



**Early Detection
Species
of Concern on
Kaua'i**

**Supplement to "A Field
Guide to Early Detection of
Invasive Plants and
Animals on Kaua'i"**

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KISC

KAUA'I INVASIVE SPECIES COMMITTEE

Early Detection Species of Concern

Early Detection Species of Concern are highly invasive plant species thought to be in limited distribution on Kauai. KISC is working on surveying these species for possible control.

Please report any sightings.

All species listed should be discouraged from planting or propagating.

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Wax Myrtle

Morella cerifera

Description: *M. cerifera* is an evergreen shrub or small tree growing up to 35'. The multiple crooked trunks are covered in a smooth, grayish-white bark. The olive green leaves are 3" long with serrated top edges growing in an alternate pattern. Flowers are grayish-white, less than 1/8" in diameter. The grayish-blue fruit is 1/4" wide and grows in dense clusters along the twigs. The fruit is heavily coated with a smooth wax.



Impacts: *M. cerifera* forms dense thickets and promotes fire frequency. *M. cerifera* is a major Florida agriculture weed, dominating the pastures. It becomes weedy with its rapid growth and frequent suckering from trunk base and roots. WRA: 20



Origin, Distribution, and Habitat: *M. cerifera* is native to the coastal southeastern United States. *M. cerifera* was first introduced to Maui in 1932, other island distribution is unknown. *M. cerifera* grows in a variety of habitats: wetlands, lava flows, sand dunes, salt tolerant.



Dispersal, Seed bank, and Maturity: The major method of seed dispersal is by birds. Underground runners extend the growth locally. *M. cerifera* is not self-compatible. *M. cerifera* forms a seed bank. Seedlings will mature in 3 years.

Feathertop Grass

Pennisetum villosum

Description: *P. villosum* is a perennial clumping grass growing up to 3' tall. The leaf-blades are flat and light-green. The stems are round with distinctive feathery seed-heads and can grow 2"-5" long. The inflorescence is a panicle of clustered spikelets surrounded by white bristles.

Impacts: *P. villosum* forms dense clumps that will dominate an infested area. This is a fire-promoting grass that recovers quickly after fire. It is not a good pasture grass and it degrades the quality of pasture lands. WRA: 24

Origin, Distribution, and Habitat: *P. villosum* is native to Africa and Arabia and was first noted on Big Island in 1938. Other island distribution unknown. Ornamental plant that is cultivated.

Dispersal, Seed bank, and Maturity: Seeds spread by wind, water, and contaminated soil, machinery and animals. *P. villosum* is self-pollinating. Spreads vegetatively by rhizomes and root segments in soil. Prolific seeder but seedling establishment is usually poor. Seeds mature in 1-2yrs.



Magnus Manske



Alvesgaspar

Description: *P. aculeata* is a woody shrub when young and grows into a climbing, leafy cactus, with branches up to 33' long. There are clustered spines along the stems. Leaves are smooth blades 2.5" long. The fragrant flowers are white, pale yellow, or aging to pink and can be lemon, sweet, or repulsive smelling. The fruit is smooth with green leafy protuberances, 1-2" in diameter, and round yellow-red berries.



Impacts: *P. aculeata* has a tendency to form large, impenetrable clumps; it is extremely thorny with spines on both the trunks and vines. The spiny thickets displace native plants and affect wildlife habitats. *P. aculeata* completely destroys patches of forest by growing up into the canopy and smothering the trees. WRA: 13

Origin, Distribution, and Habitat: *P. aculeata* is native to the West Indies and the northern coast of South America. It was introduced to Hawai'i for horticulture. *P. aculeata* is currently being controlled on Moloka'i and O'ahu.

Dispersal, Seed bank, and Maturity: Seeds are bird-dispersed fruit. Broken stem fragments will root. *P. aculeata* is not self-compatible. Maturity and seed bank unknown. Not a prolific seeder.

Salt Cedar

Tamarix aphylla

Description: *T. aphylla* is a large evergreen tree 30' in height. The scale-like leaves are small (1/16" long), gray-green in color, and overlap each other on the stem. They exude salt, which can form a crusted layer on the surface. The bark is smooth and reddish on young plants and turns brown and furrowed with age. When flowering, large numbers of pinkish white flowers form in dense masses on 2" long spikes at the branch tips.

