

<i>Barringtonia racemosa</i> (Barringtonia, Brack-Water Mangrove, Cassowary-Pine, China Pine, Common Putat, Cornbeefwood, Derbyshire-Pine, Fish-Poison-Tree, Freshwater Mangrove, Hippo Apple, Mango-Pine, Mangobark, Powder-Puff Tree, Wild Guava)		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 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 with mean annual precipitation of 40-70 inches.	y	1
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	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	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		
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).	?	
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	y	-1
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	n	-1
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)	?	
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		
8.05	Effective natural enemies present in Florida, or east of the continental divide.		
Total Score		3	
Implemented Pacific Second Screening		Yes	
Risk Assessment Results		Evaluate	

	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 (http://www.nappfast.org/Plant_hardiness/NAPPFast%20	No computer analysis was performed. 1. Global plant hardiness zones (8?-) 9-13; equivalent to USDA Hardiness
2.02		No computer analysis was performed. Native range is well known; refer to 2.01 source data.
2.03	1. Köppen-Geiger climate map (http://www.hydrol-earth-syst-sci.net/11/1633/2007/hess-11-1633-2007.pdf). 2. Chantaranothai, P. 1995. <i>Barringtonia (Lecythidaceae)</i> in Thailand. <i>Kew Bulletin</i> , 50(4): 677-694.	1. Native distribution appears to be in at least 11 climatic groups (Af, Am, Aw, BWh, Cwa, Cwb, Cfa, Cfb) and possibly others. 2. Occur at all elevations from sea level up to 1,000 m.
2.04	1. Commonwealth of Australia 2011, Bureau of Meteorology. http://www.bom.gov.au/climate/averages/maps.shtml . Accessed: 26 September 2012. 2. Orwa C, Mutua A, Kindt R, Jamnadass R, Simons A. 2009. Agroforestry Database: a tree reference and selection guide version 4.0 (http://www.worldagroforestry.org/af/treedb/).	1. Australia: 1200mm-3200mm (47.2"-126"). 2. Mean annual rainfall: About 500 mm (19.7").
2.05	1. Orwa C, Mutua A, Kindt R, Jamnadass R, Simons A. 2009. Agroforestry Database: a tree reference and selection guide version 4.0 (http://www.worldagroforestry.org/af/treedb/).	1. Exotic: Australia, Brunei, Cambodia, China, Djibouti, Eritrea, Ethiopia, Fiji, India, Indonesia, Japan, Kenya, Laos, Madagascar, Malaysia, Mozambique, Myanmar, New Zealand, Papua New Guinea, Samoa, Solomon Islands, Somalia, South Africa, Sri Lanka, Taiwan, Province of China, Tanzania, Thailand, Tonga, Uganda, Vanuatu, Vietnam, Zanzibar.
3.01		No evidence.
3.02		No evidence.
3.03		No evidence.
3.04		No evidence.
3.05	1. Pacific Island Ecosystems at Risk (PIER). Global Compendium of Weeds. http://www.hear.org .	1. <i>Barringtonia asiatica</i> is listed as a weed escaping cultivation in Puerto Rico. <i>B. asiatica</i> is also listed as an environmental weed of Christmas Island (Indian Ocean).
4.01		No description of these traits.
4.02		
4.03	1. USDA/ARS-GRIN [Online Database]. National Germplasm Resources Laboratory, Beltsville, Maryland. http://www.ars-grin.gov/cgi-bin/npgs/html/taxgenform.pl?language=en (25 September 2012).	1. Family: <i>Lecythidaceae</i> (not a parasitic family).
4.04		

