Appendix B

Botanical Resources Assessment for the Proposed Residential Subdivision, Keālia, Kauaʻi, Hawaiʻi
LeGrande Biological Surveys Inc.
April 2017

Botanical Resources Assessment for the Proposed Kealia Road Widening, Roundabout, and Sewer Improvement Project
LeGrande Biological Surveys, Inc.
December 2018

BOTANICAL RESOURCES ASSESSMENT FOR THE PROPOSED RESIDENTIAL SUBDIVISION KEALIA, KAUAI, HAWAII

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INTRODUCTION

This report includes the findings of a plant inventory conducted for the proposed residential subdivision in Kealia. The project is described as a 235-lot residential subdivision, with lots ranging from 5,600 square feet to 7,300 square feet. Total project area is about 50 acres (including two drainage detention basins). The proposed subdivision will be adjacent to an existing 36-lot subdivision at Kealia, Kaua`i. The property is currently designated within State and County agricultural districts, and will require an amendment to the State Land Use District Boundary and County Zoning District, followed by a County subdivision approval. LeGrande Biological Surveys Inc. carried out a botanical field survey of the above location on April 1, 2017. The primary objectives of the field studies were to:

1) inventory the flora;
2) provide a general description of the vegetation on the project site;
3) search for threatened and endangered species as well as species of concern; and
4) provide recommendations regarding potential impacts to the plant resources of the area in regards to the proposed project.

Federal and State of Hawaii listed species status follows U.S. Fish and Wildlife (USFWS, 2015).

SITE DESCRIPTION

The survey area is located on the east shore of Kauai Island in the Kealia district north of Lihue. The project area includes portions of TMK: 4709001. The survey area has historically been utilized for various agricultural, including sugar cane production and livestock grazing. As with most urban areas in the Hawaiian Islands, the natural habitat has been altered and is characterized by introduced plant species and dominated by Guinea grassland.

SURVEY METHODS

Prior to undertaking the field studies, a search was made of the pertinent literature to familiarize the principal investigator with other botanical studies conducted in the general area. Topographic maps were examined to determine terrain characteristics, access, boundaries, and reference points.

A pedestrian survey was carried out where the investigator walked transects and boundaries of the subject property. Notes were made on plant associations and distribution, disturbances, topography, substrate types, exposure, drainage, etc. Plant identifications were made in the field; plants that could not be positively identified were photo documented for comparison with the recent taxonomic literature.

DESCRIPTION OF VEGETATION

The survey area is typified by an open alien dominated Guinea grassland with infrequently scattered shrubs and tree species. There are a total of 63 plant species observed within the survey sites. 62 are alien (introduced) and 1 is indigenous (native to the Hawaiian Islands and elsewhere). An inventory of all the plants observed within the survey area is presented in the species list (Appendix B) at the end of the report.

The entire survey area has been highly altered from the native biological ecosystem over time. Non-native plant species dominate the entire survey area, with only one native species observed. No Threatened and or Endangered species were observed during the survey. The following are descriptions of the dominant vegetation divided into two main areas within the proposed project area:

GUINEA GRASSLAND

The majority of the project area is dominated by a Guinea grassland (*Panicum maximum*) with scattered shrub and tree species as well as areas where smaller weedy species dominate such as in dirt roadways and along fence lines. Besides the guinea grass that the resident cattle are grazing on, smaller weedy species growing mixed in with the grass clumps include, false ragweed (*Parthenium hysterophorus*), castor bean (*Ricinus communis*), spiny amaranth (*Amaranthus spinosus*), owi (*Stachytarpheta australis*), lantana (*Lantana camara*), Mexican poppy (*Argemone mexicana*), and slender mimosa (*Desmanthus pernambucanus*), Tree species observed included, Koa Haole (*Leucaena leucocephala*), African tulip (*Spathodea campanulata*), and Christmas berry (*Schinus terebinthifolius*). Dirt roadways were dominated by weedy grass species and smaller weeds such as owi, false ragweed, and *Sida* spp.

The main water trough for the cattle was full and overflowing, causing a rivulet of water running from a higher point of elevation at the western end near the middle of the property downslope eastward. Plant species adapted to a wetter habitat were observed growing in and at the edges of the water including, primrose willow (*Ludwigia octovalvis*), mosquito fern (*Azolla filliculoides*), and sedges such as kaluha (*Kyllinga brevifolia*), *Fimbristylis littoralis*, and *Cyperus difformis*.