Impacts: *T. aphylla* is fast growing and forms extensive dense thickets. The deeply penetrating roots often intercept the water table and interfere with the watershed. The surface soil salinity increases due to salt excretion. Native plants and wildlife habitats are reduced. *T. aphylla* is a flood hazard becoming established along streams and trapping sedimentation. WRA: 13

Origin, Distribution, & Habitat:

T. aphylla is native to Africa and Asia. *T. aphylla* is present on all Hawaiian Islands. *T. aphylla* grows in desert scrub and washes, riparian habitats, and disturbed sites. It is salt tolerant and grows commonly along coastal areas.

Dispersal, Seed bank, & Maturity: Spread by wind and water (broken limbs). Spread locally by suckers. *T. aphylla* will root from broken stems. Prolific seeder but seeds sprout quickly or are sterile. Seedling will mature in 3yrs.



Indian Devil Tree

Alstonia macrophylla

Description: *A. macrophylla* is a 15-50' tall tree. The leaves grow in a whorl of three or four. The leaves are 6-20" long, 2-5" wide, with the widest in or above the middle. There are small (1/4") white flowers in the flower clusters on the end of branches. The fruits are 11" long and 1/10" in diameter, green grow in pairs. The pods are filled with many tiny hairy seeds.

Impacts: *A. macrophylla* is an aggressive invader and rapidly spreads in disturbed forests. This plant has become a serious weed on Oahu. *A. macrophylla* is toxic to animals in large doses. WRA: 9

Origin, Distribution, and Habitat: *A. macrophylla* is native to Southern Asia. It has become naturalized on the Big Island and is a serious weed on O'ahu. Other island distribution unknown.

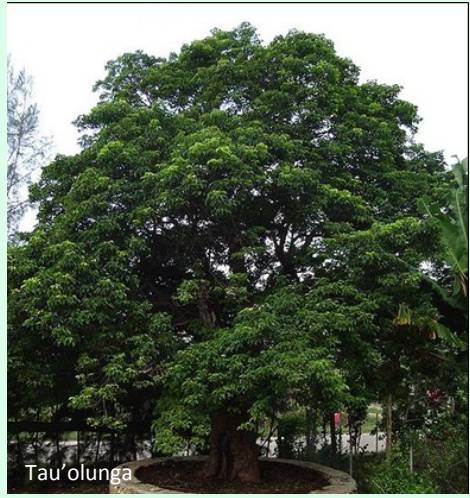
Dispersal, Seed bank, and Maturity: *A. macrophylla* is self-pollinating. The seeds are primarily wind dispersed. The seed pod pairs are filled with many wind dispersed hairy seeds. No seed bank is formed. Fast maturity rate.



Bishop Wood

Bischofia javanica

Description: *B. javanica* is large tree (up to 60' tall), with a shady oval crown and a deep green foliage, turning red before falling. The thick bark is dark grey to brown. Leaves are 3 leaflets 4-6" long and 1.5-3" wide. The greenish-yellow flowers are 1/10" in diameter. The round fruit is brown, orange, reddish or blue-black with a diameter of 1/3"-2/3". Each fruit contains 1-2 seeds.



Impacts: *B. javanica* invades undisturbed forests, forming dense shade and crowding out native trees. This tree is toxic to animals but is not a grazing source. *B. javanica* is also a garden pest, out growing its allotted space and it has aggressive far reaching surface roots. WRA: 7



Origin, Distribution, & Habitat:

B. javanica is native to India, China, and Malesia. This tree is naturalized and spreading on O'ahu. *B. javanica* is present on Moloka'i. *B. javanica* preferred habitat is shady forests, swamp forests. It will grow in dry places but with stunted growth (12-18'). Seedlings establish well under shady forest canopies.



Dispersal, Seed bank, & Maturity: Birds distribute the seeds into natural areas and seed germination is high. *B. javanica* suckers easily from roots. *B. javanica* is not self-compatible. *B. javanica* is a prolific seeder but no seed bank is formed. Flowers annually from 8 years onwards.

