

Family: *Asteraceae*

Taxon: *Pluchea indica*

Synonym: *Baccharis indica* (L.)

Common Name: Indian fleabane
Indian pluchea

Questionnaire : current 20090513
Status: Assessor Approved

Assessor: Patti Clifford
Data Entry Person: Patti Clifford

Designation: H(HPWRA)

WRA Score 11

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	
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	y
301	Naturalized beyond native range	y = 1*multiplier (see Appendix 2), n= question 205	y
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)	y
304	Environmental weed	n=0, y = 2*multiplier (see Appendix 2)	y
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	n
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	n
411	Climbing or smothering growth habit	y=1, n=0	n

412	Forms dense thickets	y=1, n=0	y
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	y
604	Self-compatible or apomictic	y=1, n=-1	
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	3
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	n
703	Propagules likely to disperse as a produce contaminant	y=1, n=-1	n
704	Propagules adapted to wind dispersal	y=1, n=-1	y
705	Propagules water dispersed	y=1, n=-1	
706	Propagules bird dispersed	y=1, n=-1	n
707	Propagules dispersed by other animals (externally)	y=1, n=-1	n
708	Propagules survive passage through the gut	y=1, n=-1	n
801	Prolific seed production (>1000/m2)	y=1, n=-1	
802	Evidence that a persistent propagule bank is formed (>1 yr)	y=1, n=-1	
803	Well controlled by herbicides	y=-1, n=1	y
804	Tolerates, or benefits from, mutilation, cultivation, or fire	y=1, n=-1	y
805	Effective natural enemies present locally (e.g. introduced biocontrol agents)	y=-1, n=1	

Designation: H(HPWRA)

WRA Score **11**

Supporting Data:

