Title: Hawaii-Pacific Weed Risk Assessment
Organization: Hawaii Invasive Species Council

The Hawaii-Pacific Weed Risk Assessment (HPWRA) system is a internationally recognized biosecurity screening tool that rates the potential of a plant species to become invasive in Hawaii. The HPWRA project addresses several Goals and Objectives within the HISC Strategic Plan and increases the capacity and collaboration within the Prevention, Established Pests, and Public Outreach working groups. The project supports Goal one of the Prevention working group, "*review risks of pest/invasive species entry into the state"*. The HWPRA improves the capacity of agencies to identify problematic species through a collaborative effort and shared resource. The Prevention objective to "*identify terrestrial and aquatic species that are at high risk of being introduced to the State or being spread within the State"* is supported by HPWRA risk analysis. This objective is identified as a high priority within the Prevention category. Increasing global trade will create new pathways and introduce more species to Hawaii. The HPWRA system can assist in the identification of invasive species before they can impact Hawaii's economy, ecology or human health. The HPWRA system also addresses the following Prevention objectives: to "*develop a comprehensive 'approved planting list' to ensure that invasive species are not being planted in State projects or by any state contractors, e.g. screened by the Weed Risk Assessment protoco*l" and to "*develop collaborative industry guidelines and codes of conduct, which minimize or eliminate unintentional introductions*." In accordance with these objectives, two Weed Risk Assessment Specialists continue to be employed through funding provided by the Hawaii Invasive Species Council. The HPWRA Specialist, based in the Maui Invasive Species Committee (MISC) office on the island of Maui, has been employed in that capacity from September 2007 to present. The HPWRA Specialist, stationed at the Bishop Museum on the island of Oahu, has been employed as a WRA Specialist from August 2008 to present.

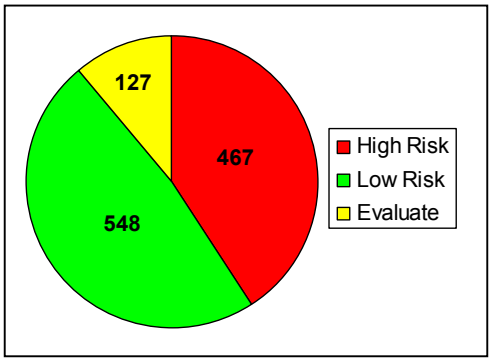
The HPWRA was designed to assess a species by answering background questions about a plant before it is imported or widely cultivated in Hawai'i. HPWRA botanists use published and on-line information to answer 49 questions about a plant's biology, ecology & invasive tendencies elsewhere. The answers result in a score that predicts whether a plant is likely to cause ecological or economic harm in Hawai'i and other Pacific Islands. Plants rated as "High Risk" may have a history of being invasive in other places, or exhibit traits that make them more likely to spread and threaten agriculture, human health or the natural environment. Plants rated as "Low Risk" are less likely to invade or cause harm, and plants rated "Evaluate" require further information to make an accurate prediction. The globalized economy has increased the risk of biological invasions worldwide, and similar versions of this screening system are now being used in Australia, New Zealand and a growing number of other countries. By preventing importation or cultivation of high risk plants before they become a problem, the HPWRA is a cost-effective tool that will save Hawai'i money needed to control and eradicate these potential future pests.

HISC Prevention: Measures of Effectiveness

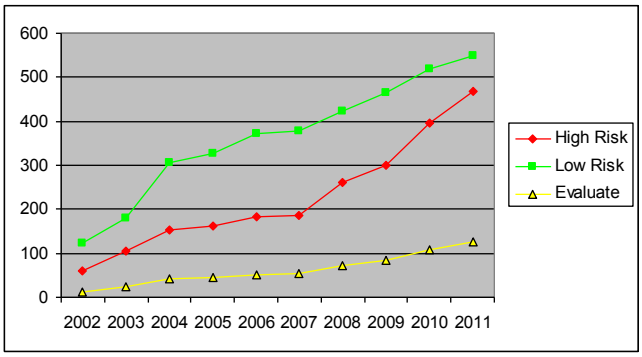
The principle objective of the WRA specialists is to complete new assessments and update previously completed assessments with current information, both for the species already present in the Hawaiian Islands, as well as for new species introductions. This information is then summarized and disseminated to the requesting individual or agency via direct correspondence of completed assessments, and to the public and land management agencies through technical and general publications, public presentations, and other outreach activities.

