

<b><i>Eucalyptus yarraensis</i> (Yarra Gum) -- FLORIDA</b>		<b>Answer</b>	<b>Score</b>
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 FL climates (USDA hardiness 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)	y	1
2.04	Native or naturalized in regions with an average of 11-60 inches of annual precipitation	n	0
2.05	Does the species have a history of repeated introductions outside its natural range?	n	
3.01	Naturalized beyond native range	n	0
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	2
4.01	Produces spines, thorns or burrs	n	0
4.02	Allelopathic	?	
4.03	Parasitic	n	0
4.04	Unpalatable to grazing animals		
4.05	Toxic to animals		
4.06	Host for recognised pests and pathogens	n	0
4.07	Causes allergies or is otherwise toxic to humans		
4.08	Creates a fire hazard in natural ecosystems	?	
4.09	Is a shade tolerant plant at some stage of its life cycle	?	
4.10	Grows on infertile soils (oligotrophic, limerock, or excessively draining soils). North & Central Zones: infertile soils; South Zone: shallow limerock or Histisols.	y	1
4.11	Climbing or smothering growth habit	n	0
4.12	Forms dense thickets	?	
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	y	1
6.03	Hybridizes naturally		
6.04	Self-compatible or apomictic		
6.05	Requires specialist pollinators	n	0
6.06	Reproduction by vegetative propagation		
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		
7.04	Propagules adapted to wind dispersal	?	
7.05	Propagules water dispersed	y	1
7.06	Propagules bird dispersed	n	-1
7.07	Propagules dispersed by other animals (externally)		
7.08	Propagules dispersed by other animals (internally)	n	-1
8.01	Prolific seed production		
8.02	Evidence that a persistent propagule bank is formed (>1 yr)	n	-1
8.03	Well controlled by herbicides	?	
8.04	Tolerates, or benefits from, mutilation or cultivation		
8.05	Effective natural enemies present in U.S.		
	<b>Total Score</b>		<b>4</b>
	<b>Implemented Pacific Second Screening</b>		<b>Yes</b>
	<b>Risk Assessment Results</b>		<b>Evaluate</b>

	Reference	Source data
1.01		Cultivated but no evidence of selection for reduced weediness.
1.02		Skip to 2.01
1.03		Skip to 2.01
2.01	1. PERAL NAPPFast Global Plant Hardiness ( <a href="http://www.nappfast.org/Plant_hardiness/NAPPFast%20Global%20zones/10-year%20climate/PLANT_HARDINESS_10YR%20lgnd.tif">http://www.nappfast.org/Plant_hardiness/NAPPFast%20Global%20zones/10-year%20climate/PLANT_HARDINESS_10YR%20lgnd.tif</a> ) & USDA Plant Hardiness Zone Map, 2012. Agricultural Research Service, U.S. Department of Agriculture. Accessed from <a href="http://planthardiness.ars.usda.gov">http://planthardiness.ars.usda.gov</a> . 2. Yarra Ranges Shire Council. 2009. <i>Eucalyptus yarraensis</i> . <a href="http://www.yarraranges.vic.gov.au/Home">http://www.yarraranges.vic.gov.au/Home</a> . Accessed 31 May 2012. 3. Treelogic, Featured Tree Species Description Sheet. Yarra Gum ( <i>Eucalyptus yarraensis</i> ). 2011. <a href="http://www.treelogic.com.au">www.treelogic.com.au</a> . Accessed 31 May 2012. 4. Australia's Virtual Herbarium. 2009. <a href="http://chah.gov.au/avh/index.jsp">http://chah.gov.au/avh/index.jsp</a> . Accessed: 31 May 2012.	<b>No computer analysis was performed.</b> 1. Global plant hardiness zones 8-10; equivalent to USDA Hardiness zones 8a-10a (north, central, south zones of Florida). 2. Endemic to Victoria, Australia. 3. South-central Victoria, Australia. 4. Collected herbarium specimens from coastal southwest Western Australia, coastal southeast and south-central South Australia, south-central Victoria, and south New South Wales, Australia.
2.02		<b>No computer analysis was performed.</b> 1. Native range is well known; refer to 2.01 source data.
2.03	1. Köppen-Geiger climate map ( <a href="http://www.hydrol-earth-syst-sci.net/11/1633/2007/hess-11-1633-2007.pdf">http://www.hydrol-earth-syst-sci.net/11/1633/2007/hess-11-1633-2007.pdf</a> ).	1. Native distribution appears to be in at least three climatic groups (BWk, BSk, Csa, Csb, Cfa, Cfb).
2.04	1. Australia's Virtual Herbarium. 2009. <a href="http://chah.gov.au/avh/index.jsp">http://chah.gov.au/avh/index.jsp</a> . Accessed: 9 May 2012.	1. 200 mm-1000 mm (7.9"- 39.4").
2.05		No evidence.
3.01		No evidence.
3.02		No evidence.
3.03		No evidence.
3.04		No evidence.
3.05	1. Holm, L. et al. <i>A Geographical Atlas of World Weeds</i> . John Wiley and Sons, New York. 1979.	1. The following <i>eucalypts</i> are considered principal weeds in Australia (principal weed in this context is ranked according to the importance of the weed and is usually referring to about the five most troublesome species for the crop): <i>E. cambageana</i> , <i>E. ferruginea</i> , <i>E. gracilis</i> , <i>E. marginata</i> , <i>E. miniata</i> , <i>E. pilularis</i> , <i>E. populnea</i> , <i>E. tetradonta</i> .
4.01		No description of these traits.

