

Pacific Island Ecosystems at Risk (PIER)

Bismarckia nobilis

RISK ASSESSMENT RESULTS: Low risk, score: -7



Australian/New Zealand Weed Risk Assessment adapted for Hawai'i.

Research directed by C. Daehler (UH Botany) with funding from the Kaulunani Urban Forestry Program and US Forest Service

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<i>Bismarckia nobilis</i> Hildebrandt & H. Wendl. (Bismarck palm, chancellor's palm)			Answer
1.01	Is the species highly domesticated?	y=-3, n=0	n
1.02	Has the species become naturalized where grown?	y=-1, n=-1	n
1.03	Does the species have weedy races?	y=-1, n=-1	n
2.01	Species suited to tropical or subtropical climate(s) (0-low; 1-intermediate; 2-high) – If island is primarily wet habitat, then substitute “wet tropical” for “tropical or subtropical”	See Append 2	2
2.02	Quality of climate match data (0-low; 1-intermediate; 2-high) see appendix 2		2
2.03	Broad climate suitability (environmental versatility)	y=1, n=0	n
2.04	Native or naturalized in regions with tropical or subtropical climates	y=1, n=0	y
2.05	Does the species have a history of repeated introductions outside its natural range? y=-2	?=-1, n=0	y
3.01	Naturalized beyond native range y = 1*multiplier (see Append 2), n= question 2.05		n
3.02	Garden/amenity/disturbance weed y = 1*multiplier (see Append 2)	n=0	n
3.03	Agricultural/forestry/horticultural weed y = 2*multiplier (see Append 2)	n=0	n
3.04	Environmental weed y = 2*multiplier (see Append 2)	n=0	n
3.05	Congeneric weed y = 1*multiplier (see Append 2)	n=0	n
4.01	Produces spines, thorns or burrs	y=1, n=0	n
4.02	Allelopathic	y=1, n=0	n
4.03	Parasitic	y=1, n=0	n
4.04	Unpalatable to grazing animals	y=1, n=-1	
4.05	Toxic to animals	y=1, n=0	n
4.06	Host for recognized pests and pathogens	y=1, n=0	n

4.07	Causes allergies or is otherwise toxic to humans	y=1, n=0	n
4.08	Creates a fire hazard in natural ecosystems	y=1, n=0	n
4.09	Is a shade tolerant plant at some stage of its life cycle	y=1, n=0	n
4.1	Tolerates a wide range of soil conditions (or limestone conditions if not a volcanic island)	y=1, n=0	y
4.11	Climbing or smothering growth habit	y=1, n=0	n
4.12	Forms dense thickets	y=1, n=0	n
5.01	Aquatic	y=5, n=0	n
5.02	Grass	y=1, n=0	n
5.03	Nitrogen fixing woody plant	y=1, n=0	n
5.04	Geophyte (herbaceous with underground storage organs -- bulbs, corms, or tubers)	y=1, n=0	n
6.01	Evidence of substantial reproductive failure in native habitat	y=1, n=0	n
6.02	Produces viable seed.	y=1, n=-1	y
6.03	Hybridizes naturally	y=1, n=-1	n
6.04	Self-compatible or apomictic	y=1, n=-1	n
6.05	Requires specialist pollinators	y=-1, n=0	n
6.06	Reproduction by vegetative fragmentation	y=1, n=-1	n
6.07	Minimum generative time (years) 1 year = 1, 2 or 3 years = 0, 4+ years = -1	See left	4
7.01	Propagules likely to be dispersed unintentionally (plants growing in heavily trafficked areas)	y=1, n=-1	n
7.02	Propagules dispersed intentionally by people	y=1, n=-1	y
7.03	Propagules likely to disperse as a produce contaminant	y=1, n=-1	n
7.04	Propagules adapted to wind dispersal	y=1, n=-1	n
7.05	Propagules water dispersed	y=1, n=-1	n
7.06	Propagules bird dispersed	y=1, n=-1	y
7.07	Propagules dispersed by other animals (externally)	y=1, n=-1	n
7.08	Propagules survive passage through the gut	y=1, n=-1	n
8.01	Prolific seed production (>1000/m2)	y=1, n=-1	n
8.02	Evidence that a persistent propagule bank is formed (>1 yr)	y=1, n=-1	n
8.03	Well controlled by herbicides	y=-1, n=1	
8.04	Tolerates, or benefits from, mutilation, cultivation, or fire	y=1, n=-1	y
8.05	Effective natural enemies present locally (e.g. introduced biocontrol agents)	y=-1, n=1	

Total score:

-7

Supporting data:

	Notes	Source
1.01	No evidence	
1.02	No evidence	
1.03	No evidence	
2.01	(1)Distribution: Madagascar (2)It's origin is the African island of Madagascar (3) A palm from drier tropical regions and suited to the tropics and subtropics...'	(1) http://www.plantapalm.com/vpe/photos/Species/bismarckia_nobilis.htm (2) http://mgonline.com/bismarckia.html (3)Krempin, J. 1990. Palms and Cycads Around the World. Horwitz Grahame Pty Ltd. Sydney. Australia.
2.02		
2.03	(1)Hardiness: USDA Zones 10 - 11. (2)Naturally found in Dry environments (3)can be used as a substitute for the Washingtonia species.	(1) http://www.floridata.com/ref/B/bism_nob.cfm (2) http://www.pacsoa.org.au/palms/Bismarckia/nobilisH.html (3) http://www.sacramentovalleypalms.com/bismarckia_nobilis.html
2.04	(1)Distribution: Madagascar (2)It's origin is the African island of Madagascar	(1) http://www.plantapalm.com/vpe/photos/Species/bismarckia_nobilis.htm (2) http://mgonline.com/bismarckia.html
2.05	(1)California (2)Florida (3)It is a wonderful, and impressive palm for SE Florida, extreme So. Texas (Rio Grande Valley Region), Queensland AU, and similar climates. It is not quite so well adapted to So. California, as summer temperatures are not "tropical", but it can be found there, in limited numbers, and with mixed cultivation successes. (4)Hawaii. (5)Surinam	(1) http://www.junglemusic.net/palms/bismarckia-nobilis.htm (2) http://www.floridata.com/ref/B/bism_nob.cfm (3) http://www.palmdoctor.com/Palm_Of_The_Month/Bismarckia_nobilis.htm (4) http://www.tropicalgardensofmaui.com/?ref=http%3A%2F%2Fwww.google.com/search%3Fhl%3Den%26ie%3DUTF-8%26q%3DBismarckia+nobilis%26btnG%3DGoogle+Search (5) http://www.tropilab.com/bismarckpalm.html
3.01	No evidence	
3.02	No evidence	
3.03	No evidence	
3.04	Invasive potential: little, if any, potential at this time.	http://216.239.57.104/search?q=cache:9J4fKW9NDPcJ:hort.ifas.ufl.edu/trees/BISNOBA.pdf+Bismarckia+nobilis&hl=en
3.05	This is a "monotypic" genus of palm, (no other member in its genus), which is endemic to the wet & hot, then seasonally dry & coolish winter's climate typically found in Madagascar.	http://www.palmdoctor.com/Palm_Of_The_Month/Bismarckia_nobilis.htm
4.01	No evidence of such structures.	http://www.rarepalmseeds.com/pix/BisNob.shtml
4.02	No evidence	
4.03	No evidence	
4.04	A tall palm up to 50 feet. Probably not accessible to grazing animals.	http://www.desert-tropicals.com/Plants/Arecaceae/Bismarckia_nobilis.html
4.05	No evidence	
4.06	There are no major pest problems on this palm. Watch for scale infestations.	http://edis.ifas.ufl.edu/ST101
4.07	No evidence	

