Family: ***Podocarpaceae***

Taxon: ***Podocarpus henkelii***

Synonym: *Podocarpus thunbergii var.falcata Sim*

Common Name: long-leafed yellow wood
Henkel's yellow wood
Henkel-segeelhout
Unsonti

Questionaire : current 20090513 **Assessor:** Patti Clifford **Designation:** EVALUATE

Status: Assessor Approved **Data Entry Person:** Patti Clifford **WRA Score 2**

101	**Is the species highly domesticated?**	**y=-3, n=0**	**n**
102	**Has the species become naturalized where grown?**	**y=1, n=-1**	
103	**Does the species have weedy races?**	**y=1, n=-1**	
201	**Species suited to tropical or subtropical climate(s) - If island is primarily wet habitat, then substitute "wet tropical" for "tropical or subtropical"**	**(0-low; 1-intermediate; 2-high) (See Appendix 2)**	**High**
202	**Quality of climate match data**	**(0-low; 1-intermediate; 2-high) (See Appendix 2)**	**High**
203	**Broad climate suitability (environmental versatility)**	**y=1, n=0**	**y**
204	**Native or naturalized in regions with tropical or subtropical climates**	**y=1, n=0**	**y**
205	**Does the species have a history of repeated introductions outside its natural range?**	**y=-2, ?=-1, n=0**	**n**
301	**Naturalized beyond native range**	**y = 1*multiplier (see Appendix 2), n= question 205**	**n**
302	**Garden/amenity/disturbance weed**	**n=0, y = 1*multiplier (see Appendix 2)**	**n**
303	**Agricultural/forestry/horticultural weed**	**n=0, y = 2*multiplier (see Appendix 2)**	**n**
304	**Environmental weed**	**n=0, y = 2*multiplier (see Appendix 2)**	**n**
305	**Congeneric weed**	**n=0, y = 1*multiplier (see Appendix 2)**	**y**
401	**Produces spines, thorns or burrs**	**y=1, n=0**	**n**
402	**Allelopathic**	**y=1, n=0**	
403	**Parasitic**	**y=1, n=0**	**n**
404	**Unpalatable to grazing animals**	**y=1, n=-1**	
405	**Toxic to animals**	**y=1, n=0**	**n**
406	**Host for recognized pests and pathogens**	**y=1, n=0**	
407	**Causes allergies or is otherwise toxic to humans**	**y=1, n=0**	**y**
408	**Creates a fire hazard in natural ecosystems**	**y=1, n=0**	
409	**Is a shade tolerant plant at some stage of its life cycle**	**y=1, n=0**	
410	**Tolerates a wide range of soil conditions (or limestone conditions if not a volcanic island)**	**y=1, n=0**	**y**

411	**Climbing or smothering growth habit**	**y=1, n=0**	**n**
412	**Forms dense thickets**	**y=1, n=0**	
501	**Aquatic**	**y=5, n=0**	**n**
502	**Grass**	**y=1, n=0**	**n**
503	**Nitrogen fixing woody plant**	**y=1, n=0**	**n**
504	**Geophyte (herbaceous with underground storage organs -- bulbs, corms, or tubers)**	**y=1, n=0**	**n**
601	**Evidence of substantial reproductive failure in native habitat**	**y=1, n=0**	**n**
602	**Produces viable seed**	**y=1, n=-1**	**y**
603	**Hybridizes naturally**	**y=1, n=-1**	
604	**Self-compatible or apomictic**	**y=1, n=-1**	**n**
605	**Requires specialist pollinators**	**y=-1, n=0**	**n**
606	**Reproduction by vegetative fragmentation**	**y=1, n=-1**	
607	**Minimum generative time (years)**	**1 year = 1, 2 or 3 years = 0, 4+ years = -1**	
701	**Propagules likely to be dispersed unintentionally (plants growing in heavily trafficked areas)**	**y=1, n=-1**	**n**
702	**Propagules dispersed intentionally by people**	**y=1, n=-1**	**y**
703	**Propagules likely to disperse as a produce contaminant**	**y=1, n=-1**	**n**
704	**Propagules adapted to wind dispersal**	**y=1, n=-1**	**n**
705	**Propagules water dispersed**	**y=1, n=-1**	
706	**Propagules bird dispersed**	**y=1, n=-1**	**y**
707	**Propagules dispersed by other animals (externally)**	**y=1, n=-1**	**n**
708	**Propagules survive passage through the gut**	**y=1, n=-1**	**y**
801	**Prolific seed production (>1000/m2)**	**y=1, n=-1**	**n**
802	**Evidence that a persistent propagule bank is formed (>1 yr)**	**y=1, n=-1**	**n**
803	**Well controlled by herbicides**	**y=-1, n=1**	
804	**Tolerates, or benefits from, mutilation, cultivation, or fire**	**y=1, n=-1**	**n**
805	**Effective natural enemies present locally (e.g. introduced biocontrol agents)**	**y=-1, n=1**	

