

USGS-BRD PRELIMINARY EVALUATION OF POTENTIAL TARGETS
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The following list is an attempt to evaluate weedy plant species on Maui with known distributions small enough to allow control of all known individuals within a year. For some species, local eradication of discrete populations is given. The list includes plants that are known to be invasive in Hawai'i or elsewhere in the world and other species submitted by knowledgeable individuals with expertise with the non-native flora of Maui. The list also includes an estimated level of potential invasiveness and an estimated time to control all known individuals on the island of Maui. Species with a low estimated potential of invasiveness were removed from the list. Species that would take more than one year to control all known individuals were removed from the list.

ESTIMATED LEVEL OF POTENTIAL INVASIVENESS

L = Low. Not known to be reproducing in the state or elsewhere.
M = Medium. Spreading in Hawai'i or with a history of spreading elsewhere.
H = High. A serious pest in Hawai'i or elsewhere.

ESTIMATED TIME TO CONTROL ALL KNOWN INDIVIDUALS (x 5 FTE)

* = 1 Day
** = 1 Week
*** = 1 Month
**** = 1 Year

*M** ACACIA AURICULIFORMIS -- Earpod wattle*

Invading and disrupting natural areas in southern Florida. On Maui known only from an experimental plot near MISC headquarters.

*M** ACACIA MANGIUM*

Spreading in Africa and some Pacific Islands. On Maui known only from an experimental plot near MISC headquarters.

M ACACIA PODALYRIIFOLIA -- Mount Morgan wattle*

A weed in parts of Australia. Known in the state only from a couple trees on Waipoli Rd., Kula and one tree on Pololei St., Kokomo.

M ACACIA RETINODES -- Water wattle*

Naturalized in California and Florida. Known in the state only from a few trees on Waipoli Rd, Kula.

*M**** ANTIRRHINUM ORONTIUM -- Lesser snapdragon*

Invading dry forest areas. Known from Diamond Head, O'ahu. Recently collected on Kaho'olawe in the area around Lae o Hikiulu and noted to be more prevalent inland. First found on Maui in Pu'u o Kali and now known from Lualailua Hills, Pukalani, and Makawao.

*M***Kipahulu/Keanae* *ARCHONTOPHOENIX ALEXANDRAE* -- *Alexandra palm*
Widely cultivated and a serious weed in and near Hilo, Hawai'i. Becoming more widely planted on Maui. Sparingly naturalized near Kipahulu and in Keanae.

*M**** ARUNDO DONAX* -- *Giant reed*
A serious invader of riparian areas of California. Naturalized on Kaua'i, O'ahu, Maui, and Hawai'i. On Maui a couple dozen small patches known, where it is spreading vegetatively in coastal areas near the water table. Very difficult to kill. A MISC target. Not yet a state noxious weed.

*M** BASSIA HYSSOPIFOLIA* -- *Fivehorn smotherweed*
A weed in California. A weed in alkaline areas on O'ahu, Moloka'i, and Maui. On Maui known from near Kanaha Pond and one location near Azeka's in Kihei.

*M** BREXIA MADAGASCARIENSIS* -- *Brexia*
Native to Madagascar. Only known to be naturalized in the state from a small area near plantings at Kaumahina State Wayside on the Hana Highway near Honomanu.

*H**** BUDDLEIA MADAGASCARIENSIS* -- *Smoke bush*
Sparingly naturalized near Volcano and Manuka?, Hawai'i. On Maui, occasionally cultivated, sparingly naturalized on the Hana Highway near Pua'a Ka'a State Wayside, and locally common in Kula.

H Ulupalakua* *CAESALPINIA DECAPETALA* -- *Cat's claw*
Invading areas of Ni'ihau, Kaua'i, O'ahu, Moloka'i, Maui, and Hawai'i. Known on Maui from Kakipi (Halehaku) gulch where it is well established and from one small (5mx5m) patch near the old sugar mill at Ulupalakua Ranch headquarters.

*M**** CENTRANTHUS RUBER* -- *Red valerian*
Widely cultivated and often naturalized in North America. Known in Hawai'i only from Pohakuokala gulch, Maui where it is locally common.

*M** CEREUS ARGENTATUS?* -- *Cactus*
Known on Maui only from a few acres in Palauea where it is spreading on bare lava flows and road cuts. Related *C. uruguayanus* is a state noxious weed known only from southern Kaua'i.