Both areas planned for drainage basins (1 & 2) are dominated by Guinea grass and koa haole. Along the boundary in the southeastern corner along Kuhio Highway, larger stands of koa haole were observed with the non-native maunaloa vine (*Canavalia cathartica*) growing in the branches.

JAVA PLUM/CHRISTMAS BERRY STANDS

This vegetation type was only observed in small stands of trees along fence lines. Java plum (*Syzygium cuminii*) trees were mixed with smaller species such as African tulip, Christmas berry and Koa Haole with a few coconut (*Cocos nucifera*) palms in some locations. Understory included weedy grass species such as fimbriate paspalum (*Paspalum fimbriatum*) and radiate fingergrass (*Chloris radiata*).

DISCUSSION

The results of our fieldwork represent a one-time snapshot of the plants inhabiting the survey area. However, when considered together with the results of historical surveys, we can compile a reasonably accurate description of the environment and vegetation of the project area. Native plant habitat within the proposed project area has been highly modified by human activities, such as agricultural activities, road building, residential construction, and the intentional and accidental introduction of alien species. The overwhelming abundance of non-native plant species throughout the project area is in direct correlation to disturbance over the last several hundred years. A concerted effort was made to locate native plants within the survey area.

The nature of the land and its present and historical disturbances very much limit the natural botanical resources anticipated to occur here. The results of our survey substantiate this prediction. The rare frequency of native plant species is an indication that because of constant disturbances

(geological, vehicular, invasive plant species, feral ungulates), only species adapted to such conditions can survive, with few exceptions. Uhaloa (*Waltheria indica*), was the only indigenous (native to the Hawaiian Islands and elsewhere) plant species observed infrequently during the survey. There is no federally delineated Critical Habitat for any plant species present on or adjacent to the project area.

LITERATURE CITED

Evehuis, N.L. and L.G. Eldredge, editors. 1999-2002. Records of the Hawaii Biological Survey. Bishop Museum Occasional Papers Nos. 58-70.

Staples G. W. and D. R. Herbst. 2005. A Tropical Garden Flora: Plants cultivated in the Hawaiian Islands and other tropical places. Bishop Museum Press.

U.S. Fish and Wildlife Service. 2015. Hawaiian Islands Plants: Updated February 13, 2015 Listed and Candidate Species, as Designated under the U.S. Endangered Species Act. 21pp.

Wagner, W.L. and D.R. Herbst. 1999. Supplement to the Manual of the flowering plants of Hawaii, pp. 1855-1918. In: Wagner, W.L., D.R. Herbst, and S.H. Sohmer. 1990. Manual of the flowering plants of Hawaii. Revised Edition. 2 vols. University of Hawaii Press and Bishop Museum Press, Honolulu.

APPENDIX A
SITE PHOTOGRAPHS

Figure 1. View of property looking west from eastern boundary, Guinea grassland.

Figure 2. A small stand of Java plum trees with other weedy species at southwest corner of property.

Figure 3. General area for proposed roundabout to connect new subdivision to existing road.

Figure 4. Southern boundary along existing residential subdivision.

Figure 6. Watery rivulet from overflowing water trough running west to east.

Figure 7. Vegetation varies between pasture (upper part of picture) and dirt roadways (lower part of picture)

APPENDIX B
PLANT SPECIES LIST

The following checklist is an inventory of naturalized plant species observed within the survey areas of the proposed Kealia Residential Subdivision. The plant names are arranged alphabetically by family and then by species into each of three groups: Pteridophytes, Monocots and Dicots. The taxonomy and nomenclature of the Ferns and Fern Allies follow Palmer (2002), flowering plants (Monocots and Dicots) are in accordance with Wagner *et al*. (1990), Wagner and Herbst (1999) and Staples and Herbst (2005). Recent name changes are those recorded in the Hawaii Biological Survey series (Evehuis and Eldredge, eds., 1999-2002).

For each species, the following name is provided:

1. Scientific name with author citation.
2. Common English and/or Hawaiian name(s), when known.
3. Biogeographic status. The following symbols are used:

A = Alien species introduced to the Hawaiian Islands by humans, intentionally or accidentally.
I = Indigenous species native to the Hawaiian Islands and also found elsewhere in the world.

