



# Weedy threats to koala habitat in the Sarina region

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A weed is any unwanted plant in the wrong place.

For koalas, some of these weeds restrict their movement from one tree to another and prevent new food and shelter trees from growing. Lantana is a good example, as it can grow into impenetrable thickets that can be a barrier to koalas on the move.



*Lantana Fire Risk*

Some weeds including Lantana and Guinea Grass burn at very high temperatures, which can have devastating effects on established habitat that may withstand a cooler fire passing through. These high temperature fires can also leave wildlife stranded in burning trees.

The Sarina Koala Habitat Restoration project is providing weed control to help improve degraded habitat and that which is at risk from fire damage.

Many weeds have short life cycles and produce large amounts of seed. They can readily colonise disturbed soils, can reach maturity and establish an ongoing succession in a very short time. Some weeds have very robust seeds which remain viable in the seed bank for up to 10 years. Sicklepod and *Leucaena prime* are examples.

*Leucaena seeds*



Strategies to minimise weed infestations include:

- removal or treatment of weeds prior to seed set
- good weed hygiene on your property
- avoid driving through areas infested with invasive plants where possible
- keep vehicles and equipment clean to avoid spreading seed and clean all vehicles, machinery, tools, boots and equipment when leaving areas infested with invasive plants
- ask that visitors and service providers clean their vehicles, machinery and any other equipment before entering your property.

### **Biosecurity Legislation**

Responsibility falls upon State governments to control Biosecurity matters. In Queensland, weeds and pest animals are referred to as **invasive biosecurity matter** under the 2014 *Biosecurity Act*.

They can threaten Queensland's primary industries, the natural environment, livestock, people's livelihoods, health and recreation.

Under the Act, every Queenslander has a general biosecurity obligation (GBO) to ensure that they do not spread a pest, and take all reasonable and practical steps to minimise risks associated with that pest. We are all responsible for managing biosecurity risks on land that is under our control.

The Queensland government has classified weeds according to their risk to impose harm on the environment and has categorised them as either Invasive, Restricted or Prohibited. Actions which must be taken in response to the invasive matter differ between each category:

### **Prohibited** invasive plants:

- Must be reported to Biosecurity Queensland within 24 hours of the sighting (13 25 23).
- The person reporting must take all reasonable and practical steps to minimise the risk of it spreading or escaping until they receive advice from an authorised officer.
- Prohibited invasive plants of Queensland fact sheet
- There is minimal occurrence of Prohibited invasive weeds in Queensland
- Red Witchweed (*Striga asiatica*) was detected in the Habana area in 2013 and an eradication project has been in operation since 2016



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### **Restricted** invasive plants:

#### **Category 2**

- Must be reported to Biosecurity Queensland within 24 hours of the sighting
- A person must take all reasonable and practical steps to minimise the risk of it spreading or escaping until they receive advice from an authorised officer

#### **Category 3**

- Must not be distributed either by sale or gift, or released into the environment (dumped as garden waste)

#### **Category 4**

- Must not be moved

#### **Category 5**

- Must not be kept

Rubber Vine Seed Pod - Photo Ruth Martin





*Castor Oil Plant*

The Australian government has developed a list of the most problematic weeds across the country and they are referred to as Weeds of National Significance (WoNS). There are currently 36 species on the list. They are ranked according to their invasiveness, impacts and potential to spread. Information on these weeds and management options are available at the Weeds Australia website.



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At a local level, each local government agency must have a biosecurity plan that covers invasive plants in its area.

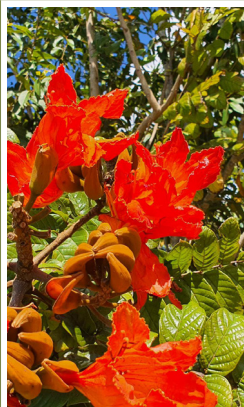
Mackay Regional Council's Biosecurity Plan (2022 - 2026) has been developed to guide landholders and managers to control invasive biosecurity matter for the benefit of the whole community.



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# Invasive weeds commonly found in the Sarina region

## Invasive Matter & Biosecurity Category



**African Tulip Tree**  
(*Spathodea campanulata*)

Restricted Invasive  
Category 3

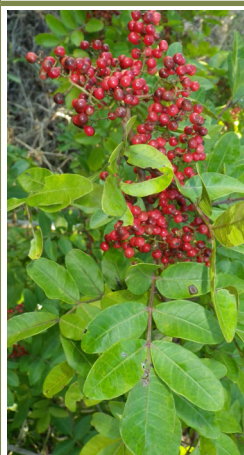
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Evergreen tree with distinctive buttress roots and bright orange flowers. Highly invasive, forming dense stands in gullies and creek lines. Seeds are wind dispersed. Extremely harmful to native stingless bees.

**Manual Control:** Young trees can be foliar sprayed, dug out or hand pulled when soil is moist. Cut stumps will sucker and require herbicide treatment.