4.05	1. USDA/ARS-GRIN [Online Database]. National Germplasm Resources Laboratory, Beltsville, Maryland. http://www.ars-grin.gov/cgi-bin/npgs/html/taxgenform.pl?language=en (25 September 2012).	1. Vertebrate poisons: fish.
4.06		
4.07	1. Cheek, Michael. January 2008. KwaZulu-Natal Herbarium via www.plantzafrica.com . Accessed 27 September 2012.	1. In Bengal the seeds are used to poison people and coconut is said to be the antidote.
4.08		
4.09		
4.10	1. Kaume, R.N., 2005. <i>Barringtonia racemosa</i> (L.) Spreng. [Internet] Record from Protabase. Jansen, P.C.M. & Cardon, D. (Editors). PROTA (Plant Resources of Tropical Africa / Ressources végétales de l'Afrique tropicale), Wageningen, Netherlands. < http://database.prota.org/search.htm >. Accessed 25 September 2012.	1. Grows well in slightly saline conditions or on beaches near the high water level, with a preference for heavy clay, loam or rich volcanic soils, occasionally up to 500(-900) m altitude.
4.11	1. USDA/ARS-GRIN [Online Database]. National Germplasm Resources Laboratory, Beltsville, Maryland. http://www.ars-grin.gov/cgi-bin/npgs/html/taxgenform.pl?language=en (25 September 2012). 2. Yaplito, M.A., 2001. <i>Barringtonia racemosa</i> (L.) Spreng.[Internet] Record from Proseabase. van Valkenburg, J.L.C.H. and Bunyapraphatsara, N. (Editors). PROSEA (Plant Resources of South-East Asia) Foundation, Bogor, Indonesia. http://www.proseanet.org . Accessed from Internet: 25 September 2012.	1. Family: <i>Lecythydaceae</i> . 2. A shrub or small to medium-sized tree, 2-20 (-27) m (6.6'-65.6' [88.6']) tall.
4.12	1.a-b. Yaplito, M.A., 2001. <i>Barringtonia racemosa</i> (L.) Spreng.[Internet] Record from Proseabase. van Valkenburg, J.L.C.H. and Bunyapraphatsara, N. (Editors). PROSEA (Plant Resources of South-East Asia) Foundation, Bogor, Indonesia. http://www.proseanet.org . Accessed from Internet: 25 September 2012. 3. Kaume, R.N., 2005. <i>Barringtonia racemosa</i> (L.) Spreng. [Internet] Record from Protabase. Jansen, P.C.M. & Cardon, D. (Editors). PROTA (Plant Resources of Tropical Africa / Ressources végétales de l'Afrique tropicale), Wageningen, Netherlands. < http://database.prota.org/search.htm >. Accessed 25 September 2012.	1.a. A shrub or small to medium-sized tree, 2-20 (-27) m (6.6'-65.6' [88.6']) tall. 1.b. Found in primary and secondary forest, mostly restricted to inundated flood plains on tidal river banks, or in swampy localities, also behind the mangrove or in the upper mangrove swamp. 3. Found in tropical rainforest areas, open lowlands and thickets (found in thickets but no evidence of forming dense thickets). Occurring always near water: along riverbanks and in freshwater swamps, and occasionally in the less saline areas of mangrove swamps, where it may develop pneumatophores.

5.01	<p>1.a-b. Yaplito, M.A., 2001. <i>Barringtonia racemosa</i> (L.) Spreng.[Internet] Record from Proseabase. van Valkenburg, J.L.C.H. and Bunyapraphatsara, N. (Editors). PROSEA (Plant Resources of South-East Asia) Foundation, Bogor, Indonesia. http://www.proseanet.org. Accessed from Internet: 25 September 2012. 3. Kaume, R.N., 2005. <i>Barringtonia racemosa</i> (L.) Spreng. [Internet] Record from Protabase. Jansen, P.C.M. & Cardon, D. (Editors). PROTA (Plant Resources of Tropical Africa / Ressources végétales de l'Afrique tropicale), Wageningen, Netherlands. < http://database.prota.org/search.htm>. Accessed 25 September 2012.</p>	<p>1.a. A shrub or small to medium-sized tree, 2-20 (-27) m (6.6'-65.6' [88.6']) tall. 1.b. Found in primary and secondary forest, mostly restricted to inundated flood plains on tidal river banks, or in swampy localities, also behind the mangrove or in the upper mangrove swamp. 3. Found in tropical rainforest areas, open lowlands and thickets. Occurring always near water: along riverbanks and in freshwater swamps, and occasionally in the less saline areas of mangrove swamps, where it may develop pneumatophores.</p>
5.02	<p>1. USDA/ARS-GRIN [Online Database]. National Germplasm Resources Laboratory, Beltsville, Maryland. http://www.ars-grin.gov/cgi-bin/npgs/html/taxgenform.pl?language=en (25 September 2012).</p>	<p>1. Family: <i>Lecythidaceae</i> .</p>
5.03	<p>1. USDA/ARS-GRIN [Online Database]. National Germplasm Resources Laboratory, Beltsville, Maryland. http://www.ars-grin.gov/cgi-bin/npgs/html/taxgenform.pl?language=en (25 September 2012).</p>	<p>1. Family: <i>Lecythidaceae</i> .</p>
5.04	<p>1. Yaplito, M.A., 2001. <i>Barringtonia racemosa</i> (L.) Spreng.[Internet] Record from Proseabase. van Valkenburg, J.L.C.H. and Bunyapraphatsara, N. (Editors). PROSEA (Plant Resources of South-East Asia) Foundation, Bogor, Indonesia. http://www.proseanet.org. Accessed from Internet: 25 September 2012. 2. Kaume, R.N., 2005. <i>Barringtonia racemosa</i> (L.) Spreng. [Internet] Record from Protabase. Jansen, P.C.M. & Cardon, D. (Editors). PROTA (Plant Resources of Tropical Africa / Ressources végétales de l'Afrique tropicale), Wageningen, Netherlands. < http://database.prota.org/search.htm>. Accessed 25 September 2012.</p>	<p>1. A shrub or small to medium-sized tree, 2-20 (-27) m (6.6'-65.6' [88.6']) tall. 2. May develop pneumatophores.</p>
6.01		
6.02	<p>1. Cheek, Michael. January 2008. KwaZulu-Natal Herbarium via www.plantzafrica.com. Accessed 27 September 2012.</p>	<p>1. Grows rapidly from seed or cuttings that are pushed into the ground.</p>
6.03		
6.04		