SCIENTIFIC NAME	**COMMON NAME**	**STATUS**
PTERIDOPHYTES		
AZOLLACEAE		
Azolla filliculoides Lam.	Mosquito fern	A
MONOCOTS		
ARECACEAE		
Cocos nucifera L.	coconut	A
CYPERACEAE		
Cyperus difformis L.	cyperus sedge	A
Fimbristylis littoralis Gaudich.		A
Kyllinga brevifolia Rottb.	Kaluha	A
MUSACEAE		
Musa xparadisica L.	bananana, mai`a	A
POACEAE		
Andropogon virginicus L. var. *virginicus*	broomsedge	A
Cenchrus echinatus L.	common sandbur	A
Chloris barbata Sw.	swollen fingergrass	A

SCIENTIFIC NAME	COMMON NAME	STATUS
Chloris radiata (L.) Sw.	radiate fingergrass	A
Cynodon dactylon (L.) Pers	manienie	A
Digitaria insularis (L.) Mez ex Ekman	sourgrass	A
Eragrostis amabilis (L.) Wight&Arn. Ex Nees	lovegrass	A
Melinis minutiflora P.Beauv.	molasses grass	A
Panicum maximum L.	Guinea grass	A
Paspalum fimbriatum Kunth	fimbriate paspalum	A
DICOTS		
ACANTHACEAE		
Thunbergia fragrans Roxb.	white thunbergia	A
AMARANTHACEAE		
Achyranthes aspera L.		A
Amaranthus spinosus L.	spiny amaranth	A
ANACARDIACEAE		
Schinus terebinthifolius Raddi	Christmas berry	A
ASTERACEAE		
Bidens alba (L.) DC. var. *radiata* (Sch. Bip.) Ballard ex Melchert	beggar tick	A
Bidens pilosa L.	Spanish needle	A
Conyza bonariensis (L.) Cronq.	hairy horseweed	A
Eclipta prostrate (L.) L.	false daisy	A
Emilia sonchifolia (L.) DC.	Flora’s paintbrush	A
Parthenium hysterophorus L.	false ragweed	A
Synedrella nodiflora (L.) Gaertn.	nodeweed	A
Tridax procumbens L.	coat buttons	A
BIGNONIACEAE		
Spathodea campanulata P.Beauv.	African tulip tree	A
BORAGINACEAE		
Heliotropium procumbens var. *depressum* Fosberg.		A
BRASSICACEAE		
Lepidium virginicum L.	pepperwort	A

SCIENTIFIC NAME	COMMON NAME	STATUS
CHENOPODIACEAE		
Chenopodium murale L.	goosefoot	A
CONVOLVULACEAE		
Ipomoea obscura (L.) Ker Gawl.		A
Ipomoea triloba L.	little bell	A
EUPHORBIACEAE		
Chamaesyce prostrata (Aiton) Small		A
Ricinus communis L.	castor bean	A
FABACEAE		
Caesalpinia decapetala (Roth) Aiston	mysore thorn	A
Canavalia cathartica Thouars	maunaloa	A
Chamaecrista nictitans (L.) Moench	partridge pea	A
Crotalaria incana L.	fuzzy rattlepod	A
Crotalaria pallida Aiton	smooth rattlepod	A
Desmanthus pernambucanus (L.) Thell.	slender mimosa	A
Desmodium triflorum (L.) DC.	tick clover	A
Indigofera suffruticosa Mill.	indigo	A
Leucaena leucocephala (Lam.) de Wit	koa haole	A
Macroptilium lathyroides (L.) Urb.	wild bean	A
Melilotus indica (L.) All.	sweet clover	A
Mimosa pudica L. var. *unijuga* (Duchass. & Walp.) Griseb.	sleeping grass, sensitive plant	A
LAMIACEAE		
Leonotis nepetifolia (L.) R.Br.	lion’s ear	A
MALVACEAE		
Abutilon grandifolium (Willd.) Sweet	hairy abutilon	A
Sida acuta subsp. *carpinifolia* (L.f.) Borss.		A
Sida ciliaris L.		A
Sida cordifolia L.		A
MYRTACEAE		
Syzygium cuminii (L.) Skeels	Java plum	A

