

INVASIVE PLANTS OF KULA

A neighborhood guide to keeping
our local ecosystem in balance

Created by members of the Kula Community Watershed Alliance



Aloha neighbors,

As we transition to the recovery stage after the fires that devastated our neighborhoods, it's important to understand the factors that contributed to this incident and the steps we can take to prevent this from happening in the future. Many of the plants that previously existed in our gulch were invasive species that aided in fueling the fire. Although these fires have significantly impacted our neighborhood, and many of us lost our homes, the fire presents us with a unique opportunity to rebuild our watershed, restore and maintain it. The hope is that with the reintroduction of native plants we will significantly reduce the risk of this type of event from happening in the future so that neighbors that lost their homes can feel safe about rebuilding their homes on the gulch and others can feel safe about continuing to reside along it.

Simple steps each homeowner can take are to remove harmful invasive species as they reemerge. The first step is the ability to recognize invasive weeds that will be problematic in the future.

The following is a guide to help us recognize the invasive or harmful plants that we should be looking out for as our gulch begins to heal. Though the full restoration will take time, our group efforts will eventually provide us with a safe, sustainable landscape and a home for our island's native plants.

This guide does not encompass every weed that you might encounter in our area. The guide features the weeds envisioned to be the most likely to be problematic due to invasion rates and the potential for disrupting native plant restoration, the following list is presented in this order. If you notice an invasive species that is spreading rapidly, and it is not included, please bring it to the attention of our Alliance.

Mahalo nui,
Your Neighbors

TABLE OF INVASIVE SPECIES

	Page #
BLACK WATTLE - <i>Acacia mearnsii</i>	4
BOCCONIA - <i>Bocconia frutescens</i>	5
MOLASSES GRASS - <i>Melinis minutiflora</i>	6
TINAROO GLYCINE - <i>Glycine wightii</i>	7
SMOKE BUSH - <i>Buddleia madagascariensis</i>	8
CASTOR BEAN - <i>Ricinus communis</i>	9
SILVER OAK - <i>Grevillea robusta</i>	10
HILL RASPBERRY/MYSORE RASPBERRY - <i>Rubus niveus</i>	11
OLIVE - <i>Olea europaea</i>	12
PINK JASMINE - <i>Jasmine Polyanthum</i>	13
BLACK EYED SUSAN - <i>Thunbergia alata</i>	14
FIREWEED - <i>Senecio madagascariensis</i>	15
ELEPHANT GRASS - <i>Pennisetum purpureum</i>	16
HORSEWEED - <i>Conyza canadensis</i>	17

IMPORTANT NOTE:

This guide recommends the use of herbicides as an alternative to manual removal.

Herbicides can be harmful if not used carefully.

Please wear protective gear (goggles, gloves) and proceed with caution if using herbicides, carefully following the instructions on the container they came in.



BLACK WATTLE

Acacia mearnsii

DESCRIPTION: A fast growing tree that can grow upwards of 30 ft. Branches have fine grey hairs and possess leaves that are bipinnate. Flowers form in large globular clusters and are pale yellow or cream colored. Fruits are dark brown pods.

ENVIRONMENTAL IMPACT:

Black wattle is a prolific seeder and, seed readily germinates after fire. Seeds are spread readily by birds or on the wind leading to a rapid invasion rate. The invasive nature of this tree closes-in pasture lands and out competes and displaces native plants in natural areas leading to single species stands with no understory. Pollen can induce hay fever.

MANAGEMENT:

Manual removal: Can be hand removed, care needs to be taken to remove roots.
Chemical treatment: Saplings are sensitive to foliar applications of Triclopyr. Larger trees can be killed with a frill or basal bark Triclopyr treatment



BOCCONIA aka Plume Poppy, Tree Poppy

Bocconia frutescens

DESCRIPTION:

A small branched tree that can grow to 20 ft tall

ENVIRONMENTAL IMPACT:

Bocconia invades both dry and moist forests in Hawai'i. Because Bocconia is able to flourish in a broad range of environmental conditions, it has the potential to invade native and non-native habitats. Bocconia produces large numbers of seeds with a red fleshy aril at the base that attracts birds. Birds disperse seeds over long distances leading to the rapid invasion of this weed. The Tree Poppy has large leaves and even as a young sapling effectively shades out other plants. Given its potential to reach tree-sized stature and its ability to form thick stands, Bocconia is a serious competitor with native or other desirable species.