6.05	1. Kaume, R.N., 2005. <i>Barringtonia racemosa</i> (L.) Spreng. [Internet] Record from Protabase. Jansen, P.C.M. & Cardon, D. (Editors). PROTA (Plant Resources of Tropical Africa / Ressources végétales de l'Afrique tropicale), Wageningen, Netherlands. < http://database.prota.org/search.htm >. Accessed 25 September 2012.	1. Pollination is generally by bats and insects, mainly moths.
6.06		
6.07		
7.01		
7.02	1. Pernas, Tony. " <i>Barringtonia</i> distribution at Fairchild." Message to Keith Bradley, Ken Langeland, Dennis Giardina, Doria Gordon, Tylan Dean, Elsa Alvear, Vanessa McDonough, Kris Serbesoff-King, Jonathan Taylor, Hillary Cooley. 24 September 2012. E-mail. 2. USDA/ARS-GRIN [Online Database]. National Germplasm Resources Laboratory, Beltsville, Maryland. http://www.ars-grin.gov/cgi-bin/npgs/html/taxgenform.pl?language=en (25 September 2012). 3. Yaplito, M.A., 2001. <i>Barringtonia racemosa</i> (L.) Spreng. [Internet] Record from Proseabase. van Valkenburg, J.L.C.H. and Bunyapraphatsara, N. (Editors). PROSEA (Plant Resources of South-East Asia) Foundation, Bogor, Indonesia. http://www.proseanet.org . Accessed from Internet: 25 September 2012.	1. Species is being considered for mass distribution as an ornamental. 2. Economic importance: ornamental. 3. Occassionally planted as a roadside tree.
7.03		
7.04	1. Cheek, Michael. January 2008. KwaZulu-Natal Herbarium via www.plantzafrica.com . Accessed 27 September 2012.	1. The seed is about the size of a small chicken egg.
7.05	1. Kaume, R.N., 2005. <i>Barringtonia racemosa</i> (L.) Spreng. [Internet] Record from Protabase. Jansen, P.C.M. & Cardon, D. (Editors). PROTA (Plant Resources of Tropical Africa / Ressources végétales de l'Afrique tropicale), Wageningen, Netherlands. < http://database.prota.org/search.htm >. Accessed 25 September 2012. 2. Orwa C, Mutua A, Kindt R, Jamnadass R, Simons A. 2009. Agroforestry Database: a tree reference and selection guide version 4.0 (http://www.worldagroforestry.org/af/treedb/). 3. Royal Botanic Gardens Kew. (2008) Seed Information Database (SID). Version 7.1. Available from: http://data.kew.org/sid/ (May 2008). Accessed 25 September 2012.	1. Fruits are buoyant because of a thick layer of spongy, fibrous tissue, and are dispersed by water currents. 2. Fibrous coat makes the fruit buoyant in water and may be carried great distances. 3. Seed dispersal: water; floating in saltwater currents. Diaspore is buoyant.

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7.07		
7.08	1. Kaume, R.N., 2005. <i>Barringtonia racemosa</i> (L.) Spreng. [Internet] Record from Protabase. Jansen, P.C.M. & Cardon, D. (Editors). PROTA (Plant Resources of Tropical Africa / Ressources végétales de l'Afrique tropicale), Wageningen, Netherlands. < http://database.prota.org/search.htm >. Accessed 25 September 2012. 2. Cheek, Michael. January 2008. KwaZulu-Natal Herbarium via www.plantzafrica.com . Accessed 27 September 2012.	1. Seed dispersal is usually by animals that feed on the fruits. 2. No record of animals eating the fruit but it is a possibility because the presence of the trees up to 1000m above sea level.
8.01	1. Kaume, R.N., 2005. <i>Barringtonia racemosa</i> (L.) Spreng. [Internet] Record from Protabase. Jansen, P.C.M. & Cardon, D. (Editors). PROTA (Plant Resources of Tropical Africa / Ressources végétales de l'Afrique tropicale), Wageningen, Netherlands. < http://database.prota.org/search.htm >. Accessed 25 September 2012. 2. Orwa C, Mutua A, Kindt R, Jamnadass R, Simons A. 2009. Agroforestree Database: a tree reference and selection guide version 4.0 (http://www.worldagroforestry.org/af/treedb/). 3. Cheek, Michael. January 2008. KwaZulu-Natal Herbarium via www.plantzafrica.com . Accessed 27 September 2012.	1. Drupe (3-9 cm x 2-5.5 cm) typically one-seeded. 2. A comparatively high percentage of the fruit is seedless. 3. Usually a large proportion of the fruits are seedless.
8.02	1. Royal Botanic Gardens Kew. (2008) Seed Information Database (SID). Version 7.1. Available from: http://data.kew.org/sid/ (May 2008). Accessed 25 September 2012.	1. Storage behaviour: Recalcitrant.
8.03		
8.04		
8.05		