SCIENTIFIC NAME	COMMON NAME	STATUS
NYCTAGINACEAE		
Bougainvillea sp.	bougainvillea	A
ONAGRACEAE		
Ludwigia octovalvis (Jacq.) P.H.Raven	primrose willow	A
OXALIDACEAE		
Oxalis corniculata L.	yellow wood sorrel	A
PAPAVERACEAE		
Argemone mexicana L.	Mexican poppy	A
PLANTAGINACEAE		
Plantago lanceolata L.	narrow-leaved plantain	A
RUBIACEAE		
Spermacoce assurgens Ruiz&Pav.	buttonweed	A
STERCULIACEAE		
Waltheria indica L.	uhaloa	I
VERBENACEAE		
Lanatana camara L.	lantana	A
Stachytarpheta australis Moldenke	owi	A
Verbena littoralis Kunth	vervain	A

BOTANICAL RESOURCES ASSESSMENT FOR THE PROPOSED KEALIA ROAD WIDENING, ROUNDABOUT, AND SEWER IMPROVEMENT PROJECT KEALIA, KAUAI, HAWAII

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Appendices

INTRODUCTION

This report includes the findings of a plant inventory conducted for the proposed Kealia Road improvements, Roundabout, and Sewer line Extension, associated with the Kealia Mauka Homesites Project. The survey area includes approximately 100 feet beyond the western boundary of the existing Kealia Road, from near the junction of Kealia Road and Hopoe Road down to the junction of Kealia Road and Kuhio Highway. The proposed Roundabout is located at that junction and included a survey area of approximately 400 feet in diameter. The Sewer line Extension survey area includes the area discussed previously as well as 100 feet mauka of Kuhio Highway from the junction of Kealia Road and Kuhio Highway south to the existing manhole cover located near the Kaiakea Fire Station. LeGrande Biological Surveys Inc. carried out a botanical field survey of the above locations on November 27, 2018. The primary objectives of the field studies were to:

1) inventory the flora;
2) provide a general description of the vegetation on the project site;
3) search for threatened and endangered species as well as species of concern; and
4) provide recommendations regarding potential impacts to the plant resources of the area in regards to the proposed project.

Federal and State of Hawaii listed species status follows U.S. Fish and Wildlife (USFWS, 2015).

SITE DESCRIPTION

The project area is located on the east shore of Kauai Island in the Kealia district north of Lihue. The project area has historically been utilized for various agricultural, including sugar cane production and livestock grazing and major transportation roadways. As with most urban areas in the Hawaiian Islands, the natural habitat has been altered and is characterized by introduced plant species and dominated by invasive tree and grass species.

SURVEY METHODS

Prior to undertaking the field studies, a search was made of the pertinent literature to familiarize the principal investigator with other botanical studies conducted in the general area. Topographic maps were examined to determine terrain characteristics, access, boundaries, and reference points.

A pedestrian survey was carried out where the investigator walked transects and boundaries of the property area. Notes were made on plant associations and distribution, disturbances, topography, substrate types, exposure, drainage, etc. Plant identifications were made in the field; plants that could not be positively identified were photo documented for comparison with the recent taxonomic literature.

DESCRIPTION OF VEGETATION

The survey area is typified by an open alien dominated Guinea grassland with infrequently scattered shrubs and tree species. There are a total of 107 plant species observed within the survey sites. 100 are alien (introduced) and 7 are native indigenous (native to the Hawaiian Islands and

elsewhere). An inventory of all the plants observed within the survey area is presented in the species list (Appendix B) at the end of the report.

The entire survey area has been highly altered from the native biological ecosystem over time. Non-native plant species dominate the entire survey area, with native species mostly restricted near the coastline. No Threatened and or Endangered species were observed during the survey. The following are descriptions of the dominant vegetation divided into three main areas within the proposed project area; Kealia Road, Roundabout, Kuhio Highway:

Kealia Road

The west or mauka side of Kealia Road from Hopoe Road is a steep slope for much of the length until the elevation of Kealia Road lessens near the junction of Kuhio Highway. The slope is dominated by non-native tree species with little understory except on the roadsides that are kept clear for pull over. Tree species such as, monkey pod (*Samanea saman*), Java plum (*Syzygium cuminii*), Koa Haole (*Leucaena leucocephala*), African tulip (*Spathodea campanulata*), Cook Island pines (*Araucaria columnaris*), and Christmas berry (*Schinus terebinthifolius*) form a thick canopy along the slope. Guinea grass (*Panicum maximum*) along with other weedy grass species such as fimbriate paspalum (*Paspalum fimbriatum*) and radiate fingergrass (*Chloris radiata*) mix with weedy species growing along the road including, false ragweed (*Parthenium hysterophorus*), spiny amaranth (*Amaranthus spinosus*), owi (*Stachytarpheta australis*), lantana (*Lantana camara*), and slender mimosa (*Desmanthus pernambucanus*), chinese violet (*Asystasia gangetica*), and white shrimp plant (*Justicia betonica*).