Assessments Completed to Date

- As of June 2011, 1142 assessments have been completed and assigned to categories of "High Risk" (i.e. predicted to become invasive in Hawaii or other Pacific Island ecosystems), "Low Risk" (i.e. not predicted to become invasive in Hawaii or other l Pacific Island ecosystems), or "Evaluate" (i.e. needs further information to make a prediction of invasiveness). A continually revised and updated list of completed assessments, as well as individual assessment reports, are available upon submitting a request to hpwra@yahoo.com.



1142 assessments by risk category

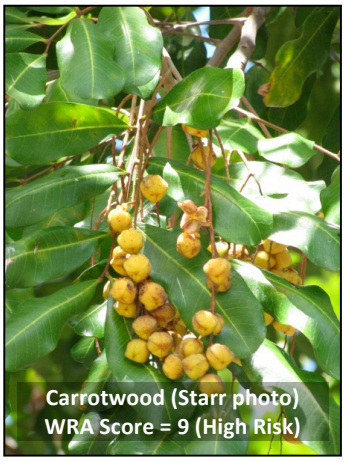


Cumulative assessment total by year and risk category

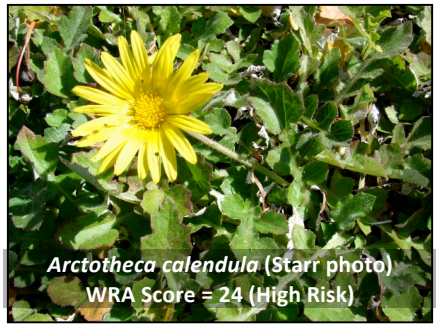
Weed Risk Assessment Requests by Affiliation

During the period of July 1, 2010 and June 30, 2011, HPWRA specialists received 265 requests to assess potential invasiveness of new plant species or to revise previous assessments. These requests originated from both members of the general public as well as individuals associated with island invasive species committees, county, state and federal government agencies, private businesses, nurseries and botanical gardens, university researchers and extension agents, and international invasive species organizations, among others. Refer to the Appendix for a complete list of assessments completed within the past year. The following is a list of highlights and accomplishments during this time period:

- **Island Invasive Species Committees (ISCs):** WRA Specialists continue to assess plant species requests from Oahu (OISC), Kauai (KISC), Maui (MISC), Molokai (MoMISC) and the Big Island (BIISC) Invasive Species Committees to aid in early detection and prioritization for control of potential invasive plants. Assessments provide scientifically researched information on a species' potential invasiveness to Hawaii and other Pacific Islands and a concise, consolidated source of current references useful to assist in management decisions. As an example, the KISC Program Coordinator requested an assessment for *Cupaniopsis anacardioides*, Carrotwood Tree (High Risk), in support of early detection and control efforts on the island of Kauai. Incidentally, this High Risk designation also resulted in the removal of this tree from consideration in the Maui County Planting Plan. The assessment and High Risk designation



of *Acacia retinodes*, Water Wattle, completed upon request from MISC program staff, confirmed this species as a priority for control efforts by MISC staff on East Maui.


Arctotheca calendula (Starr photo)
WRA Score = 24 (High Risk)

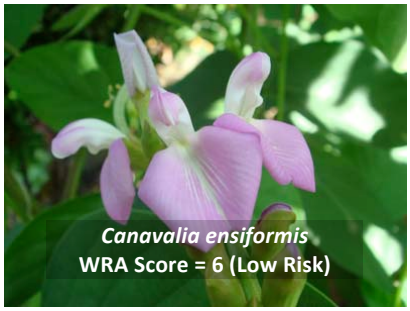
- **Early Detection and Rapid Response Teams:** The HPWRA is regularly utilized as an integral component of plant species prioritization efforts by the Invasive Species Committee's Early Detection teams. The HPWRA Specialists have provided assessments on requests from Oahu, Maui and Big Island Early Detection staff. Several of the completed assessments include high risk taxa such as *Setaria italica, Blutaparon vermiculare, Senna artemisioides, Cissus verticillata, Begonia foliosa,* and *Ochroma piramidales* on Oahu, *Melastoma sanguineum, Sideroxylon persimile, Verbascum thapsus,* and *Arctotheca calendula (fertile variety)* on Maui*, Phyllanthus reticulates* and *Buddleja madagascariensis* on the Big Island, *Tabebuia pallida*, *Banksia spinulosa, Acacia pychantha,* and *Anigozanthos flavidus* on Kauai, and the low risk or Evaluate species *Ficus virens, Clausena lansium, Pouteria caimito, Inga edulis* on Molokai (See Appendix for complete 2010-2011 list of assessments).