*M** CESTRUM DIURNUM* -- *Day jasmine*
Naturalized on Kaua'i, O'ahu, and Moloka'i. On Maui a few cultivated plants known from Pukalani and Huelo.

*H** W.Maui* *CHRYSOPHYLLUM OLIVIFORME* -- *Chrysophyllum*
Naturalized on Kaua'i, O'ahu, Maui, and Hawai'i. Widespread on East Maui from Maliko to Papaaea. Spreading, but still limited in distribution on West Maui near Fleming Arboretum.

*M** CLERODENDRUM INERME -- Clerodendrum*

South Pacific native of coastal areas. On Maui occasionally cultivated. Spreading along the coast at Po'olenalena. Also sparingly naturalized in Kona, Hawai'i.

*H*** COCCINIA GRANDIS -- Ivy gourd*

Widespread on O'ahu and West Hawai'i. The only known plant on Midway Atoll was controlled. On Maui locally common in Kapalua and restricted to isolated individuals elsewhere. A state noxious weed and MISC target.

*H**** CORTADERIA JUBATA & C. SELLOANA -- Pampas grass*

Serious pests in California and New Zealand. Widely planted in upcountry Maui and spreading far beyond plantings into pastures, wet forest, and alpine shrubland on East and West Maui. *C. jubata* is a state noxious weed, *C. selloana* is not yet. Both are MISC and BIISC? targets.

*H**** Polipoli COTONEASTER PANNOSUS -- Cotoneaster*

Widely cultivated and spreading in upcountry Maui. A localized population exists at Polipoli State Park.

*M*** CRYPTOSTEGIA GRANDIFLORA & C. MADAGASCARIENSIS -- Rubber vine*

Serious weeds in Australia. Spreading on the big island near Kawaihae. On Maui known from a few dozen cultivated plants. Beginning to spread in Lahaina, Kanaha Pond, and Omaopio. MISC target species. Not yet state noxious weeds.

*M*** CYTISUS PALMENSIS -- Broom*

Cultivated as a fodder plant and known to be naturalized in Hawai'i only from Maui where it is invading gulches and pastures on Haleakala Ranch near Crater Rd., East Maui.

*H**** DELAIREA ODORATA -- German ivy*

A weed in California and dry areas of the big island. On Maui widespread in mid-elevation sites such as Keokea, Olinda, and Maliko. Spreading.

*M**** DERRIS ELLIPTICA -- Poison vine*

Known from a half dozen localized populations in low moist areas of East Maui, the largest of which is over a dozen acres in Nahiku.

M ENCHYLAENA TOMENTOSA -- Enchylaena*

Native to Australia and naturalized in New Caledonia. Known in the state only from Kanaha Pond, Maui where all known individuals have been treated. Follow up is still necessary for this species due to the large seed bank. A MISC target.

*M**** ERIOBOTRYA JAPONICA -- Loquat*

Naturalized near Koke'e, Kaua'i. On Maui occasionally cultivated and naturalized in mid elevation sites.

M FICUS DELTOIDEA -- Triangle fig*

A weed in South Africa. Known on Maui from a few individuals upcountry. Currently not spreading, though this could change if its associated pollinator wasp was introduced.

*H**** FICUS MACROPHYLLA -- Moreton bay fig*

Becoming a pest on Maui and Hawai'i. On Midway Atoll known from two trees which were scheduled to be controlled. On Maui rarely cultivated, spreading from initial plantings in Fleming Arboretum, West Maui and at MISC headquarters and the Baldwin Estate near Maliko, East Maui. The least widespread of the naturalized *Ficus* on Maui.

*M*** FLEUGGEEA VIROSA -- Chinese waterberry*

A weed in Florida. The only known location in the state is in Ha'iku, Maui where it is locally spreading into pastures and waste areas.

*M**** GREVELLIA BANKSII -- Kahili flower*

Naturalized on all the main islands except Lana'i and Kaho'olawe. On Maui widespread near Pu'u Olai, West Maui and naturalized near Maliko, East Maui. A few isolated plants cultivated in Pi'iholo. A state noxious weed.

*H**** HEDERA HELIX -- Ivy*

A weed in New Zealand and North America. Naturalized along much of Pi'iholo Rd., East Maui and at Haelau cabin, West Maui. Beginning to produce viable fruit.

*H**** HYPERICUM CANARIENSE -- Canary Island St. John's wort*

A weed in California. Locally common in Kula, Maui.