Designation: EVALUATE **WRA Score** 2

Supporting Data:

101	2010. WRA Specialist. Personal Communication.	No evidence of domestication to reduce invasive characteristics.
201	2008. Louppe, D./Oteng-Amoako, A.A./Brink, M.. Timbers 1: volume 7 of plant resources of tropical Africa. PROTA, http://books.google.com/books?id=-nw-mZQ0kcEC&pg=PA454&dq=podocarpus+henkelii&hl=en&ei=yK_qTJz3OciKnQfFqbDJDQ&sa=X&oi=book_result&ct=result&r	Podocarpus henkelii is endemic to Kwazulu-Natal and the Eastern Cape, South Africa.
202	2008. Louppe, D./Oteng-Amoako, A.A./Brink, M.. Timbers 1: volume 7 of plant resources of tropical Africa. PROTA, http://books.google.com/books?id=-nw-mZQ0kcEC&pg=PA454&dq=podocarpus+henkelii&hl=en&ei=yK_qTJz3OciKnQfFqbDJDQ&sa=X&oi=book_result&ct=result&r	Podocarpus henkelii is endemic to Kwazulu-Natal and the Eastern Cape, South Africa.
203	2010. Dave's Garden. PlantFiles: Long Leaf Yellowood Podocarpus henkelii. Dave's Garden, http://davesgarden.com/guides/pf/go/57876/	USDA Zones: 7b-11.
204	2008. Louppe, D./Oteng-Amoako, A.A./Brink, M.. Timbers 1: volume 7 of plant resources of tropical Africa. PROTA, http://books.google.com/books?id=-nw-mZQ0kcEC&pg=PA454&dq=podocarpus+henkelii&hl=en&ei=yK_qTJz3OciKnQfFqbDJDQ&sa=X&oi=book_result&ct=result&r	Podocarpus henkelii is endemic to Kwazulu-Natal and the Eastern Cape, South Africa.
205	. McLaughlin, J.. A guide to planting an African-American/African focused yard in Miami-Dade County: a selection of ornamental African plants suitable for the Miami-Dade landscape. University of Florida Miami-Dade Extension Office, Homestead http://miami-	Podocarpus henkelii is grown in Florida as a landscape plant.
205	2010. San Marcos Growers. Pococarpus henkelii long leafed yellow wood. San Marcos Growers, http://www.smgrowers.com/products/plants/plantdisplay.asp?plant_id=1305	San Marcos Growers in Santa Barbara, CA has Podocarpus henkelii for sale.
205	2010. WRA Specialist. Personal Communication.	No evidence of repeated introductions.
301	2007. Randall, R.P.. Global Compendium of Weeds [Online Database]. http://www.hear.org/gcw/	No evidence of naturalization.
302	2007. Randall, R.P.. Global Compendium of Weeds [Online Database]. http://www.hear.org/gcw/	No evidence of disturbance/garden weed.
303	2007. Randall, R.P.. Global Compendium of Weeds [Online Database]. http://www.hear.org/gcw/	No evidence.
304	2007. Randall, R.P.. Global Compendium of Weeds [Online Database]. http://www.hear.org/gcw/	No evidence of being an environmental weed.
305	2007. Maesako, Y./Nanami, S./Kanzaki, M.. Spatial distribution of two invasive alien species, Podocarpus nagi and Sapium sebiferum, spreading in a warm-temperate evergreen forest of the Kasugayama Forest Reserve, Japan. Vegetation Science. 24: 103-112.	Podocarpus nagi is an invasive species in the warm-temperate evergreen forest of the Kasugayama Forest Reserve, Japan, where it displaces native vegetation.
401	2002. Mbambezeli, G./Reynolds, Y.. Podocarpus henkelii Stapf ex Dallim. & Jacks. Family Podocarpaceae (Yellowwood family). Kirstenbosch National Botanical Garden, http://www.plantzafrica.com/plantnop/podocarphenk.htm	No spines, thorns, or burrs.