The roadway begins to level out with the surrounding land near Kealia Farm and pasture areas. There is a small narrow drainage that has an existing culvert running under Kealia Road from mauka to makai. Plant species adapted to a wetter habitat were observed growing in the drainage including, primrose willow (*Ludwigia octovalvis*), coconut (*Cocos nucifera*), Guinea grass, koa haole, and wood rose (*Merremia tuberosa*).

Pasture lands are dominated by sourgrass (*Digitaria insularis*), cocklebur (*Xanthium strumarium var. canadense*), castor bean (*Ricinus communis*), and scattered trees such as African tulip (*Spathodea campanulata*), coconuts, and ironwood (*Casuarina equisetifolia*). A thicket of taller trees and shrubs at the main entrance to the farm is dominated by naupaka (*Scaevola taccada*), hala (*Pandanus tectorius*), and naio (*Myoporum sandwicensis*), native coastal species along with introduced plants such as tropical almond (*Terminalia cattapa*) and buttonweed (*Spermacoce assurgens*).

Roundabout

The survey area included approximately a 200-foot radius from the junction of Kealia Road and Kuhio Highway. Most of the vegetation in this area is bare dirt or maintained grassy lawns as to provide visibility for drivers at the junction. Few trees such as milo (*Thespesia populnea*) and coconuts are within the round-a-bout area.

Kuhio Highway

The vegetation along Kuhio Highway is characterized mainly by non-native grasses and trees along the western or mauka side of the road. The mauka side of the road was surveyed up to at least 100 feet from the edge of the existing highway. The mauka side of the road harbors trees and shrub such as ironwood, koa haole, Christmas berry, and coconuts, with maintained grassy areas interspersed along the project site. At the crossing of Kapaa Stream other weedy species such as

castor bean, Guinea grass, and koa haole were dominant with maunaloa vine (*Canavalia cathartica*) growing in the branches of many of the plants. Further south along the mauka project area large thickets of naupaka and Christmas berry were dominant. Near the southern boundary of the project area, near the Kaiakea fire station, plants such as nanea (*Vigna marina*), naupaka, and wedelia (*Sphagneticola trilobata*) form a matrix mixed with non-native grass species.

DISCUSSION

The results of our fieldwork represent a one-time snapshot of the plants inhabiting the project area. However, when considered together with the results of historical surveys, we can compile a reasonably accurate description of the environment and vegetation of the project area. Native plant habitat within the proposed project area has been highly modified by human activities, such as agricultural activities, road building, residential construction, and the intentional and accidental introduction of alien species. The overwhelming abundance of non-native plant species throughout the project area is in direct correlation to disturbance over the last several hundred years. A concerted effort was made to locate native plants within the survey area.

The nature of the land and its present and historical disturbances very much limit the natural botanical resources anticipated to occur here. The results of our survey substantiate this prediction. The rare frequency of native plant species is an indication that because of constant disturbances (geological, vehicular, invasive plant species, feral ungulates), only species adapted to such conditions can survive. The seven native plants within the project area are indigenous, native to Hawaii and elsewhere in the world, and widespread throughout the islands. None of the plants observed are listed as Threatened or Endangered. There is no federally delineated Critical Habitat for any plant species present on or adjacent to the project area.

LITERATURE CITED

Evehuis, N.L. and L.G. Eldredge, editors. 1999-2002. Records of the Hawaii Biological Survey. Bishop Museum Occasional Papers Nos. 58-70.

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APPENDIX A
SITE PHOTOGRAPHS

Figure 1. West side of Kealia Road with thicket of trees along project area.

Figure 2. Koa haole forest with open understory of tree canopy along slope of project area.

Figure 3. Near Kealia farm with drainage in foreground.

Figure 4. Kealia Farm with ironwoods lining roadway.

Figure 5. Thicket of Hala, naio, naupaka, and buttonweed.

Figure 6. Roundabout area at junction of Kealia Road and Kuhio Highway.

Figure 7. Mauka project area along Kuhio Highway characterized by ironwood stands and Guinea grass.

Figure 8. At southern end of project area near Kaiaka Fire Station and existing manhole.