Princess vine

Cissus verticillata

Description: *C. verticillata* is a large woody vine, frequently climbing over tall trees. The stems are thick, tough and very flexible. The leaves have large variation, they can be oblong or rounded, coarsely or finely serrated, smooth or with fine dense hairs and are 1 ½” to 6” long. Firm tendrils are opposite some leaves. The small flowers are green or yellowish and grow in clusters. The round fruit is black when mature. Each fruit has one seed inside.



Impacts: *C. verticillata* is a climbing vine that will quickly cover many trees. It will blanket forest canopies and restrict plant growth. This pest is an agricultural weed to citrus crops in Texas, smothering the citrus groves. WRA: 12



Origin, Distribution, and Habitat: *C. verticillata* is native to Florida, the Caribbean, Mexico to Chile, and Argentina. *C. verticillata* has been seen on O’ahu. Other island distribution unknown.



Dispersal, Seed bank, and Maturity: *C. verticillata* seeds are water and bird dispersed. Cuttings will also root. The plant has many long aerial roots that dangle loosely from the tree branches and will root in the ground.

Rubbervine

Cryptostegia madagascariensis

Description:

C. madagascariensis is a woody vine or shrub 6-9' tall if self-supported, but will climb up to 30' high. Its shiny, dark green leaves are 3" long. The flower petals join in a funnel at the base and are white, pink, or purple. The triangular seedpods are 4", grow in wing-like pairs, and are filled with tiny feathery seeds. It produces a poisonous white sap.



Impacts:

C. madagascariensis is an aggressive vine with scrambling branches likely to dominate disturbed forests and woodland communities. It is fast growing, quickly climbing other plants and restricting their growth. This pest utilizes soil moisture. Contact with all parts of this pest can cause dermatitis. If the dried dust of this plant is inhaled it can cause irritation and possible swelling to eyes, nose, and throat. If eaten, this plant is toxic to livestock. WRA: 13



Origin, Distribution, and Habitat: *C. madagascariensis* is native to Madagascar. This pest is present on O'ahu and Moloka'i. *C. madagascariensis* grows on a variety of soils and sand. This pest thrives on river beds.

Dispersal, Seed bank, and Maturity: *C. madagascariensis* is primarily wind dispersed or water dispersed (if habitat provides the opportunity for floating seeds). This is a prolific seeder with the seeds remaining viable for 1 year. *C. madagascariensis* matures in 5-7 months.

Chinese privet

Ligustrum sinense

Description: *L. sinense* is a shrub up to 15' tall. The oblong leaves are 2 ½" long and grow opposite. The stems and underside of leaves have fine hairs. Small, white, flowers with 4 petals grow in clusters at the end of the branches. The blue fruit is less than ¼" and contains one hard seed.



Impacts: *L. sinense* forms dense impenetrable thickets and crowds out native plants. It will dominate the shrub layer of a disturbed forest and prevent regeneration of native species. It is highly flammable in landscaping. *L. sinense* is associated with the poisoning of livestock (mainly horses) and people. WRA: 11



Origin, Distribution, and Habitat: *L. sinense* is native to China. *L. sinense* is



present on Big Island and O'ahu. Other island distribution unknown. *L. sinense* will grow in clay, loam, and sands. This plant also has some salt tolerance.

Dispersal, Seed bank, and Maturity: *L. sinense* is primarily dispersed by birds. Also spreads vegetatively with root shoots. *L. sinense* is a prolific seeder but most seeds lose viability within 1 year. *L. sinense* matures at 4 years.

Grape Ivy

Cissus nodosa

Description: *C. nodosa* is a large vine. The leaves are 2½ -7” long and 1-2” wide. They have serrated edges. The small red to purple flowers grow in clusters. Some have spiral tendrils opposite the leaves. The dark red berries are about 1” and have one or two seeds.