402	2010. WRA Specialist. Personal Communication.	Unknown.
403	2010. Nickrent, D.. The parasitic plant connection. Department of Plant Biology, Southern Illinois University, Carbondale http://www.parasiticplants.siu.edu/index.html	Not parasitic.
404	2010. WRA Specialist. Personal Communication.	Unknown.
405	2010. National Center for Biotechnology Information. PubMed. U.S. National Library of Medicine, Bethesda, Maryland http://www.ncbi.nlm.nih.gov/sites/entrez	No evidence of toxicity.
405	2010. Specialized Information Services, U.S. National Library of Medicine. TOXNET Toxicology Data Network [Online Database]. National Institutes of Health, http://toxnet.nlm.nih.gov/	No evidence of toxicity.
406	2002. Mbambezeli, G./Reynolds, Y.. Podocarpus henkelii Stapf ex Dallim. & Jacks. Family Podocarpaceae (Yellowwood family). Kirstenbosch National Botanical Garden, http://www.plantzafrica.com/plantnop/podocarphenk.htm	"Seed collection from this tree is a struggle as the fungal disease black coral spot destroys many of the seeds. The seed that falls during the first 2-3 weeks is always highly infested, only the seed collected afterwards is good."
407	2010. Dave's Garden. PlantFiles: Long Leaf Yellowood Podocarpus henkelii. Dave's Garden, http://davesgarden.com/guides/pf/go/57876/	Seed is poisonous if ingested. All parts of plants are poisonous if ingested.
408	2010. WRA Specialist. Personal Communication.	Unknown.
409	. McLaughlin, J.. A guide to planting an African-American/African focused yard in Miami-Dade County: a selection of ornamental African plants suitable for the Miami-Dade landscape. University of Florida Miami-Dade Extension Office, Homestead http://miami-	Partial to full sun.
409	2010. Dave's Garden. PlantFiles: Long Leaf Yellowood Podocarpus henkelii. Dave's Garden, http://davesgarden.com/guides/pf/go/57876/	Full sun.
410	2002. Mbambezeli, G./Reynolds, Y.. Podocarpus henkelii Stapf ex Dallim. & Jacks. Family Podocarpaceae (Yellowwood family). Kirstenbosch National Botanical Garden, http://www.plantzafrica.com/plantnop/podocarphenk.htm	"Podocarpus henkelii grows best in deep and moist, sandy or loamy soil. It can tolerate less favourable sites, but then grows very slowly. Judicious application of organic fertiliser will speed up growth."
410	2010. San Marcos Growers. Pococarpus henkelii long leafed yellow wood. San Marcos Growers, http://www.smgrowers.com/products/plants/plantdisplay.asp?plant_id=1305	It is moderately drought-resistant and frost hardy but grows best on moist sites in sandy or loamy soil. It can tolerate less favourable sites, but then grows very slowly and can perform poorly in heavy clay soils.
411	. McLaughlin, J.. A guide to planting an African-American/African focused yard in Miami-Dade County: a selection of ornamental African plants suitable for the Miami-Dade landscape. University of Florida Miami-Dade Extension Office, Homestead http://miami-	Tree.
412	2010. WRA Specialist. Personal Communication.	Unknown.
501	2002. Mbambezeli, G./Reynolds, Y.. Podocarpus henkelii Stapf ex Dallim. & Jacks. Family Podocarpaceae (Yellowwood family). Kirstenbosch National Botanical Garden, http://www.plantzafrica.com/plantnop/podocarphenk.htm	Terrestrial.