MANAGEMENT:

Manual removal: Can be hand removed, care needs to be taken to remove roots.

Caution should be exercised as its milky sap is toxic.

Chemical treatment: Foliar applications of Triclopyr.



MOLASSES GRASS

Melinis minutiflora

DESCRIPTION:

A sprawling perennial that can form mats over 8 ft deep. Molasses grass possesses a noticeable sweet odor due to the volatile compounds it produces. Leaves are dull green, sticky and hairy. It blooms with conspicuous wine colored flowers twice a year. The most noticeable bloom is as the nights grow longer heading into winter. With this strategy, its seeds are ripe during the wet season contributing to its success as an invader.

ENVIRONMENTAL IMPACT:

A serious pest in drier environments because of its sprawling perennial mat forming growth that can smother forest species. It spreads readily on the wind. Due to its volatile compounds, this fire adapted grass can spread fire even when green and wet. The thick mats produced are a very serious fine fuel that have carried many tragic fires in a variety of native habitats on our islands. This weed invades rapidly after fire creating an alien grass adapted community.

MANAGEMENT:

Manual removal: Can be hand removed, care needs to be taken to remove roots.
 Chemical treatment: Successful treatment can be achieved with a 1.5% concentration of Glyphosate. If mats are thick, multiple treatments may be required therefore early treatment of infestations is advised. Treatment prior to flowering is most effective in killing this weed as to prevent its spread.



TINAROO GLYCINE

Glycine wightii

DESCRIPTION:

A vine-like shrub with dense, sprawling habit, stems and leaves are woolly. Clusters of small, orange, attractive, fragrant flowers. Gray-green leaves 3-5" long. Seeds found within pulpy fruits on terminal clusters. Native to Madagascar, introduced to Hawai'i as an ornamental plant.

ENVIRONMENTAL IMPACT:

An aggressive invader at mid to low elevations, including open range, stream beds, and gulches. Forms dense stands that smother and compete with native plants. Plant produces numerous fruit that are attractive to birds, which disperse the seeds. Readily germinates in dense shade. Mechanical and chemical control of this species is difficult. Can aggravate allergies and cause coughing.

MANAGEMENT:

Manual removal. Can be hand removed, care needs to be taken to remove roots. Chemical treatment: Application of weed killer containing Triclopyr Ester.



SMOKE BUSH

Buddleia madagascariensis

DESCRIPTION:

A vine-like shrub with dense, sprawling habit, stems and leaves are woolly. Clusters of small, orange, attractive, fragrant flowers. Gray-green leaves 3-5" long. Seeds born in pulpy fruits on terminal clusters. Native to Madagascar, introduced to Hawai'i as an ornamental plant.

ENVIRONMENTAL IMPACT:

An aggressive invader of disturbed areas at mid to low elevations, including open range, stream beds, and gulches. Forms dense stands that crowd out and compete with native plants. Plant produces numerous fruit that are attractive to birds, which disperse the seeds. Mechanical and chemical control of this species is difficult.

MANAGEMENT:

Manual removal: can be hand removed, care needs to be taken to remove roots.

Chemical treatment: Application of weed killer containing Triclopyr Ester.



CASTOR BEAN

Ricinus communis

DESCRIPTION:

A semi-woody shrub, branched in upper part. Can grow to 20 ft tall. Leaves are broad, up to 2 feet long, almost as wide, 6-7 lobes. Flowers in clusters, small, whitish, not showy. Fruit in upright clusters, a capsule, nearly spherical, splits explosively.