4.02	1. Anonymous. 2009. "Focus on Eucalypts." <i>SAPIA NEWS No. 12</i> . ARC-Plant Protection Research Institute, South Africa. 2. Rejmánek, M. & D.M. Richardson. 2011. Eucalypts (203-209). In D. Simberloff & M. Rejmánek, eds. <i>Encyclopedia of Biological Invasions</i> . Berkeley: University of California Press.	1. It is likely that most <i>Eucalypts</i> are allelopathic-having the potential to suppress understory plants through chemical inhibitors that leach into the soil. 2. Concerns expressed about suppression of ground vegetation due to possible allelopathic effects. Allelopathic effects are widely reported and these reports are largely based on laboratory bioassays. If not chemical inhibition then at least accumulation of dead material of the floor of eucalypt plantations hinders regeneration of native species.
4.03		No description of parasitism.
4.04		
4.05		
4.06	1. Treelogic, Featured Tree Species Description Sheet. Yarra Gum ( <i>Eucalyptus yarraensis</i> ). 2011. <a href="http://www.treelogic.com.au">www.treelogic.com.au</a> . Accessed 31 May 2012.	1. Does not appear to be seriously affected by specific pests or disease (may be due to the cyanogenic compounds [prunasin] contained in the foliage).
4.07		
4.08	1. Gill, A.M. "Eucalypts and fires: interdependent or independent?" In: <i>Eucalypt ecology: individuals to ecosystems</i> . Ed. J.E. Williams & J. Woinarski. Cambridge, New York: Cambridge University Press, 1997. 2. Rejmánek, M. & D.M. Richardson. 2011. Eucalypts (203-209). In D. Simberloff & M. Rejmánek, eds. <i>Encyclopedia of Biological Invasions</i> . Berkeley: University of California Press.	1. Eucalypts often are the major source of fuel for fires, but not always. 2. Leaves of eucalypts are relatively slow to breakdown and have a high volatile oil content, which contributes to the severity of fire events in their native Australia.
4.09	1. Yarra Ranges Shire Council. 2009. <i>Eucalyptus yarraensis</i> . <a href="http://www.yarraranges.vic.gov.au/Home">http://www.yarraranges.vic.gov.au/Home</a> . Accessed 31 May 2012.	1. Full sun or partial shade.
4.10	1. Treelogic, Featured Tree Species Description Sheet. Yarra Gum ( <i>Eucalyptus yarraensis</i> ). 2011. <a href="http://www.treelogic.com.au">www.treelogic.com.au</a> . Accessed 31 May 2012.	1. Naturally occurs on poorly drained soils and withstands periods of inundation.
4.11	1. Yarra Ranges Shire Council. 2009. <i>Eucalyptus yarraensis</i> . <a href="http://www.yarraranges.vic.gov.au/Home">http://www.yarraranges.vic.gov.au/Home</a> . Accessed 31 May 2012.	1. Family: <i>Myrtaceae</i> . Small tree 10-20 m.
4.12	1. Yarra Ranges Shire Council. 2009. <i>Eucalyptus yarraensis</i> . <a href="http://www.yarraranges.vic.gov.au/Home">http://www.yarraranges.vic.gov.au/Home</a> . Accessed 31 May 2012.	1. Canopy is dense.
5.01	1. Yarra Ranges Shire Council. 2009. <i>Eucalyptus yarraensis</i> . <a href="http://www.yarraranges.vic.gov.au/Home">http://www.yarraranges.vic.gov.au/Home</a> . Accessed 31 May 2012.	1. River flats and flood plains