*H*** HYPPARHENIA RUFA -- Thatching grass*

A weed on the big island. On Maui widely scattered on the windward coast and in the Kaupo gap. Nowhere common.

*M*** JASMINUM FLUMINENSE -- Brazilian jasmine*

A weed on the big island. Locally naturalized in Sprecklesville, Maui.

*H** Polipoli LEPTOSPERMUM SCOPARIUM -- New Zealand tea tree*

Naturalized on Kaua'i, O'ahu, Lana'i, and Maui. Widely planted in upcountry and recently found to be sparingly naturalized in Polipoli.

H MACARANGA MAPPA -- Bingabing*

Widespread in lowland forests of O'ahu and Hawai'i. On Maui known from a single cultivated individual on Olinda Rd.

H E.Maui MACARANGA TANARIUS -- Macaranga, parasol leaf tree*

Naturalized in mesic valleys on Kaua'i, O'ahu, and Maui. On Maui heavily invading Waikapu Valley and adjacent areas on West Maui. On East Maui known from one plant in a neighborhood above "5-corners", Ulumalu. This species is dioecious and this lone plant has yet to spread.

*M** *MACLURA POMIFERA* -- *Osage orange*

A weed in North America. Known in the state from a single thorny hedge in Ha'iku. Another dioecious species that has apparently not yet begun reproducing.

*H** *MELASTOMA CANDIDUM* -- *Melastoma*

Widespread on Kaua'i and Hawai'i. On Maui only known from a few cultivated plants in upcountry. Also found on hapu'u from the big island. A state noxious weed and MISC target species.

*H***** *MELOCHIA UMBELLATA* -- *Melochia*

A weed in Hilo, Hawai'i. Spreading in Waikapu valley, Maui. Full distribution on Maui not known.

*M**** *MONTANOA HIBISCIFOLIA* -- *Tree daisy*

Naturalized on Kaua'i, O'ahu, Lana'i, Maui, and Hawai'i. On Maui naturalized in at least Ulupalakua. A state noxious weed.

*M** *MORELLA CERIFERA* [*MYRICA CERIFERA*] -- *Wax myrtle*

A North American native. Spreading from plantings in Fleming Arboretum, West Maui. Pu'u Kukui staff has treated most of the known individuals. It was also collected on the big island by Lani Stemmerman, where the distribution is not known.

H W.Maui* *MORELLA FAYA* [*MYRICA FAYA*] -- *Firetree*

A serious pest on Kaua'i, O'ahu, Lana'i, Maui and Hawai'i. Known from a single patch on West Maui that has been controlled? A state noxious weed.

*M**** *OMALANTHUS SP.* -- *Omalanthus*

A South Pacific native. Spreading near Manuka, Hawai'i and in Maliko Gulch, Maui.

*M***** *PAEDERIA FOETIDA* [*P. SCANDENS*] -- *Maile pilau*

Naturalized from coastal thickets to subalpine shrubland on Kaua'i, O'ahu, Maui, and Hawai'i. On Maui locally common in Keanae / Wailua. A few cultivated plants known from Makwao and Kula.

*M**** *PANICUM REPENS* -- *Torpedo grass*

A common weed in moist soils of warm temperate to subtropical areas of the world including O'ahu, Lana'i, Maui, and Hawai'i. On Maui known from a few locations in Kihei and one in Kahului. A state noxious weed.

*H** *PARKINSONIA ACULEATA* -- *Jerusalem thorn*

A serious weed in Australia. Naturalized on Kaua'i and O'ahu. Previously known on Maui from a few individuals near Ukumehame, a few trees at the old County baseyard on the corner of Hansen Rd. and Hana Hwy., and one cultivated tree on Naalae Rd, Kula. All known individuals treated. A MISC target species. Restricted to seedbank, which can be long-lived.

*M*** PASSIFLORA LAURIFOLIA -- Water lemon*

Naturalized on Kaua'i, O'ahu, Moloka'i, Maui, and Hawaii. On Maui scattered in moist sites on East and West Maui.

*H*** PENNISETUM SETACEUM -- Fountain grass*

A serious pest in dry areas on all the main islands except Ni'ihau and Kaho'olawe. Known on Maui from a dozen locations on both East and West Maui. A state noxious weed and MISC & OISC & MOMISC? target.

*M*** PHILADELPHUS KARVINSKIANUS -- Philadelphus*

A weed in Koke'e, Kaua'i. Known on Maui from mostly upper Kula.