101	2010. WRA Specialist. Personal Communication.	No evidence.
201	2010. USDA, ARS, National Genetic Resources Program. Germplasm Resources Information Network (GRIN) [Online Database]. National Germplasm Resources Laboratory, Beltsville, Maryland http://www.ars-grin.gov/cgi-bin/npgs/html/index.pl	Native to: China - Guangdong, Guangxi; Japan; Taiwan; India; Cambodia; Indochina; Laos; Myanmar; Thailand; Vietnam; Indonesia; Philippines; Singapore; Australia - Northern Territory, Queensland
202	2010. USDA, ARS, National Genetic Resources Program. Germplasm Resources Information Network (GRIN) [Online Database]. National Germplasm Resources Laboratory, Beltsville, Maryland http://www.ars-grin.gov/cgi-bin/npgs/html/index.pl	Native to: China - Guangdong, Guangxi; Japan; Taiwan; India; Cambodia; Indochina; Laos; Myanmar; Thailand; Vietnam; Indonesia; Philippines; Singapore; Australia - Northern Territory, Queensland
203	2010. WRA Specialist. Personal Communication.	Unknown [literature does not indicate]
204	1999. Wagner, W. L./Herbst, D. R./Sohmer, S. H.. Manual of the flowering plants of Hawaii. Revised edition.. University of Hawai'i Press and Bishop Museum Press, Honolulu, HI.	Naturalized on Midway Atoll, Laysan, and possibly all of the Hawaiian Islands.
205	1999. Wagner, W. L./Herbst, D. R./Sohmer, S. H.. Manual of the flowering plants of Hawaii. Revised edition.. University of Hawai'i Press and Bishop Museum Press, Honolulu, HI.	Widely introduced in the tropics, usually in saline places.
301	1999. Wagner, W. L./Herbst, D. R./Sohmer, S. H.. Manual of the flowering plants of Hawaii. Revised edition.. University of Hawai'i Press and Bishop Museum Press, Honolulu, HI.	Naturalized in low elevation, dry, coastal habitats on Midway Atoll, Laysan, and probably all the main islands.
302	2003. Motooka, P./Castro, L./Nelson, D./Nagai, G./Ching, L.. Weeds of Hawaii's Pastures and Natural Areas: An Identification and Management Guide. College of Tropical Agriculture and Human Resources, University of Hawaii at Manoa, http://www.ctahr.hawaii .	Environmental weed, see 304.
303	2003. Motooka, P./Castro, L./Nelson, D./Nagai, G./Ching, L.. Weeds of Hawaii's Pastures and Natural Areas: An Identification and Management Guide. College of Tropical Agriculture and Human Resources, University of Hawaii at Manoa, http://www.ctahr.hawaii .	Displaces forage in coastal pastures.
304	2003. Motooka, P./Castro, L./Nelson, D./Nagai, G./Ching, L.. Weeds of Hawaii's Pastures and Natural Areas: An Identification and Management Guide. College of Tropical Agriculture and Human Resources, University of Hawaii at Manoa, http://www.ctahr.hawaii .	Displaces forages in coastal pastures and natives in marshes and saline areas. Destroys habitat of water birds.
305	1998. Inderjit, C.L.F./Dakshini, K.M.M.. <i>Pluchea lanceolata</i> : a noxious perennial weed. Weed Technology. 12: .	<i>Pluchea lanceolata</i> (DC.) C. B. Clarke is an aggressive weed in India. It causes considerable damage in winter and summer season crops.
401	1999. Wagner, W. L./Herbst, D. R./Sohmer, S. H.. Manual of the flowering plants of Hawaii. Revised edition.. University of Hawai'i Press and Bishop Museum Press, Honolulu, HI.	No spines, thorns, burrs.
402	2010. WRA Specialist. Personal Communication.	Unknown.
403	1999. Wagner, W. L./Herbst, D. R./Sohmer, S. H.. Manual of the flowering plants of Hawaii. Revised edition.. University of Hawai'i Press and Bishop Museum Press, Honolulu, HI.	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 in PubMed.
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 in ToxNet.
406	2010. WRA Specialist. Personal Communication.	Unknown
407	1999. Bandaranayake, W.M.. Economic, traditional and medicinal uses of mangroves. Australian Institute of Marine Science, Townsville http://data.aims.gov.au/extpubs/attachmentDownload?docID=2810	"In Thailand and Java the leaves and roots of <i>Pluchea indica</i> (known as 'kukronda' among the Thai people) have been reported to possess astringent and antipyretic properties and are used as a diaphoretic in fevers. Fresh leaves are used in the form of poultices against atonic and gangrenous ulcers. Cigarettes prepared from the chopped stem bark are smoked to relieve the pain of sinusitis. In Indo-China the leaves and young shoots are crushed, mixed with alcohol, and applied to the back in cases of lumbago, and also are used for rheumatic pains and in baths to treat scabies."
407	2010. Anonymous. <i>Pluchea Indica</i> (Linn.) Less Kalapini. Republic of the Philippines Bureau of Plant Industry, http://www.bpi.da.gov.ph/Publications/mp/pdf/k/kalapini.pdf	The roots and leaves are used medicinally as astringents and antipyretics. In Indo-China the roots, in decoctions are used as a diaphoretic for fevers, and an infusion of the leaves is given internally for lumbago.
408	2010. WRA Specialist. Personal Communication.	Unknown
409	2010. WRA Specialist. Personal Communication.	Unknown
410	2003. Motooka, P./Castro, L./Nelson, D./Nagai, G./Ching,L.. Weeds of Hawaii's Pastures and Natural Areas: An Identification and Management Guide. College of Tropical Agriculture and Human Resources, University of Hawaii at Manoa, http://www.ctahr.hawaii .	Occurs in coastal areas in marshes and saline soils.
411	1999. Wagner, W. L./Herbst, D. R./Sohmer, S. H.. Manual of the flowering plants of Hawaii. Revised edition.. University of Hawai'i Press and Bishop Museum Press, Honolulu, HI.	Erect shrub 10-15 (-20) dm tall.
412	1985. Smith, C.W.. Impact of Alien Plants on Hawaii's Native Biota. http://www.hear.org/books/hte1985/pdfs/hte1985smith.pdf	Forms dense thickets.
501	1999. Wagner, W. L./Herbst, D. R./Sohmer, S. H.. Manual of the flowering plants of Hawaii. Revised edition.. University of Hawai'i Press and Bishop Museum Press, Honolulu, HI.	Terrestrial.
502	1999. Wagner, W. L./Herbst, D. R./Sohmer, S. H.. Manual of the flowering plants of Hawaii. Revised edition.. University of Hawai'i Press and Bishop Museum Press, Honolulu, HI.	Asteraceae.
503	1999. Wagner, W. L./Herbst, D. R./Sohmer, S. H.. Manual of the flowering plants of Hawaii. Revised edition.. University of Hawai'i Press and Bishop Museum Press, Honolulu, HI.	Asteraceae
504	1999. Wagner, W. L./Herbst, D. R./Sohmer, S. H.. Manual of the flowering plants of Hawaii. Revised edition.. University of Hawai'i Press and Bishop Museum Press, Honolulu, HI.	Shrub.
601	2010. WRA Specialist. Personal Communication.	No evidence.