- **Federal & State Agencies**: Federal and State agencies have requested Weed Risk Assessments for plant species that are invading natural areas. Agencies that have requested weed risk assessment include the US Fish and Wildlife Service, the USDA Forest Service, the USDA Service Center, Kalaupapa National Historical Park, the U.S. Army Garrison Hawaii Natural Resource Program and from the state of Hawaii's Division of Forestry and Wildlife. Of particular interest were requests submitted by Jane Beachy, Ecosystem Restoration Program Manager of the Oahu Army Natural Resource Program in collaboration with the Oahu Early Detection Team. Notable finds on U.S. Army lands included such notorious invasives as *Chromolaena odorata*, Siam weed (High Risk), and *Miscanthus floridulus*, Giant Miscanthus (High Risk), widespread weeds of Guam and other Pacific Islands, that may have accidentally been introduced though military training activities.


Chromolaena odorata
WRA Score = 24 (High Risk)

- **Maui County Planting Plan, County of Maui:** WRA specialists continue to collaborate with Ernest Rezents, retired Maui Community College Professor of Agriculture and planting plan coordinator, to screen species proposed for use in the revised Maui County Planting Plan. The county government, with input from the Maui County Arborist Advisory Committee, has adopted information and followed guidelines provided by the Hawaii-Pacific Weed Risk Assessment system to promote the use of non-invasive plants in county landscaping projects, and to avoid planting of high risk, or known invasive species. Using the revised plan, the County of Maui hopes to lead by example in their efforts to encourage responsible planting of non-invasive species in both public, and private landscaping projects, as primarily identified by the weed risk assessment screening system. In addition to the previously screened species, five

newly identified high risk taxa were removed from the plan, and twenty four low risk taxa were added.

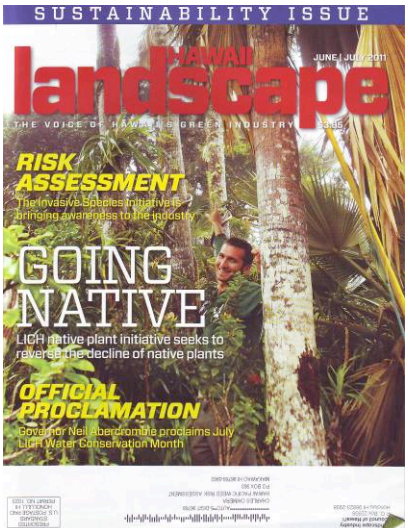


- **Other Public and Private Organizations, Individual Plant Growers, and Landscape Professionals:** The HPWRA program receives information and screening requests from plant growers, landscape professionals, and both public and private individuals and institutions including the Maui Lavender Company, Malama O Puna, Kauai Nursery and Landscaping, Honolulu Botanical Gardens, University of Hawaii faculty and students, and others to assess a species or lists of species including new development planting lists for known or potentially invasive plant species. Of particular interest was a request submitted by Dr. Ken Grace, College of Tropical Agriculture & Human Resources (CTAHR) on behalf of coffee farmers in Kau. The species of interest was *Canavalia ensiformis*, Jack bean (Evaluate), which was designated as Low Risk using the WRA Secondary Screening Decision Tree. Coffee growers expressed interest in using this species as a groundcover to sustainably control the Coffee Berry Borer, but wanted to make sure they were not contributing to a new invasive species problem in the area.

- **International Collaborations:** WRA specialists continue to collaborate with and provide assessments and information to invasive species groups throughout the world, with a particular emphasis on tropical islands of the Pacific. Such groups as the Pacific Invasives Learning Network (PILN), the Pacific Invasives Initiative (PII) and the IUCN SSC Invasive Species Specialist Group have utilized assessments and other information generated by WRA specialists in their education and prioritization processes. Bill Nagle, Research Fellow/Project Coordinator for PII, states that his organization works "in most (but not all) Pacific countries and territories with a range of agencies…" and that, for both educational and technical purposes, the Hawaii WRA's "are the most valuable tool we have."

Biofuels Assessments & Publications: The Weed Risk Assessment system continues to be utilized as an objective tool to identify both low and high risk crops proposed for biofuel development in the Hawaiian Islands and other tropical and temperate island ecosystems. WRA Specialists continue to be involved in providing updated information to the public, industry and conservation agencies on the results of biofuel risk assessments and other findings and have attended public meetings, provided technical advice, and have collaborated with the Hawaii Biofuels Foundation, the USDA Biofuels Roadmap, and the Roundtable for Sustainable Biofuels.