*M*** PHORMIUM TENAX -- New Zealand flax*

Established in scattered localities on Kaua'i and Moloka'i. On Maui occasionally cultivated. Known from Haelau cabin on West Maui. Targeted for control on Moloka'i.

*M**** PIMENTA DIOICA -- All spice*

Becoming a weed on O'ahu where it is escaping from Forestry? plantings. On Maui widely cultivated and sparingly naturalized near Maliko gulch and in Wailuku.

*M*** PIPER AURITUM -- False 'awa, Vera cruz pepper*

Invading moist areas of the Pacific. Spreading in Nahiku, Maui.

*M** PITTOSPORUM VIRIDIFLORUM*

Spreading on Lana'i and Hawai'i. On Maui sparingly naturalized near Waipoli Rd.

*M**** PYRACANTHA SPP. -- Firethorn*

Spreading in Volcano, Hawai'i and Koke'e, Kaua'i. On Maui occasionally cultivated and spreading in Kula.

*H**** RHIZOPHORA MANGLE -- Mangrove*

A serious invader of wetland and coastal areas on almost all the main Hawaiian islands. On Maui a few large patches and many small patches exist, mostly on the southern coast and in Kealia Pond.

H RHODOMYRTUS TOMENTOSA -- Downy rose myrtle*

Invading wet forest on Kaua'i, O'ahu, Lana'i, and Hawai'i. Known on Maui from a few cultivated plants, mostly in Ha'iku. A state noxious weed and MISC target.

*M*** RUBUS DISCOLOR*

Known only from Haelau cabin on West Maui and Lanipo trail on O'ahu.

H RUBUS ELLIPTICUS -- Yellow Himalayan raspberry*

A serious weed in Volcano and Laupahoehoe, Hawai'i. On Maui known from cultivated hapu'u ferns arriving from the big island. All known plants on Maui have been treated.

However, there is continual recruitment from seeds and stems in the existing hapu'u ferns and from new ferns arriving from the big island. A state noxious weed and MISC target.

*H**** RUBUS GLAUCUS -- Andes berry*

Known from Puna, Hawai'i. On Maui localized, but spreading in Waikamoi, Crater Rd., and Waipoli Rd.

*M*** SALSOLA TRAGUS [SALSOLA KALI] -- Tumbleweed*

A weed in North America. Naturalized in Waimea on the big island. On Maui known from Omaopio Rd. and Pu'u o Kali. A state noxious weed.

M Ulupalakua **** Maui SIDEROXYLON PERSIMILE -- Bully tree*

On Maui spreading from initial plantings at Maunaolu college on Baldwin Ave. Known from "giggle hill" to Hali'imaile. One large tree and several saplings also known from Ulupalakua Ranch headquarters.

*M*** SOLANUM ROBUSTUM -- Shrubby nightshade*

Known in the state only from gua va infested cattle pastures in Kailua, Maui. A state noxious weed.

*M**** SOLANUM TORVUM -- Turkeyberry*

A pantropical weed. Naturalized on O'ahu and Maui. On Maui known from Hana, Hai'ku, and I'ao.

*M*** TETRASTIGMA PUBINERVE -- Tetrastigma*

Cultivated on Kaua'i, O'ahu, and Maui. On Maui known only from a patch in Honokohau Valley covering a few acres.

*M**** THUNBERGIA GRANDIFLORA -- Bengal trumpet vine*

A serious pest in Australia. Adventive on Kaua'i, O'ahu, Maui, and Hawai'i. Commonly planted at hotels in South Maui. Sparingly naturalized in Makawao and Hai'ku.

*M**** THUNBERGIA LAURIFOLIA -- Purple trumpet vine*

Adventive on Kaua'i and O'ahu. Well established in Wailua, Maui and occasionally cultivated elsewhere.

*M** Hana Hwy. TIBOUCHINA URVILLEANA -- Glory bush*

A pest on Kaua'i, O'ahu, and Hawai'i. On Maui widely planted in residential areas of East Maui. A few small (30mx30m) patches are spreading into nearby wet forest along the Hana Highway near Papaea and Pua'a ka'a. A state noxious weed.

*H**Kahikinui ULEX EUROPAEUS -- Gorse*

A serious pest in New Zealand and elsewhere. Widespread in upcountry Maui. Also known from a small patch in upper Kahikinui. A state noxious weed.