602	1999. Wagner, W. L./Herbst, D. R./Sohmer, S. H.. Manual of the flowering plants of Hawaii. Revised edition.. University of Hawai'i Press and Bishop Museum Press, Honolulu, HI.	Pluchea x fosbergii is a spontaneous hybrid occurring wherever P. indica and P symphytifolia grow together.
603	1965. Cooperrider, T.S./Galang, M.M.. A Pluchea hybrid from the Pacific. American Journal of Botany. 52: 1020-1026.	Pluchea indica and Pluchea odorata hybridize on the Hawaiian Islands.
604	2010. WRA Specialist. Personal Communication.	Unknown
605	2007. Cate, C.A.. (Hymenoptera: Apoidea) found on a native brush site, a revegetated site and an urban garden. Texas A&M University, College Station	Pluchea carolinensis is pollinated by Apis mellifera. [species in same Genus has a common pollinator]
606	2010. WRA Specialist. Personal Communication.	Unknown
607	1985. Smith, C.W.. Impact of Alien Plants on Hawaii's Native Biota. http://www.hear.org/books/hte1985/pdfs/hte1985smith.pdf	Fast growing.
701	2010. King-Jones, S.. Revision of Pluchea Cass. (Compositae, Plucheeae) in the Old World. Englera. 23: 3-136.	Pluchea indica is distributed from India and S. China throughout Indochina, the Philippines to Australia and the Pacific Islands along coastlines, mangrove swamps, tidal swamps, riverbeds, and coastal wetlands. [not growing in heavily trafficked areas]
702	2010. WRA Specialist. Personal Communication.	No evidence of seed or propagules for sale via the internet.
703	2010. WRA Specialist. Personal Communication.	No evidence of produce contamination
704	1896. Ridley, H.N.. The dispersal of seeds by birds. 8: .Rait, Henderson and Co., Limited, London http://books.google.com/books?id=F0zPAAAAMA AJ&printsec=frontcover&source=gbs_v2_summary_r&cad=0#v=onepage&q&f=false	The seeds of Pluchea indica have a pappus and are wind dispersed.
705	2010. King-Jones, S.. Revision of Pluchea Cass. (Compositae, Plucheeae) in the Old World. Englera. 23: 3-136.	Pluchea indica is distributed from India and S. China throughout Indochina, the Philippines to Australia and the Pacific Islands along coastlines, mangrove swamps, tidal swamps, riverbeds, and coastal wetlands. [possibly dispersed by water]
706	1896. Ridley, H.N.. The dispersal of seeds by birds. 8: .Rait, Henderson and Co., Limited, London http://books.google.com/books?id=F0zPAAAAMA AJ&printsec=frontcover&source=gbs_v2_summary_r&cad=0#v=onepage&q&f=false	Wind dispersed.
707	1896. Ridley, H.N.. The dispersal of seeds by birds. 8: .Rait, Henderson and Co., Limited, London http://books.google.com/books?id=F0zPAAAAMA AJ&printsec=frontcover&source=gbs_v2_summary_r&cad=0#v=onepage&q&f=false	Wind dispersed.
708	1999. Wagner, W. L./Herbst, D. R./Sohmer, S. H.. Manual of the flowering plants of Hawaii. Revised edition.. University of Hawai'i Press and Bishop Museum Press, Honolulu, HI.	Achene ca 1 mm long.
801	2010. WRA Specialist. Personal Communication.	Unknown
802	2010. WRA Specialist. Personal Communication.	Unknown
803	2003. Motooka, P./Castro, L./Nelson, D./Nagai, G./Ching,L.. Weeds of Hawaii's Pastures and Natural Areas: An Identification and Management Guide. College of Tropical Agriculture and Human Resources, University of Hawaii at Manoa, http://www.ctahr.hawaii .	Sensitive to 2,4-D and probably to all hormone-type dicot killers. HAVO staff reported control with 1% glyphosate product in foliar applications (Zimmer, HAVO). Fern Duvall (DOFAW) cleared areas Pluchea indica of fleabane in the Kanaha Pond Reserve with drizzle applications of 1 lb/acre of glyphosate (Rodeo®) to establish bird nesting sites

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- 804 2010. Bird Life International. Kiritimati Reed-warbler *Acrocephalus aequinoctialis*. Bird Life International, <http://www.birdlife.org/datazone/species/index.html?action=SpcHTMLDetails.asp&sid=7615&m=0> In Kiritimati and Teraina, *Pluchea indica* shrubs have proliferated after fire.
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- 805 2010. WRA Specialist. Personal Communication. Unknown.
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