ENVIRONMENTAL IMPACT:

Encroaches into all but the most wet forests outcompeting other plants with its large leaves and rapid growth. It has a very long soil seed life so once a site is infested it will take years of treatment to eliminate. Contains natural toxin ricin in seed coat, detrimental effects if inhaled or ingested. Extremely poisonous to animals and humans.

MANAGEMENT

Manual removal: Can be hand removed, wear gloves, care needs to be taken to remove roots. Wash skin thoroughly if there is contact with the plant.

Chemical treatment: Application of weed killer containing Triclopyr Ester



SILK OAK aka Silver Oak

Grevillea robusta

DESCRIPTION:

A tall tree that can grow to 70 ft. Young branches hairy, rusty. Leaves simple, alternate, smooth, deeply and narrowly lobed, to 1 ft long; lower surface of leaves rusty turning to whitish, margins curling under. Flowers in clusters, 7 inches long, yellow orange to golden brown

ENVIRONMENTAL IMPACT:

Widely planted and a prolific seeder, it is an invader of dry as well as wet habitats. The wind born seeds are dispersed considerable distances contributing to its rapid invasion potential. It forms a monoculture effectively out competing other plants. The leaves are rich in silica and do not decompose resulting in smothering leaf fall that prevents other species establishment. The branches are brittle and subject to wind fall resulting in serious hazards. Pollen may trigger hay fever.

MANAGEMENT:

Manual removal with young saplings: Can be hand removed, care needs to be taken to remove roots. Caution: contact with sap or sawdust can cause an allergic reaction or irritation.

Chemical treatment: Application of weed killer containing Triclopyr Ester. Applications of Glyphosate and Triclopyr to drilled holes in the bark.



HILL RASPBERRY aka Mysore raspberry

Rubus niveus

DESCRIPTION:

A prickly shrub with long canes, hairy when young, smooth when older, white. Leaves pinnate, 5–9 leaflets. Leaf stems are also prickly. Fruit is dark red maturing to black.

ENVIRONMENTAL IMPACT:

Fruit are very attractive to birds contributing to rapid spread. Readily germinates in dense shade. Smothers smaller plants and climbs tall into tree tops. This seriously thorny pest grows into the proverbial briar patch - impeding passage and thwarting restoration efforts.

MANAGEMENT:

Manual removal: Can be hand removed, care needs to be taken to remove roots.

Caution: shrub has thorns, gloves are recommended

Chemical treatment: Application of weed killer containing Triclopyr Ester



OLIVE

Olea europaea

DESCRIPTION:

Forest and pasture weed where it has escaped from ornamental hedge plantings. Trees can grow to 40 ft tall, branched, dense canopy. Leaves narrow up to 4 inches long by 0.6 inches wide, opposite with each pair at right angle to the next pair, upper surface smooth, lower scaly, grayish, green, or golden. Flowers small, white, in axillary panicles. Fruits are small olives.

ENVIRONMENTAL IMPACT:

Tree is a prolific seeder with the small olives being very attractive to birds. Avian dispersal over considerable distances spread the small olive pits that readily germinate in dense shade., Readily forms dense canopies that shade out other plants. Plants readily sprout from base after fire.

MANAGEMENT:

Manual removal when young saplings: Can be hand removed, care needs to be taken to remove roots.

Chemical treatment: Cut-surface applications of Triclopyr or Glyphosate



PINK JASMINE

Jasmine polyanthum

DESCRIPTION:

This fast growing vine is easily recognized by its opposite oriented leaves and its fragrant flowers. The shiny, leathery leaves have 5 to 7 leaflets. The terminal (last) leaflet is noticeably longer than the rest. The flowers begin as reddish-pink buds and open into white star-like flowers that are 1 in (2.5 cm) in diameter.