Impacts: *C. nodosa* is large vine with a smothering growth habit. It will quickly climb nearby trees and structures. WRA: 8

Origin, Distribution, and Habitat: *C. nodosa* is native to Indonesia and Malaysia. It is present on Big Island and O’ahu. Other island distribution unknown. *C. nodosa* grows in a variety of soil conditions.

Dispersal, Seed bank, and Maturity: *C. nodosa* is bird dispersed. This plant is easily propagated from stem cuttings (possibly vegetative fragmentation but no evidence from natural settings). *C. nodosa* is not a prolific seeder. Seed bank and maturity are unknown.



Marie Fourdrigniez



Forest & Kim Starr



Forest & Kim Starr

Velvetleaf

Clerodendrum macrostegium

Description: *C. macrostegium* is a large shrub or tree up to 20' tall. It has large, velvety leaves. The leaves are 5-12" long and grow opposite. The white and lilac flowers (1 ½") are surrounded by large, showy white, lilac and green bracts. The dark glossy purple fruit is round and about ¼ - ½".



Impacts: *C. macrostegium* forms dense thickets crowding out native plants. This pest is known to naturalize outside of its native range. WRA: 8



Origin, Distribution, and Habitat: *C. macrostegium* is native to the Philippines. It has been noted on O'ahu. Other island distribution unknown. C.

macrostegium grows in moist forests and disturbed areas at lower elevations.

Dispersal, Seed bank, and Maturity: *C. macrostegium* seeds are bird dispersed. This pest spreads prolifically by root suckers. C. macrostegium seed bank and maturity unknown.



Photos: Lissa Fox

Tubaroot / Poisonvine

Derris elliptica

Description: *D. elliptica* is a large climbing shrub or vine 15-36' long. The leaves are leaflets of 4-6 pairs of oblong shaped 6" long leaflets. They are silky underneath. The small pink or red flowers grow in stalked clusters up to 1' long. The flat, leathery fruit is 3" long and narrowly winged along the sides.



Impacts: *D. elliptica* aggressively grows, strangling any vegetation in its way. It forms a dense canopy, shading out any plants below. This pest tends to become naturalized in regions where it is planted. It has been noted that Derris root extracts can be toxic to fish, animals, and humans. WRA: 7



Origin, Distribution, & Habitat: *D. elliptica* is native



from India to Indonesia. This pest has been reported on O'ahu, Maui and Big Island.

Dispersal, Seed bank, & Maturity: *D. elliptica* is spread by water: seeds and fragments float. *D. elliptica* is not self-compatible. Also, spreads vegetatively. *D. elliptica* matures in as little as 18 months. Seed bank unknown but likely long-lasting due to its hard seeds.

Brown salwood

Acacia mangium

Description: *A. mangium* is tree up to 90' tall. The straight trunk can make up over half the tree's height. Young trees have smooth greenish bark. Older trees have pale grey-brown to dark brown bark that is rough and furrowed. The leaf-like phyllodes are narrow at the base and widen in the middle (generally 4-11" long and 1¼-4" wide) with 3 or 4 veins running up it. The small cream flowers are loosely arranged into spikes 2-5" long. The leathery pods are openly twisted or tightly spiral coiled. The pods are filled with small black seeds.



Impacts: *A. mangium* shades out the understory. It is a fast growing tree that produces numerous seeds. WRA: 8

Origin, Distribution, and Habitat: *A. mangium* is native to Australia, Papua New Guinea, and Indonesia. This pest was noted on O'ahu and Maui. *A. mangium* grows in a variety of soils.



Dispersal, Seed bank, & Maturity: *A. mangium* is self-pollinating and bird dispersed. *A.*



mangium is a prolific seeder and forms a seed bank with seeds viable up to 2 years. This pest matures in 1-4 years.

Contact Information

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Report-a-Pest Form

Name: _____ Date of Pest sighting: _____

Email: _____

Phone: _____

Name of pest that you are reporting: _____

Description: Plant: size, flower color, growth form, fruit color, leaf size and shape.

Insect: size, color, habitat found in.

Animal: Dead/alive, description of behavior, number of animals observed, length, shape of head, color/patterns, tail description, habitat found in.

Location: Street address, cross streets, mile marker, place name, trail name.

Additional Comments: _____