5.02	1. Yarra Ranges Shire Council. 2009. <i>Eucalyptus yarraensis</i> . <a href="http://www.yarraranges.vic.gov.au/Home">http://www.yarraranges.vic.gov.au/Home</a> . Accessed 31 May 2012.	1. Family: <i>Myrtaceae</i> .
5.03	1. Yarra Ranges Shire Council. 2009. <i>Eucalyptus yarraensis</i> . <a href="http://www.yarraranges.vic.gov.au/Home">http://www.yarraranges.vic.gov.au/Home</a> . Accessed 31 May 2012.	1. Family: <i>Myrtaceae</i> .
5.04	1. Yarra Ranges Shire Council. 2009. <i>Eucalyptus yarraensis</i> . <a href="http://www.yarraranges.vic.gov.au/Home">http://www.yarraranges.vic.gov.au/Home</a> . Accessed 31 May 2012.	1. Small tree 10-20 m.
6.01	1. Yarra Ranges Shire Council. 2009. <i>Eucalyptus yarraensis</i> . <a href="http://www.yarraranges.vic.gov.au/Home">http://www.yarraranges.vic.gov.au/Home</a> . Accessed 31 May 2012.	1. Rare in Victoria with few known populations.
6.02	1. Greening Australia Victoria. August 1996. <a href="http://www.florabank.org.au/files/documents/seedgerminationanddo/20070801-17.pdf">http://www.florabank.org.au/files/documents/seedgerminationanddo/20070801-17.pdf</a> . Accessed 1 June 2012.	1. Approxiamte time for total germination is 14 days at a rate of 84 per gram.
6.03		
6.04		
6.05	1. Yarra Ranges Shire Council. 2009. <i>Eucalyptus yarraensis</i> . <a href="http://www.yarraranges.vic.gov.au/Home">http://www.yarraranges.vic.gov.au/Home</a> . Accessed 31 May 2012.	1. Attracts both birds and butterflies.
6.06		
6.07		
7.01		
7.02		Species is being considered for introduction as a biomass crop.
7.03		
7.04	1. Potts, B. 1990. The response of eucalypt populations to a changing environment. <i>Tasforests</i> , December: 179-193. 2. Cremer, K.W. 1977. Distance of seed dispersal in Eucalypts estimated from seed weights. <i>Australian Forest Research</i> , 7(4): 225-228. 3. Rejmánek, M. & D.M. Richardson. 2011. Eucalypts (203-209). In: D. Simberloff & M. Rejmánek, eds. <i>Encyclopedia of Biological Invasions</i> . Berkeley: University of California Press.	No description of seed could be found. 1. Seed dispersal in most eucalypt species is mainly by wind and gravity. 2. Wind is probably the only important agent of seed dispersal in the eucalypts, except possibly in species growing on river margins or flood plains where water could also transport the seed. 3. Relatively limited seed dispersal; planted eucalypts are very small and have no adaptations for dispersal (wings or fleshy). The passive release of seeds is undoubtedly aided by wind; however all rigorous studies of eucalypt seed dispersal and seedling spatial distribution show that in general seeds are dispersed over quite short distances that are in agreement with measurement of terminal descent velocity.

7.05	1. Rejmánek, M. & D.M. Richardson. 2011. Eucalypts (203-209). In D. Simberloff & M. Rejmánek, eds. <i>Encyclopedia of Biological Invasions</i> . Berkeley: University of California Press.	1. Eucalypts should not be planted near rivers/streams. Temporarily flooded or eroded river/stream banks are suitable habitat for spontaneous establishment of seedlings. Additionally, their seeds can be dispersed for long distances by running water.
7.06	1. Southern, S.G. et al. 2004. Review of gene movement by bats and birds and its potential significance for eucalypt plantation forestry. <i>Australian Forestry</i> , 67(1): 44-53.	1. Dispersal in animal droppings does not occur, although many birds eat eucalypt seed, because the seed does not survive passage through the alimentary canal of mammals and birds (Joseph 1986).
7.07		
7.08	1. Southern, S.G. et al. 2004. Review of gene movement by bats and birds and its potential significance for eucalypt plantation forestry. <i>Australian Forestry</i> , 67(1): 44-53.	1. Dispersal in animal droppings does not occur, although many birds eat eucalypt seed, because the seed does not survive passage through the alimentary canal of mammals and birds (Joseph 1986).
8.01		
8.02	1. Rejmánek, M. & D.M. Richardson. 2011. Eucalypts (203-209). In D. Simberloff & M. Rejmánek, eds. <i>Encyclopedia of Biological Invasions</i> . Berkeley: University of California Press.	1. Eucalypt seeds do not have dormancy and seed storage in the soil lasts less than a year.
8.03	1. Rejmánek, M. & D.M. Richardson. 2011. Eucalypts (203-209). In D. Simberloff & M. Rejmánek, eds. <i>Encyclopedia of Biological Invasions</i> . Berkeley: University of California Press.	1. Triclopyr or glyphosate applied to freshly cut stumps can greatly reduce resprouting.
8.04		
8.05		