ENVIRONMENTAL IMPACT:

This aggressive vine can easily jump the garden fence and will over-grow other plants and structures. It can grow into a dense canopy that will shade out all other vegetation. Pink jasmine can reproduce vegetatively from a small stem fragment and will root at leaf nodes that touch the ground. The plant is moved around by humans intentionally in garden plantings and unintentionally at dumpsites where stem pieces grow into new plants.

MANAGEMENT:

Manual removal: Can be hand removed, care needs to be taken to remove roots. Readily grows from cut fragments so care must be taken not to spread inadvertently with control efforts.

Chemical treatment: Application of Glyphosate herbicides



BLACK EYED SUSAN VINE

Thunbergia alata

DESCRIPTION:

A climbing vine with twining stems which grow high into the tree canopy or cover the ground. The vine has heart/ arrow shaped fuzzy leaves. Flowers are bright yellow-orange with a striking black center and a five-petal bloom.

ENVIRONMENTAL IMPACT:

Black-eyed Susan is a prolific seeder in warmer climates, often found smothering vegetation on forest margins and on the sides of stream beds. This results in covered plants receiving little light and inhibiting growth.

MANAGEMENT:

Manual removal: Young plants can be hand removed, care needs to be taken to remove roots. Readily grows from cut fragments so care must be taken not to spread inadvertently with control efforts.

Chemical treatment: Foliar application of Glyphosate.



FIREWEED

Senecio madagascariensis

DESCRIPTION:

Fireweed is a daisy-like herb that grows up to 2' high. In Hawai'i, this weed is a perennial which can form into a small shrub. The stem is upright and slender with bright green leaves. The leaves are smooth, very narrow (only ¼" wide), have serrated edges, and they reach about 5" long. The small yellow flowers have 13 petals and are about the size of a nickel. The mature flowers turn into white thistle-like downy seed balls.

ENVIRONMENTAL IMPACT:

Fireweed invades pastures, disturbed areas, and roadsides. Spread in the wind with small dandelion like seeds. It is very toxic to cattle, horses and other livestock. When ingested it causes illness, slow overall growth, liver-malfunction and even death in severe cases.

MANAGEMENT:

Manual removal: Plants can be hand removed, care needs to be taken to remove roots. Wear gloves.

Chemical treatment: younger plants can be treated with foliar Glyphosate



ELEPHANT GRASS aka Napier grass

Pennisetum purpureum

DESCRIPTION:

Elephant grass is a tall grass that grows in clumps up to 10 feet tall. Stems are coarse and hairy. The leaves are 2 to 3 feet long, pointed at the ends, and about 1 inch wide. The edges of the leaves are razor-sharp.

ENVIRONMENTAL IMPACT:

Elephant grass can be very invasive and is often found clogging natural waterways. It slowly crowds out all other species, often killing plants by smothering them from above.

MANAGEMENT:

Manual removal: Cut down close to ground. Dig out entire root/rhizome mass.

Chemical treatment: Young plants or re-sprouted young leaves of large clumps can be treated with 2% foliar Glyphosate.



HORSEWEED

Conyza canadensis

DESCRIPTION:

A shrub-like plant that can grow up to 6 feet. Dark green/ green leaves that appear hairy. Flowers are white or cream with yellow centers

ENVIRONMENTAL IMPACT:

Horseweed can easily take over disturbed areas since it seeds prolifically and spreads rapidly. It will re-grow if the stem is broken off. It also contains allelopathic (toxic) chemicals that suppress the growth of nearby native vegetation.

MANAGEMENT:

Manual removal. Can be hand removed, care needs to be taken to remove roots.
Chemical treatment: Application of Glyphosate herbicides

NOTES:

ROUND UP is a common herbicide that contains Glyphosate

BIOADVANCED BRUSH KILLER PLUS is a common herbicide that contains Triclopyr

Please read manufacturer's directions carefully and take necessary precautions when utilizing herbicides.

RESOURCES

<https://www.ctahr.hawaii.edu/invweed/weedshi.html>

<https://dlnr.hawaii.gov/hisc/info/invasive-species-profiles/>



www.kulacommunitywatershed.org