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.

Myrtus communis (myrtle)			
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		
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	n	0
4.01	Produces spines, thorns or burrs	n	0
4.02	Allelopathic	y	1
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	y	1
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)	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	y	1
6.05	Requires specialist pollinators	n	0
6.06	Reproduction by vegetative fragmentation		
6.07	Minimum generative time (years)	4	-1
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	n	-1
7.05	Propagules water dispersed	n	-1
7.06	Propagules bird dispersed	y	1
7.07	Propagules dispersed by other animals (externally)	y	1
7.08	Propagules dispersed by other animals (internally)	y	1
8.01	Prolific seed production		
8.02	Evidence that a persistent propagule bank is formed (>1 yr)	y	1
8.03	Well controlled by herbicides		
8.04	Tolerates, or benefits from, mutilation or cultivation		
8.05	Effective natural enemies present in Florida, or east of the continental divide		
Total Score			4

Outcome	**Evaluate***

*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	6	yes
B	11	yes
C	15	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		
2.05	Dehgan, B. (1998) Landscape Plants for Subtropical Climates. University Press of Florida.	used horticulturally
3.01		no evidence
3.02		no evidence
3.03		no evidence
3.04		no evidence
3.05		no evidence
4.01		no description of these traits
4.02	Khosh-Khui and Bassiri (1979) Inhibition of seedling growth by wild myrtle (*Myrtus communis* L.). Weed Research 19: 45-49.	"Plants of wild myrtle (*Myrtus communis* L.) collected at full bloom contained substances inhibitory to the germination and seedling growth of perennial ryegrass (*Lolium perenne* L., cv Hollandi)…These results suggest that the possible use of wild myrtle as an evergreen hedge plant needs to be examined further because of possible interference with the growth of nearby lawns and flowers."
4.03	Dehgan, B. (1998) Landscape Plants for Subtropical Climates. University Press of Florida.	no description of this
4.04		
4.05		no evidence
4.06	Polizzi (1996) Myrtaceae, natural hosts of *Cylindrocladium scoparium*. Informatore Fitopatologico 46: 59-64.	*Cylindrocladium scoparium* "caused serious and widespread defoliation, die-back of shoots and leaf spots on…myrtle (*Myrtus communis*).
4.07	Horticopia 4.0	"This plant is considered mostly allergy free and causes little or no allergy

		problems in most people."
4.08		no evidence
4.09	Mendes, Gazarini, Rodrigues (2001) Acclimation of Myrtus communis to contrasting Mediterranean light environments - effects on structure and chemical composition of foliage and plant water relations. Environmental and Experimental Botany 45: 165-178.	"*Myrtus communis* is an evergreen sclerophyll shrub which grows naturally in the Mediterranean area under different conditions of light availability from open clearing (full sunlight) to understory (canopy shading)."
4.1	Dehgan, B. (1998) Landscape Plants for Subtropical Climates. University Press of Florida.	fertile, organic soils
4.11	Dehgan, B. (1998) Landscape Plants for Subtropical Climates. University Press of Florida.	form: shrub or small tree
4.12		no evidence
5.01		terrestrial
5.02	Dehgan, B. (1998) Landscape Plants for Subtropical Climates. University Press of Florida.	Myrtaceae
5.03	Dehgan, B. (1998) Landscape Plants for Subtropical Climates. University Press of Florida.	Myrtaceae
5.04		
6.01		
6.02	1. Dehgan, B. (1998) Landscape Plants for Subtropical Climates. University Press of Florida. 2. Traveset, Riera, and Mas (2001) Ecology of fruit-color polymorphism in *Myrtus communis* and differential effects of birds and mammals on seed germination and seedling growth. Journal of Ecology 89: 749-760.	1. propagate by seed 2. seeds germinable
6.03		
6.04	Mulas and Fadda (2004) First observations on biology and organ morphology of myrtle (*Myrtus communis* L.) flower. Agricoltura Mediterranea 134: 223-235.	"Controlled pollination tests showed, in all clones, quite a good capability to produce berries both under open and self pollination."
6.05	Baydar and Gurel (1998) The pollen collection activity and preference of honey bees (*Apis mellifera*) in the natural habitat of Antalya and some morphological and quality properties of different pollen types. Turkish Journal of Agriculture and Forestry 22: 475-482.	pollinated by honey bees in Turkey
6.06		
6.07	1. Dehgan, B. (1998) Landscape Plants for Subtropical Climates. University Press of Florida. 2. Horticopia 4.0	1. slow growth rate 2. average growth rate
7.01		
7.02	Dehgan, B. (1998) Landscape Plants for Subtropical Climates. University Press of Florida.	used horticulturally

7.03		no evidence; propagules unlikely to come into contact with produce
7.04	Dehgan, B. (1998) Landscape Plants for Subtropical Climates. University Press of Florida.	fruits are berries
7.05		no evidence
7.06	Traveset, Riera, and Mas (2001) Ecology of fruit-color polymorphism in Myrtus communis and differential effects of birds and mammals on seed germination and seedling growth. Journal of Ecology 89: 749-760.	Birds are the main dispersers of *M. communis*, and ingestion by birds accelerated germination.
7.07	Ciccarelli, Andreucci, Pagni, and Garbari (2005) Structure and development of the elaiosome in *Myrtus communis* L. (Myrtaceae) seeds. Flora 200: 326-331.	seeds of *M. communis* have elaiosomes for secondary dispersal by ants
7.08	Traveset, Riera, and Mas (2001) Ecology of fruit-color polymorphism in Myrtus communis and differential effects of birds and mammals on seed germination and seedling growth. Journal of Ecology 89: 749-760.	Fruits of *M. communis* eaten by small carnivorous mammals (foxes, martens, and weasels) - germination not enhanced by carnivore ingestion like with bird ingestion, but seeds still viable post-dispersal.
8.01		
8.02	1. Clemente, Rego, and Correia (2004) Patterns of seed survival within fire response groups. Revista de Biologia Lisboa 22: 123-132. 2. Traveset, Riera, and Mas (2001) Ecology of fruit-color polymorphism in Myrtus communis and differential effects of birds and mammals on seed germination and seedling growth. Journal of Ecology 89: 749-760.	1. One year after burial, 28% of M. communis seeds were viable. BUT 2. seeds are non-dormant
8.03		
8.04		
8.05		