502	2002. Mbambezeli, G./Reynolds, Y.. Podocarpus henkelii Stapf ex Dallim. & Jacks. Family Podocarpaceae (Yellowwood family). Kirstenbosch National Botanical Garden, http://www.plantzafrica.com/plantnop/podocarphenk.htm	Podocarpaceae.
503	2010. Winrock International. Nitrogen fixing trees and shrubs. Winrock International, http://www.winrock.org/	Podocarpaceae.
503	2010. www.nationmaster.com. Encyclopedia Nitrogen fixation. Nationmaster.com, http://www.nationmaster.com/encyclopedia/Nitrogen-fixation	Podocarpaceae
504	2002. Mbambezeli, G./Reynolds, Y.. Podocarpus henkelii Stapf ex Dallim. & Jacks. Family Podocarpaceae (Yellowwood family). Kirstenbosch National Botanical Garden, http://www.plantzafrica.com/plantnop/podocarphenk.htm	Tree.
601	2002. von Maltitz, G.. Classification system for South African indigenous forests: an objective classification for the Department of Water Affairs and Forestry final draft. CSIR Environmentek, http://www2.dwaf.gov.za/webapp/ResourceCentre/Documents/Repor	Podocarpus henkelii is an important species of the Southern and Eastern mistbelt forests in South Africa.
601	2010. WRA Specialist. Personal Communication.	No evidence.
602	2002. Mbambezeli, G./Reynolds, Y.. Podocarpus henkelii Stapf ex Dallim. & Jacks. Family Podocarpaceae (Yellowwood family). Kirstenbosch National Botanical Garden, http://www.plantzafrica.com/plantnop/podocarphenk.htm	"Seed collection from this tree is a struggle as the fungal disease black coral spot destroys many of the seeds. The seed that falls during the first 2-3 weeks is always highly infested, only the seed collected afterwards is good. The seed is perishable and must be kept in cold storage after collection. Under normal nursery conditions, seed germination takes 2 months."
603	2010. WRA Specialist. Personal Communication.	Unknown.
604	2002. Mbambezeli, G./Reynolds, Y.. Podocarpus henkelii Stapf ex Dallim. & Jacks. Family Podocarpaceae (Yellowwood family). Kirstenbosch National Botanical Garden, http://www.plantzafrica.com/plantnop/podocarphenk.htm	Dioecious.
605	2007. Finkeldey, R./Hattemer, H.H.. Tropical forest genetics. Springer-Verlag, Berlin http://books.google.com/books?id=1dVnC7ubkxYC&dq=podocarpus++%2B+%22pollination%22&source=gbs_navlinks_s	Tropical pines and many other gymnosperms such as Podocarpus species are wind-pollinated.
606	2010. WRA Specialist. Personal Communication.	Unknown.
607	2010. WRA Specialist. Personal Communication.	Unknown.
701	2002. Mbambezeli, G./Reynolds, Y.. Podocarpus henkelii Stapf ex Dallim. & Jacks. Family Podocarpaceae (Yellowwood family). Kirstenbosch National Botanical Garden, http://www.plantzafrica.com/plantnop/podocarphenk.htm	'Female cones are solitary, but shortly stalked. The seed is large and roundish and 1,5-2cm in diameter and olive green to yellowish green when ripe.'
702	. McLaughlin, J.. A guide to planting an African-American/African focused yard in Miami-Dade County: a selection of ornamental African plants suitable for the Miami-Dade landscape. University of Florida Miami-Dade Extension Office, Homestead http://miami-	Podocarpus henkelii is grown as a landscape plant in Florida.