4.08	Naturally found in dry environments but it is a "self cleaning" palm	http://www.pacsoa.org.au/palms/Bismarckia/nobilisH.html
4.09	(1)Sun Requirements: Full sun, despises shade. (2)Light: Prefers full sun but is tolerant of some shade. (3)Light requirement: tree grows in part shade/part sun;tree grows in full sun (4)Sun Requirements: Full sun, despises shade.	(1) http://www.junglemusic.net/palms/bismarckia-nobilis.htm (2) http://www.floridata.com/ref/B/bism_nob.cfm (3) http://216.239.57.104/search?q=cache:9J4fKW9NDPcJ:hort.ifas.ufl.edu/trees/BISNOBA.pdf+Bismarckia+nobilis&hl=en (4) http://www.junglemusic.net/palms/bismarckia-nobilis.htm
4.1	(1)Soil requirements: Sandy, well-draining. Can tolerate drought. (2)This palm is adaptable to many kinds of soil. (3)Soil tolerances: clay; loam; sand; slightly alkaline;acidic; well-drained.	(1) http://www.junglemusic.net/palms/bismarckia-nobilis.htm (2) http://www.floridata.com/ref/B/bism_nob.cfm (3) http://216.239.57.104/search?q=cache:9J4fKW9NDPcJ:hort.ifas.ufl.edu/trees/BISNOBA.pdf+Bismarckia+nobilis&hl=en
4.11	No evidence	
4.12	No evidence	
5.01	Arecaceae	
5.02	Arecaceae	
5.03	Arecaceae	
5.04	Palmtree, up to 50 feet tall (15 m).	http://www.desert-tropicals.com/Plants/Arecaceae/Bismarckia_nobilis.html
6.01	No evidence	
6.02	Propagation: Seeds germinate easily in 6 to 8 weeks.	http://www.floridata.com/ref/B/bism_nob.cfm
6.03	This is a "monotypic" genus of palm	http://www.palmdoctor.com/Palm_Of_The_Month/Bismarckia_nobilis.htm
6.04	The Bismarck palms are dioecious. Male and female flowers occur on different trees.	http://www.desert-tropicals.com/Plants/Arecaceae/Bismarckia_nobilis.html
6.05	'Pollinated flowers forming seeds' [typical insect (bee) attraction]	http://mgonline.com/palmbismarck06.jpg
6.06	Propagation: Seeds germinate easily in 6 to 8 weeks.	
6.07	(1)Speed of growth: Medium (2)Growth rate: slow [minimum estimate for mediium-slow growing massive palm tree]	(1) http://www.junglemusic.net/palms/bismarckia-nobilis.htm (2) http://edis.ifas.ufl.edu/ST101
7.01	May be - 'Uses: suitable for growing indoors; recommended forbuffer strips around parking lots or for median stripplantings in the highway'	http://216.239.57.104/search?q=cache:9J4fKW9NDPcJ:hort.ifas.ufl.edu/trees/BISNOBA.pdf+Bismarckia+nobilis&hl=en
7.02	Outstanding tree: tree has outstanding ornamentalfeatures and could be planted more.	http://216.239.57.104/search?q=cache:9J4fKW9NDPcJ:hort.ifas.ufl.edu/trees/BISNOBA.pdf+Bismarckia+nobilis&hl=en
7.03	relatively large fruit. - 1.5 x 3 inches.	(1) http://216.239.57.104/search?q=cache:9J4fKW9NDPcJ:hort.ifas.ufl.edu/trees/BISNOBA.pdf+Bismarckia+nobilis&hl=en (2) http://www.palmdoctor.com/Palm_Of_The_Month/Bismarckia_nobilis.htm
7.04	Fruit length: 1 to 3 inches; Fruit covering: fleshy [large sized fruit]	http://hort.ifas.ufl.edu/trees/BISNOBA.pdf
7.05	probably not, a dry land species	http://www.fao.org/forestry/FOR/FORM/FOGENRES/GENRESBU/web26-en/palms.stm
7.06	Fruit length: 1 to 3 inches Fruit covering: fleshy	http://hort.ifas.ufl.edu/trees/BISNOBA.pdf
7.07	Fruit characteristics: does not attract wildlife;inconspicuous and not showy.'	http://216.239.57.104/search?q=cache:9J4fKW9NDPcJ:hort.ifas.ufl.edu/trees/BISNOBA.pdf+Bismarckia+nobilis&hl=en
7.08	No evidence regarding ingestion. [too large for ingestion by most animals]	

8.01	(1)The flower stalks are four feet long and produce many 1.5-inch-long fruits (2)Its fruit is about 3 cm. across and brown when ripe. [probably not, large fruit]	(1)http://216.239.57.104/search?q=cache:9J4fKW9NDPcJ:hort.ifas.ufl.edu/trees/BISNOBA.pdf+Bismarckia+nobilis&hl=en (2)http://www.palmdoctor.com/Palm_Of_The_Month/Bismarckia_nobilis.htm
8.02	"Information on the seed storage potential of palms is very limited. In an early review, De Leon (1961) primarily classified palm genera as being either long-lived (remain viable for two to three months); intermediate-lived (four to six weeks) or short-lived (two to three weeks); only two monotypic dryland species from Africa and Madagascar were individually cited, Bismarckia nobilis (short-lived) and Chamaerops humilis (long-lived). "	http://www.fao.org/forestry/FOR/FORM/FOGENRES/GENRESBU/web26-en/palms.stm
8.03	No evidence that the species is being controlled for.	
8.04	(1) Pruning requirement: needs little pruning to develop a strong structure. (2) Some native, fire-resistant trees persist in areas of the central highlands, including the endemic palms Bismarckia nobilis [tolerates fire]	(1)http://216.239.57.104/search?q=cache:9J4fKW9NDPcJ:hort.ifas.ufl.edu/trees/BISNOBA.pdf+Bismarckia+nobilis&hl=en (2)http://www.worldwildlife.org/wildworld/profiles/terrestrial/at/at0118_full.html
8.05	Don't know	

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