HPWRA Outreach: To continue to promote awareness and encourage adoption of the HPWRA system, WRA Specialists have been involved in additional outreach activities with partner agencies, signatories of the Codes of Conduct and other interested parties. The following highlights additional outreach activities and efforts in greater detail.



- **Landscape Industry Council of Hawaii (LICH):** Weed Risk Assessments were featured on the cover of the June/July 2011 issue of *Hawaii Landscape*, LICH's new publication launched in April 2011. The issue featured an article on the industry's adoption of the Voluntary Codes of Conduct, which encourages participating groups such as the Hawaii Island Landscape Association, Kauai Landscape Industry Council, Maui Association of Landscape Professionals, and the Oahu Nursery Growers Association, among others, to discontinue use or sale of high risk and invasive plants as identified by the HPWRA.
- **University of Hawaii Maui College Presentation:** On September 20, 2010, a lecture was presented to the Hawaiian Field Biology (BIO 105) class on the Hawaii-Pacific weed risk assessment as well as on current and future invasive species threats to native Hawaiian ecosystems.
- **Silent Invasion Update for the Coordinating Group on Alien Pest Species:** A presentation on the Hawaii-Pacific Weed Risk Assessment and the need for revisions to the state's restricted plant and noxious weed rules was given to the Hawaii State Legislature as part of the 2011 CGAPS Silent Invasion Update.
- **Pacific Invasives Learning Network:** An update on the status and both current and future developments with the Hawaii-Pacific Weed Risk Assessment was included in the April 2011 edition of PILN Soundbites, the monthly newsletter of PILN reporting on news from the teams and the Pacific Invasives Partnership. (http://www.sprep.org/piln/topics/documents/PILNSoundbitesApril2011_final.pdf)
- **Project Learning Tree**: On June 11, 2011, a presentation on the Hawaii-Pacific Weed Risk Assessment was given to participants of a Project Learning Tree workshop at Maui Nui Botanical Garden. Project Learning Tree is an award-winning environmental education program designed for teachers and other educators, parents, and community leaders working with youth from preschool through grade 12.
- **Pacific Island Ecosystems at Risk (PIER**): The new edition of the PIER website provides information on over 1800 invasive and potentially invasive plant species of concern to the Pacific Islands and has incorporated 185 new risk assessments provided by the Hawaii-Pacific Weed Risk Assessment. There are now over 1700 risk assessments listed. PIER can be accessed at: http://www.hear.org/pier/
- **CTAHR Publications:** An orchid publication that examines the naturalization of orchid species in Hawaii was written in 2011 (in review).

Other technical and professional contributions

In addition to fulfilling assessment requests, both WRA specialists continue to provide on-call technical information and advice on invasive plant species to both members of the conservation community and the general public.

On Oahu, the Weed Risk Assessment Specialist communicates invasive species issues to the Botanical Department of the Bishop Museum and to state and federal agencies and members of the horticulture industry and the public. In addition, the specialist continues to collaborate and build capacity within the conservation, agriculture and business communities. A few of these efforts are highlighted below:

- Collaborating with the College of Tropical Agriculture and Human Resources to address invasive weed issues and share knowledge from natural areas research and agricultural research
- Addressing biological data standards needs with the Bishop Museum and the U.S. Fish and Wildlife Service. Invasive species survey protocol and identification methods, including training methodology are focuses.
- Reviewing and reporting the status of endangered plant species on Oahu for the U.S. Fish and Wildlife Service's requirement for the Endangered Species Act. Recommended management actions including invasive species (plant and animal) control efforts.
- Working on post-border entry assessment methodology for Hawaii with the Oahu Early Detection team.
- Supporting efforts to promote science education for Hawaii's children, by mentoring high school students though the Hawaii Academy of Science and participating as a judge for the Hawaii State Science Fair.
- Collaborating with the City and County of Honolulu's Community Recreational Gardening Program to educate community gardeners about invasive species.