702	2010. San Marcos Growers. Pococarpus henkelii long leafed yellow wood. San Marcos Growers, http://www.smgrowers.com/products/plants/plantdisplay.asp?plant_id=1305	San Marcos Growers in California has Podocarpus henkelii for sale.
703	2002. Mbambezeli, G./Reynolds, Y.. Podocarpus henkelii Stapf ex Dallim. & Jacks. Family Podocarpaceae (Yellowwood family). Kirstenbosch National Botanical Garden, http://www.plantzafrica.com/plantnop/podocarphenk.htm	"Female cones are solitary, but shortly stalked. The seed is large and roundish and 1,5-2cm in diameter and olive green to yellowish green when ripe."
704	2002. Mbambezeli, G./Reynolds, Y.. Podocarpus henkelii Stapf ex Dallim. & Jacks. Family Podocarpaceae (Yellowwood family). Kirstenbosch National Botanical Garden, http://www.plantzafrica.com/plantnop/podocarphenk.htm	"Female cones are solitary, but shortly stalked. The seed is large and roundish and 1,5-2cm in diameter and olive green to yellowish green when ripe." [no adaptation for wind dispersal]
705	2010. WRA Specialist. Personal Communication.	Unknown.
706	2002. Mbambezeli, G./Reynolds, Y.. Podocarpus henkelii Stapf ex Dallim. & Jacks. Family Podocarpaceae (Yellowwood family). Kirstenbosch National Botanical Garden, http://www.plantzafrica.com/plantnop/podocarphenk.htm	"Seed is dispersed by birds. Large old yellowwood trees form the preferred nesting sites of the Cape Parrot (Poicephalus robustus) and the kernels of the seeds are a major source of food for this bird."
707	2002. Mbambezeli, G./Reynolds, Y.. Podocarpus henkelii Stapf ex Dallim. & Jacks. Family Podocarpaceae (Yellowwood family). Kirstenbosch National Botanical Garden, http://www.plantzafrica.com/plantnop/podocarphenk.htm	"Female cones are solitary, but shortly stalked. The seed is large and roundish and 1,5-2cm in diameter and olive green to yellowish green when ripe." [no means of attachment]
708	2002. Mbambezeli, G./Reynolds, Y.. Podocarpus henkelii Stapf ex Dallim. & Jacks. Family Podocarpaceae (Yellowwood family). Kirstenbosch National Botanical Garden, http://www.plantzafrica.com/plantnop/podocarphenk.htm	Bird dispersed.
801	2002. Mbambezeli, G./Reynolds, Y.. Podocarpus henkelii Stapf ex Dallim. & Jacks. Family Podocarpaceae (Yellowwood family). Kirstenbosch National Botanical Garden, http://www.plantzafrica.com/plantnop/podocarphenk.htm	"Female cones are solitary, but shortly stalked. The seed is large and roundish and 1,5-2cm in diameter and olive green to yellowish green when ripe.'
802	2002. Mbambezeli, G./Reynolds, Y.. Podocarpus henkelii Stapf ex Dallim. & Jacks. Family Podocarpaceae (Yellowwood family). Kirstenbosch National Botanical Garden, http://www.plantzafrica.com/plantnop/podocarphenk.htm	Recalcitrant seeds.
803	2010. WRA Specialist. Personal Communication.	Unknown.
804	1994. Cunningham, A.B.. Integrating local plant resources and habitat management. Biodiversity and Conservation. 3: 104-115.	"Degree of disturbance to the species population and vulnerability to over-exploitation depend on demand, supply, part used and growth form. Coppicing ability and the vulnerability of trees to bark removal are important attributes which vary with the physiology of different species. Faurea macnaughtonii (Proteaceae) and Podocarpus henkelii (Podocarpaceae) are at one extreme as the most sensitive species to bark removal."

804	2005. Chalwell, S.T.S./Ladd, P.G.. Stem demography and post fire recruitment of Podocarpus drouynianus: a resprouting non-serotinous conifer. Botanical Journal of the Linnean Society. 149: 433-449.	"Podocarpaceae are generally fire sensitive, have relatively large seeds with limited dormancy and are not cued to severe environmental disturbance for reproduction.. Like most conifer species they do not resprout after fire although there are exceptions in some genera. There seem to be only three Podocarpus species which depart radically from the family scenario. In southern Africa Podocarpus elongatus resprouts from epicormic buds after fire. In Australia there are two shrubby species – Podocarpus spinulosus and P. drouynianus."
805	2010. WRA Specialist. Personal Communication.	Unknown.