."
3.05	Weber (2003) Invasive Plant Species of the World. CABI Publishing.	<i>T. spathacea</i> considered invasive in natural areas of the southeastern US.
4.01	Weber (2003) Invasive Plant Species of the World. CABI Publishing.	no description of these traits
4.02		no evidence
4.03	Weber (2003) Invasive Plant Species of the World. CABI Publishing.	no description of this
4.04	Global Invasive Species Database (http://www.issg.org/database/species/ecology.asp?si=497&fr=1&sts=sss).	"Cattle and chickens eat <i>T. fluminensis</i> " [unclear whether eaten readily]
4.05	Global Invasive Species Database	"Cattle and chickens eat <i>T.</i>

	(http://www.issg.org/database/species/ecology.asp?si=497&fr=1&sts=sss).	<i>fluminensis</i> " [and no mention of toxicity in horticultural or toxicity references]
4.06		
4.07		no mention of toxicity in horticultural or toxicity references
4.08		no evidence
4.09	1. Weber (2003) Invasive Plant Species of the World. CABI Publishing. 2. New Zealand Plant Conservation Network (http://www.nzpcn.org.nz/exotic_plant_life_and_weeds/index02.asp?Filter=t&FilterStatus=1).	1. "tolerating heavy shade" 2. "very tolerant to shade"
4.1	New Zealand Plant Conservation Network (http://www.nzpcn.org.nz/exotic_plant_life_and_weeds/index02.asp?Filter=t&FilterStatus=1).	"A lowland plant of sites with moderate fertility."
4.11	Weber (2003) Invasive Plant Species of the World. CABI Publishing.	"It is a smothering creeper becoming dominant on the floor"
4.12	Weber (2003) Invasive Plant Species of the World. CABI Publishing.	"forms dense mats up to 60 cm deep, impeding the growth and regeneration of native shrubs and trees"
5.01	New Zealand Plant Conservation Network (http://www.nzpcn.org.nz/exotic_plant_life_and_weeds/index02.asp?Filter=t&FilterStatus=1).	terrestrial
5.02	Weber (2003) Invasive Plant Species of the World. CABI Publishing.	Commelinaceae
5.03	Weber (2003) Invasive Plant Species of the World. CABI Publishing.	Commelinaceae
5.04	Global Invasive Species Database (http://www.issg.org/database/species/ecology.asp?si=497&fr=1&sts=sss).	"...horizontal leafless stems held to the substrate by abundant fine roots that also form at aerial nodes within the mat."
6.01		
6.02	1. New Zealand Plant Conservation Network (http://www.nzpcn.org.nz/exotic_plant_life_and_weeds/index02.asp?Filter=t&FilterStatus=1). 2. Langeland and Burks, eds. (1998) Identification and Biology of Nonnative Plants in Florida's Natural Areas. University of Florida.	1. "No seed is produced in New Zealand." 2. "level of seed viability not known"
6.03		
6.04		
6.05	Hafliger et al. (1982) Monocot Weeds 3. Monocot Weeds Excluding Grasses. CIBA-GEIGY Ltd., Basel, Switzerland.	"Flowers of Commelinaceae are insect- or self-pollinated, never wind-pollinated."
6.06	New Zealand Plant Conservation Network (http://www.nzpcn.org.nz/exotic_plant_life_and_weeds/index02.asp?Filter=t&FilterStatus=1).	"Vegetatively reproduces from adventitious roots on branching stems and fragmentation."
6.07		
7.01	New Zealand Plant Conservation Network (http://www.nzpcn.org.nz/exotic_plant_life_and_weeds/index02.asp?Filter=t&FilterStatus=1).	"fragments are dispersed by...humans (through dumping of garden rubbish...)"
7.02	1. Kelly and Skipworth (1984) <i>Tradescantia fluminensis</i> in a Manawatu (New Zealand) forest: I.	1. Introduced into New Zealand for erosion control. 2. " <i>T. fluminensis</i> is

	Growth and effects on regeneration. New Zealand Journal of Botany 22: 393-397. 2. Global Invasive Species Database (http://www.issg.org/database/species/ecology.asp?si=497&fr=1&sts=sss).	widely grown and valued as an easy-care houseplant."
7.03		no evidence
7.04	Weber (2003) Invasive Plant Species of the World. CABI Publishing.	"Fruits are papery capsules."
7.05	New Zealand Plant Conservation Network (http://www.nzpcn.org.nz/exotic_plant_life_and_weeds/index02.asp?Filter=t&FilterStatus=1).	"fragments are dispersed by water..."
7.06		
7.07	New Zealand Plant Conservation Network (http://www.nzpcn.org.nz/exotic_plant_life_and_weeds/index02.asp?Filter=t&FilterStatus=1).	"fragments are dispersed by...stock"
7.08		
8.01		
8.02		
8.03	Kelly and Skipworth (1984) <i>Tradescantia fluminensis</i> in a Manawatu (New Zealand) forest: II. Management by herbicides. New Zealand Journal of Botany 22: 399-402.	"Paraquat at 2 kg active ingredient per ha reduced the standing crop of <i>Tradescantia</i> by over 50% within 10 weeks...Paraquat also damaged seven species of native plant, but this does not necessarily prevent it being useful for controlling <i>Tradescantia</i> in small forest remnants."
8.04	New Zealand Plant Conservation Network (http://www.nzpcn.org.nz/exotic_plant_life_and_weeds/index02.asp?Filter=t&FilterStatus=1).	"Resprouts from shoot fragments after physical damage and grazing."
8.05		