On Maui, the Weed Risk Assessment Specialist serves as a technical expert for the Maui Invasive Species Committee, disseminating information to members of the general public that request information on plant identification and weed control strategies. In addition, the specialist has participated in or contributed to a number of activities pertaining to invasive species and conservation in the Hawaiian Islands, including the following:

- Oral presentation at the 2010 Hawaii Conservation Conference entitled "Where Have All the Epiphytes Gone? Epiphyte decline on *Psidium cattleianum* in two Hawaiian wet forests" (04 August 2010)
- *Cortaderia jubata* backcountry control trip with MISC staff (30 August – 03 September 2010)
- Collaborated with Dr. James Leary (CTAHR) to set up *Rauvolfia vomitoria* herbicide & seed bank trials on Hawaii Island (15-17 September 2010)
- Participated as a judge in the Iao School Science Fair for 6th-8th graders (02 December 2010)
- Invasive biofuels presentation to DLNR Honolulu staff (25 January 2011)
- Initiated monitoring in Kanaha Pond State Wildlife Sanctuary to document tsunami impacts on native and non-native coastal vegetation in collaboration with Dr. Fern Duvall (28 March 2011)
- Participated in *Pennisetum setaceum* surveys & conducted a botanical survey of gulch vegetation in collaboration with MISC on the island of Lanai (23-25 May 2011)
- Peer review of paper for *Biological Invasions* journal entitled "Bird species richness and visitation frequencies on alien and indigenous shrubs in the South African Cape Floristic Region"
- *Rauvolfia vomitoria* monitoring and seed longevity experiments, and *Falcataria moluccana* herbicide trials (23-25 June 2011)
- Native & non-native vegetation tsunami impact monitoring at Kanaha Pond State Wildlife Sanctuary (29 June 2011)

Current and Future Workload: Individuals, agencies and programs continue to submit plant species for screening on a regular basis, and the WRA specialists continue to produce new assessments, work on publications, and answer technical questions relating to particular species and their invasive potential.

WRA Specialists also directly provide recommendations on utilization of Low Risk alternatives to invasive plants in both public and private landscape and horticultural projects. In addition, previously completed assessments in the Excel spreadsheet format will be revised and entered into the new database as time permits. Both older, as well as future assessments, will be utilized in support of the new “Plant Pono” website currently under development and anticipated to be launched in late 2011. This website is a HISC Public Outreach Working Group priority for FY10-11 and will incorporate HPWRA-generated content in order to promote Low-Risk alternatives to the horticultural and landscaping industries, as well as to the general public.

Appendix: New or Revised Assessments Completed During the Period of July 1, 2010 - June 30, 2011

Family	Species Name	Common name	WRA score	WRA designation
Malvaceae	*Abutilon grandifolium*	Hairy abutilon	6	Low Risk
Fabaceae	*Acacia cochliacantha*	Boat Thorn Acacia	10	High Risk
Fabaceae	*Acacia insuavis*	Cha-om, pak la	5	EVALUATE
Fabaceae	*Acacia pycnantha*	broadleaf wattle, golden wattle	16	High Risk
Pteridaceae	*Adiantum raddianum*	Delta maidenhair	15	High Risk
Myrtaceae	*Agonis flexuosa*	willow myrtle	7	High Risk
Fabaceae	*Albizia niopoides*	Caribbean Albizia, guanacaste	6	EVALUATE
Verbenaceae	*Aloysia citrodora*	lemon verbena	0	Low Risk
Poaceae	*Andropogon bicornis*	West Indian foxtail grass	18	High Risk
Haemodoraceae	*Anigozanthos flavidus*	Tall kangaroo paw	12	High Risk
Annonaceae	*Annona glabra*	pond apple	10	High Risk
Basellaceae	*Anredera cordifolia*	Madeira-vine	20	High Risk
Asteraceae	*Arctotheca calendula (fertile)*	Capeweed	24	High Risk
Asteraceae	*Arctotheca calendula (sterile)*	Capeweed	8	High Risk
Myrsinaceae	*Ardisia polysticta*	niu zi guo	8	High Risk
Arecaceae	*Areca triandra*	Australian areca palm	5	EVALUATE
Orchidaceae	*Arundina gramifolia*	bamboo orchid	11	High Risk
Malpighiaceae	*Banisteriopsis caapi*	ayahuasca, soulvine	0	Low Risk
Proteaceae	*Banksia burdettii*	Burdett's banksia	-2	Low Risk
Proteaceae	*Banksia spinulosa*	hairpin banksia	5	High Risk
Bataceae	*Batis maritima*	Pickleweed, Saltwort	9	High Risk
Fabaceae	*Bauhinia vahlii*	Malu creeper, Camel's foot climber	7	High Risk
Begoniaceae	*Begonia foliosa*	Fern Begonia, Fuchsia begonia	9	High Risk
Amaranthaceae	*Blutaparon vermiculare*	Silverhead; samphire	7	High Risk
Papaveraceae	*Bocconia frutescens*	Plume poppy	18	High Risk
Bombacaceae	*Bombax ceiba*	Red silk cottontree, Indian kapok	2	Low Risk
Sterculiaceae	*Brachychiton populneus*	kurrajong, bottletree	6	EVALUATE
Phyllanthaceae	*Bridelia insulana*	Grey Birch, Prickly Bridelia	1	EVALUATE
Buddlejaceae	*Buddleja madagascariensis*	smokebush	21	High Risk
Buddlejaceae	*Buddleja saligna*	False Olive, squarestem butterflybush	2	Low Risk
Fabaceae	*Caesalpinia latisiliqua*	NA	5	EVALUATE
Rutaceae	*Calodendrum capense*	Cape-chestnut	-1	Low Risk
Fabaceae	*Canavalia ensiformis*	Jack bean	6	Low Risk
Arecaceae	*Chambeyronia macrocarpa*	Flame Thrower Palm, Red feather palm	-1	Low Risk
Costaceae	*Cheilocostus speciosus*	cane-weed, crepe-ginger	11	High Risk
Rutaceae	*Chloroxylon swietenia*	East Indian satinwood, Ceylon Satinwood	-3	Low Risk
Asteraceae	*Chromolaena odorata*	bitterbush, Siam weed	28	High Risk
Vitaceae	*Cissus verticillata*	princess vine	12	High Risk