APPENDIX B
PLANT SPECIES LIST

The following checklist is an inventory of naturalized plant species observed within the survey areas of the proposed Kealia Road improvements, Roundabout, and Sewerline Extention. The plant names are arranged alphabetically by family and then by species into each of three groups: Gymnosperms, Monocots and Dicots. The taxonomy and nomenclature of the flowering plants (Monocots and Dicots) are in accordance with Wagner *et al*. (1990), Wagner and Herbst (1999) and Staples and Herbst (2005). Recent name changes are those recorded in the Hawaii Biological Survey series (Evehuis and Eldredge, eds., 1999-2002).

For each species, the following name is provided:

1. Scientific name with author citation.
2. Common English and/or Hawaiian name(s), when known.
3. Biogeographic status. The following symbols are used:

A = Alien species introduced to the Hawaiian Islands by humans, intentionally or accidentally.
I = Indigenous species native to the Hawaiian Islands and also found elsewhere in the world.

SCIENTIFIC NAME	**COMMON NAME**	**STATUS**
GYMNOSPERMS		
ARAUCARIACEAE		
Araucaria columnaris (G.Forst) D.Hooker	Cook island pine	A
MONOCOTS		
ARECACEAE		
Cocos nucifera L.	coconut	A
CYPERACEAE		
Cyperus difformis L.	cyperus sedge	A
Fimbristylis littoralis Gaudich.		A
Kyllinga brevifolia Rottb.	Kaluha	A
MUSACEAE		
Musa x paradisica L.	bananana, mai`a	A
PANDANACEAE		
Pandanus tectorius Parkinson ex Z	hala	I

SCIENTIFIC NAME	COMMON NAME	STATUS
POACEAE		
Axonopus compressus (Sw.) P.Beauv.	carpet grass	A
Brachiaria mutica (Forssk.) Stapf	California grass	A
Cenchrus echinatus L.	common sandbur	A
Chloris barbata Sw.	swollen fingergrass	A
Chloris radiata (L.) Sw.	radiate fingergrass	A
Cynodon dactylon (L.) Pers	manienie	A
Dactyloctenium aegyptium (L.) Willd.	beach wiregrass	A
Digitaria insularis (L.) Mez ex Ekman	sourgrass	A
Eragrostis amabilis (L.) Wight&Arn. Ex Nees	lovegrass	A
Melinis minutiflora P.Beauv.	molasses grass	A
Panicum maximum L.	Guinea grass	A
Paspalum fimbriatum Kunth	fimbriate paspalum	A
Sporobolus africanus (Poir.) Robyns & Tournay	smutgrass	A
DICOTS		
ACANTHACEAE		
Asystasia gangetica (L.) T. Anderson	Chinese violet	A
Justicia betonica L.	white shrimp plant	A
Thunbergia fragrans Roxb.	white thunbergia	A
AMARANTHACEAE		
Achyranthes aspera L.		A
Alternanthera pungens Kunth	khaki weed	A
Amaranthus spinosus L.	spiny amaranth	A
ANACARDIACEAE		
Schinus terebinthifolius Raddi	Christmas berry	A
APIACEAE		
Centella asiatica (L.) Urb.	Asiatic pennywort	A
ASTERACEAE		
Bidens alba (L.) DC. var. *radiata* (Sch. Bip.) Ballard ex Melchert	beggar tick	A
Bidens pilosa L.	Spanish needle	A
Conyza bonariensis (L.) Cronq.	hairy horseweed	A
Eclipta prostrate (L.) L.	false daisy	A

SCIENTIFIC NAME	COMMON NAME	STATUS
Emilia sonchifolia (L.) DC.	Flora's paintbrush	A
Parthenium hysterophorus L.	false ragweed	A
Pluchea carolinensis (Jacq.) G.Don	sourbush	A
Pluchea indica (L.) Less.	Indian fleabane	A
Sphagneticola trilobata (L.) Pruski	wedelia	A
Synedrella nodiflora (L.) Gaertn.	nodeweed	A
Tridax procumbens L.	coat buttons	A
Verbesina encelioides (Cav.) Benth. & Hook	golden crown-beard	A
Xanthium strumarium var. canadense Mill.	cockelbur	A
BIGNONIACEAE		
Spathodea campanulata P.Beauv.	African tulip tree	A
BORAGINACEAE		
Heliotropium procumbens var. *depressum* Fosberg		A
Tournefortia argentea L.f.	tree heliotrope	A
BRASSICACEAE		
Lepidium virginicum L.	pepperwort	A
CARICACEAE		
Carica papaya L.	papaya	A
CASUARINACEAE		
Casuarina equisetifolia L.	ironwood	A
CHENOPODIACEAE		
Atriplex semibaccata R.Br.	Australian saltbush	A
Salsola tragus L.	tumbleweed	A
Chenopodium murale L.	goosefoot	A
CLUSIACEAE		
Clusia rosea Jacq.	autograph tree	A
COMBRETACEAE		
Conocarpus erectus L.	button mangrove	A