Family	Species Name	Common name	WRA score	WRA designation
Rutaceae	*Clausena lansium*	wampi, Chinese clausena	0	Low Risk
Verbenaceae	*Clerodendrum chinense*	Chinese glory bower, fragrant glory bower	18	High Risk
Verbenaceae	*Clerodendrum wallichii*	Clerodendrum, chui mo li	3	EVALUATE
Anacardiaceae	*Cotinus coggygria*	fustet, smokebush	4	EVALUATE
Hypericaceae	*Cratoxylum formosum*	pink mempat	1	EVALUATE
Acanthaceae	*Crossandra infundibuliformis*	Firecracker Plant	2	Low Risk
Asclepiadaceae	*Cryptostegia grandiflora*	Rubber vine, purple allamanda	28	High Risk
Sapindaceae	*Cupaniopsis anacardioides*	carrotwood	9	High Risk
Cupressaceae	*Cupressus arizonica*	Arizona cypress	15	High Risk
Bignoniaceae	*Deplanchea tetraphylla*	Golden Bouquet tree, Yellow Pagoda Tree	-2	Low Risk
Sapindaceae	*Dimocarpus longan*	Dragon's eye; Longan	-2	Low Risk
Ebenaceae	*Diospyros vaccinioides*	Small Persimmon	0	Low Risk
Dryopteridaceae	*Diplazium esculentum*	vegetable fern	8	High Risk
Doryanthaceae	*Doryanthes excelsa*	Gymea Lily, flame lily	0	Low Risk
Salicaceae	*Dovyalis hebecarpa*	Ceylon gooseberry	7	High Risk
Arecaceae	*Dypsis leptocheilos*	teddy bear palm	-2	Low Risk
Chenopodiaceae	*Dysphania ambrosioides*	American wormseed	15	High Risk
Pontederiaceae	*Eichhornia crassipes*	water hyacinth	26	High Risk
Chenopodiaceae	*Enchylaena tomentosa*	Ruby saltbush	5	Low Risk
Papaveraceae	*Eschscholzia californica*	Californian poppy	14	High Risk
Myrtaceae	*Eucalyptus erythrocorys*	Illyarrie, Red helmet	6	EVALUATE
Myrtaceae	*Eucalyptus macrocarpa*	mottlecah	3	EVALUATE
Euphorbiaceae	*Euphorbia hypericifolia*	graceful spurge	7	High Risk
Euphorbiaceae	*Euphorbia stenoclada*	Silver Thicket	3	EVALUATE
Moraceae	*Ficus celebensis*	willow-leaved fig	-3	Low Risk
Moraceae	*Ficus virens*	spotted fig, white fig	5	EVALUATE
Sapindaceae	*Filicium decipiens*	fern tree	2	EVALUATE
Clusiaceae	*Garcinia mangostana*	mangosteen	-5	Low Risk
Amaranthaceae	*Gomphrena globosa*	Globe amaranth, Bachelor's button	8	High Risk
Crassulaceae	*Graptopetalum paraguayense*	Ghost Plant, Mother of Pearl Plant	2	Low Risk
Celastraceae	*Gymnosporia emarginata*	Kankera	2	EVALUATE
Proteaceae	*Hakea salicifolia*	willow-leaved Hakea	13	High Risk
Euphorbiaceae	*Homalanthus populifolius*	Bleeding Heart Tree	15	High Risk
Asclepiadaceae	*Hoya australis*	Samoan wax flower	8	High Risk
Euphorbiaceae	*Hura crepitans*	Sandbox tree, Possumwood	8	High Risk
Fabaceae	*Inga edulis*	ice cream bean	3	EVALUATE
Fabaceae	*Inga laurina*	guama, sacky sac bean	6	EVALUATE
Euphorbiaceae	*Joannesia princeps*	arara nut-tree, andá-açu	0	Low Risk
Pinaceae	*Keteleeria davidiana*	Keteleeria	0	Low Risk
Poaceae	*Koeleria glauca*	Large blue hairgrass, Glaucous hairgrass	3	Low Risk

Family	Species Name	Common name	WRA score	WRA designation
Apocynaceae	*Kopsia arborea*	rui-mu	2	EVALUATE
Malvaceae	*Lagunaria patersonia*	Norfolk Island hibiscus	7	High Risk
Poaceae	*Lamarckia aurea*	golden dog's tail	11	High Risk
Verbenaceae	*Lantana camara (revised)*	lantana wildtype	32	High Risk
Malvaceae	*Lebronnecia kokioides*	Lebronnecia kokioides	-2	Low Risk
Myrtaceae	*Leptospermum laevigatum*	Australian teatree	11	High Risk
Brassicaceae	*Lobularia maritima*	sweet alyssum	8	High Risk
Myrtaceae	*Luma apiculata*	arrayán, Chilean myrtle	0	Low Risk
Moraceae	*Maclura pomifera*	osage-orange, hedge-apple	5	EVALUATE
Myrtaceae	*Melaleuca diosmifolia*	green honey myrtle	14	High Risk
Melastomataceae	*Melastoma sanguineum*	red melastome; fox-tongued melastoma	11	High Risk
Poaceae	*Melinis minutiflora*	Molasses grass	18	High Risk
Myrtaceae	*Metrosideros excelsa*	New Zealand christmas tree	6.5	High Risk
Nyctaginaceae	*Mirabilis jalapa*	four-o'clock	15	High Risk
Rubiaceae	*Mitragyna speciosa*	kratom	0	Low Risk
Cucurbitaceae	*Momordica charantia*	Bitter melon	13	High Risk
Annonaceae	*Monodora junodii*	green apple	-5	Low Risk
Rubiaceae	*Mussaenda 'Dona Aurora'*	Mussaenda 'Dona Aurora'	-9	Low Risk
Rubiaceae	*Mussaenda 'Dona Luz'*	Dona Luz'	-5	Low Risk
Rubiaceae	*Mussaenda 'Dona Trining'*	Mussaenda 'Dona Trining'	-1	Low Risk
Haloragaceae	*Myriophyllum aquaticum*	Brazilian water milfoil, parrot's feather	22	High Risk
Berberidaceae	*Nandina domestica*	Heavenly bamboo, Sacred bamboo	9	High Risk
Malvaceae	*Ochroma pyramidale*	balsa	8	High Risk
Acanthaceae	*Odontonema tubaeforme*	fire spike	11	High Risk
Fabaceae	*Pararchidendron pruinosum*	snowwood	1	EVALUATE
Passifloraceae	*Passiflora foetida*	love in a mist	26	High Risk
Passifloraceae	*Passiflora suberosa*	corky passionflower, devil's pumpkin	12	High Risk
Euphorbiaceae	*Pedilanthus tithymaloides*	zigzag plant, slipper flower	7	High Risk
Rubiaceae	*Pentas lanceolata*	Egyptian star cluster	5	EVALUATE
Cactaceae	*Pereskia bleo*	Rose Cactus, wax rose	0	Low Risk
Hydrangeaceae	*Philadelphus karwinskyanus*	Mexican Mock Orange	7	High Risk
Phyllanthaceae	*Phyllanthus reticulatus*	Potato bush, Roast potato plant	12	High Risk
Polypodiaceae	*Phymatosorus scolopendria*	Lauae Fern	6	EVALUATE
Myrtaceae	*Pimenta racemosa*	bay rum tree	7	High Risk
Pittosporaceae	*Pittosporum viridiflorum*	Cape cheesewood	7	High Risk
Lamiaceae	*Plectranthus neochilus*	spur flower	7	High Risk
Asteraceae	*Pluchea carolinensis*	Sourbush	15	High Risk
Podocarpaceae	*Podocarpus henkelii*	long-leafed yellow wood	2	EVALUATE
Araliaceae	*Polyscias cumingiana*	geranium aralia	3	EVALUATE
Didiereaceae	*Portulacaria afra*	elephant bush, Dwarf jade plant	5	EVALUATE