SCIENTIFIC NAME	COMMON NAME	STATUS
Terminalia cattapa L.	tropical almond	A
CONVOLVULACEAE		
Ipomoea ochracea (Lindl.) G.Don	morning glory	A
Ipomoea obscura (L.) Ker Gawl.		A
Ipomoea triloba L.	little bell	A
Merremia tuberosa (L.) Rendle	wood rose	A
CUCURBITACEAE		
Momordica charantia L.	bitter melon	A
EUPHORBIACEAE		
Chamaesyce hirta (L.) Millsp.	hairy spurge	A
Chamaesyce prostrata (Aiton) Small		A
Ricinus communis L.	castor bean	A
FABACEAE		
Canavalia cathartica Thouars	maunaloa	A
Chamaecrista nictitans (L.) Moench	partridge pea	A
Crotalaria incana L.	fuzzy rattlepod	A
Crotalaria pallida Aiton	smooth rattlepod	A
Desmanthus pernambucanus (L.) Thell.	slender mimosa	A
Desmodium triflorum (L.) DC.	tick clover	A
Indigofera suffruticosa Mill.	indigo	A
Leucaena leucocephala (Lam.) de Wit	koa haole	A
Macroptilium lathyroides (L.) Urb.	wild bean	A
Melilotus indica (L.) All.	sweet clover	A
Mimosa pudica L. var. *unijuga* (Duchass. & Walp.) Griseb.	sleeping grass, sensitive plant	A
Samanea saman (Jacq.) Merr.	monkeypod	A
Vigna marina (Burm.) Merr.	nanea	I
GOODENIACEAE		
Scaevola taccada (Gaertn.) Roxb.	naupaka	I
LAMIACEAE		
Leonotis nepetifolia (L.) R.Br.	lion's ear	A

SCIENTIFIC NAME	COMMON NAME	STATUS
MALVACEAE		
Abutilon grandifolium (Willd.) Sweet	hairy abutilon	A
Sida acuta subsp. *carpinifolia* (L.f.) Borss.		A
Sida ciliaris L.		A
Sida cordifolia L.		A
Sida fallax Walp.	ilima	I
Malva parviflora L.	cheese weed	A
Thespesia populnea (L.) Sol. Ex Correa	milo	A
MORACEAE		
Ficus microcarpa L.f.	Chinese banyan	A
MYOPORACEAE		
Myoporum sandwicensis A.Gray	naio	I
MYRTACEAE		
Syzygium cuminii (L.) Skeels	Java plum	A
NYCTAGINACEAE		
Boerhavia coccinea Mill.		A
ONAGRACEAE		
Ludwigia octovalvis (Jacq.) P.H.Raven	primrose willow	A
OXALIDACEAE		
Oxalis corniculata L.	yellow wood sorrel	A
PASSIFLORACEAE		
Passiflora edulis L.	passion fruit, lilikoi	A
PHYTOLACCACEAE		
Rivina humilis L.	coral berry	A
PORTULACACEAE		
Portulaca oleracea L.	pigweed	A
Portulaca pilosa L.	akulikuli	A

SCIENTIFIC NAME	COMMON NAME	STATUS
PLANTAGINACEAE		
Plantago lanceolata L.	narrow-leaved plantain	A
RUBIACEAE		
Morinda citrifolia L.	noni	A
Paederia foetida L.	maile pilau	A
Spermacoce assurgens Ruiz&Pav.	buttonweed	A
SOLANACEAE		
Solanum americanum Mill.	popolo	I
STERCULIACEAE		
Waltheria indica L.	uhaloa	I
VERBENACEAE		
Lanatana camara L.	lantana	A
Stachytarpheta australis Moldenke	owi	A
Vitex trifolia L.		A