Family	Species Name	Common name	WRA score	WRA designation
Sapotaceae	*Pouteria caimito*	abiu	-4	Low Risk
Asteraceae	*Praxelis clematidea*	Praxelis	25	High Risk
Fabaceae	*Pseudosamanea guachapele*	chime tree, cenicero	0	Low Risk
Rosaceae	*Pyracantha koidzumii*	Formosa firethorn	7	High Risk
Apocynaceae	*Rauvolfia vomitoria*	poison devil's pepper	21	High Risk
Rosaceae	*Rhaphiolepis umbellata*	Japanese hawthorn	0	Low Risk
Rhizophoraceae	*Rhizophora mangle*	Red mangrove, American mangrove	13	High Risk
Phytolaccaeae	*Rivina humilis*	Coral berry, rouge plant	11	High Risk
Asteraceae	*Roldana petasitis*	velvet groundsel	12	High Risk
Rosaceae	*Rubus sieboldii*	Molucca raspberry	10	High Risk
Acanthaceae	*Ruellia squarrosa*	water bluebell	7	High Risk
Acanthaceae	*Ruellia tuberosa*	minnieroot	8	High Risk
Fabaceae	*Saraca asoca*	Asoka tree	0	Low Risk
Fabaceae	*Saraca declinata*	Red saraca	-3	Low Risk
Fabaceae	*Saraca thaipingensis*	Yellow Saraca	2	Low Risk
Fabaceae	*Senna artemisioides*	Silver senna, Silver cassia	9	High Risk
Poaceae	*Setaria italica*	foxtail millet	9	High Risk
Poaceae	*Setaria sphacelata*	African bristle grass, broadleaf setaria	19	High Risk
Sapotaceae	*Sideroxylon persimile*	Bully tree; Bumelia	8	High Risk
Asteraceae	*Sigesbeckia orientalis*	small yellow crownbeard	13	High Risk
Solanaceae	*Solanum glaucophyllum*	waxy-leaf nightshade	10	High Risk
Solanaceae	*Solanum mauritianum*	bugtree, wild tobacco-tree	24	High Risk
Solanaceae	*Solanum torvum*	turkeyberry, pea eggplant	24	High Risk
Orchidaceae	*Spathoglottis plicata*	Philippine ground orchid	16	High Risk
Orchidaceae	*Spathoglottis unguiculata*	Grapette Ground Orchid	3	Low Risk
Verbenaceae	*Stachytarpheta mutabilis*	pink snakeweed	12	High Risk
Apocynaceae	*Stapelia gigantea*	giant toadplant	3	Low Risk
Myrtaceae	*Syzygium jambos*	Rose apple	20	High Risk
Tamaricaceae	*Tamarix parviflora*	small flower tamarisk	8	High Risk
Proteaceae	*Telopea speciosissima*	waratah	-8	Low Risk
Combretaceae	*Terminalia ivorensis*	black afara	8	High Risk
Vitaceae	*Tetrastigma leucostaphylum*	Tetrastigma leucostaphylum	2	EVALUATE
Malvaceae	*Thespesia grandiflora*	maga	-4	Low Risk
Acanthaceae	*Thunbergia alata*	Black-eyed susan	14	High Risk
Melastomataceae	*Tibouchina granulosa*	purple glory bush	8	High Risk
Boraginaceae	*Tournefortia argentea (revised)*	tree heliotrope	4	EVALUATE
Convolvulaceae	*Turbina corymbosa*	Christmas vine	15	High Risk
Scrophulariaceae	*Verbascum thapsus*	common mullein	11	High Risk
Fabaceae	*Vigna speciosa*	wondering cow pea	6	EVALUATE
Lamiaceae	*Vitex agnus-castus*	chasteberry, lilac chastetree	9	High Risk

Family	Species Name	Common name	WRA score	WRA designation
Fabaceae	*Wisteria floribunda*	Japanese wisteria	12	High Risk
Xanthorrhoeaceae	*Xanthorrhoea preissii*	Grass Tree	-5	Low Risk