**Herbicide control:** Refer to African Tulip Tree fact sheet.



**Broad-leaved Pepper Tree**  
(*Schinus terebinthifolius*)

Restricted Invasive  
Category 3

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Photo Credit: Greg Calvert

Broad, spreading tree to 10m. Dark green composite leaves. Small white flowers. Red, bunched glossy round fruit. Leaves & berries have a peppery odour when crushed. Tolerates wet areas, prefers coastal dunes, wetlands and stream banks.

**Manual Control:** Hand pull young trees. Felled trees can sucker and regrow from cuttings.

**Herbicide control:** Refer to Broad-leaved Pepper Tree fact sheet.



**Captain Cook Tree**  
(*Cascabela thevetia*)

Restricted Invasive  
Category 3

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Large tree up to 10m. Narrow pointed glossy leaves with toxic milky sap. Yellow bell-shaped, waxy flowers. Large lantern-shaped fruit, black when ripe. All parts of this plant are poisonous.

**Manual Control:** Avoid physical contact as sap is toxic.

**Herbicide control:** Refer to Captain Cook Tree fact sheet.

## Invasive Matter & Biosecurity Category



**Castor Oil Plant**  
(*Ricinus communis*)

Locally Invasive

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to access link



Large vigorous flowering shrub with seeds that are toxic to animals and humans. Spreads quickly on disturbed soils and is often found along gullies, watercourses, roadsides and floodplains. Younger branches are dull green or red and hollow. Leaves are distinctly palmately lobed with red stems and somewhat waxy texture. Flowers about 10mm in diameter on long upright spikes. Male and female flowers. 3-valved egg-shaped fruits with soft green or red spines follow and hold 3 smooth mottled black and light brown seeds approximately 10mm long.

**Manual Control:**

Plants can be brush cut or removed by hand.

**Herbicide Control:**

Refer to Castor Oil fact sheet.



**Cat's Claw Creeper**  
(*Macfadyena unguis-cati*)

WoNS  
Restricted Invasive  
Category 3

Photo Credit: Greg Calvert

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to access link



Aggressive woody vine. Yellow bell-shaped flowers. Leaves have 2 leaflets with 3-clawed tendril (cat's claw) growing between them. Flat strappy seed pods change from glossy green to dark brown as they mature. Tubers form underground.

**Biological Control:**

A tingid bug, moth and leaf-mining jewel beetle are being used in certain areas of the State.

**Manual Control:**

Skirt vines growing up trees. Vegetation above the cut will die, but regrowth from below will occur unless treated with herbicide.

**Herbicide control:**

Refer to Cat's Claw Creeper fact sheet.

## Invasive Matter & Biosecurity Category



**Lantana**  
*(Lantana camara)*

WoNS  
Restricted Invasive  
Category 3

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Heavily branched shrub with square stems, growing in clumps, thickets and/or with scrambling habit. Produces masses of small flowers ranging from cream to yellow, white, pink, orange, red, lilac and purple, followed by glossy, round, fleshy, purple to black berries which readily attract birds. Leaves are fragrant when crushed. Leaves poisonous to stock.

**Biological control:**

There are numerous biological control agents, but these alone should not be relied upon to manage lantana infestations. Consider other control techniques as well.

**Fire Control:** suitable in certain situations

**Manual Control:** Grubbing or repeated slashing may assist but may not be suitable on steep slopes or where erosion may result.

**Herbicide control:** Refer to Lantana fact sheet.



**Leucaena**  
*(Leucaena leucocephala subsp. leucocephala)*

Locally invasive

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to access link



Large woody shrub to 3m, rapidly colonises disturbed soils. Leaves are bipinnately compound, with 3-9 pairs of leaflets. Produces masses of pale creamy white pom pom flowers followed by flat brown seed pods containing up to 24 hard glossy brown seeds. Flowers, old and new pods can be present on a plant all at the same time. Seeds have a hard coat and remain viable in the soil for up to 10 years.

**Manual Control:**

Juvenile plants can be hand weeded. Larger plants can be cut and painted with herbicide.

**Herbicide control:** Refer to Leucaena fact sheet.

## Invasive Matter & Biosecurity Category



**Madeira Vine**  
(*Anredera cordifolia*)

WoNS  
Restricted Invasive  
Category 3

Photo credit: Greg Calvert

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A vigorous climber with fleshy heart shaped leaves and long white 'lamb's tail' flower spikes. Potato-like aerial tubers are produced along the stem and produce new plants when they fall. Vines become heavy and can collapse the canopy of mature trees due to their weight.

**Manual Control:**

Fallen tubers and young plants can be carefully hand weeded and disposed of.

**Herbicide control:**

Refer to Madeira Vine fact sheet



**Parthenium**  
(*Parthenium hysterophorus*)

WoNS  
Restricted Invasive  
Category 3

Photo credit : Greg Calvert

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Annual herb with a deep taproot and erect stem that becomes woody with age. It has pale green deeply lobed leaves, covered in fine hairs and produces small white flowers on the tips of numerous stems. Pollen can cause allergic reactions such as dermatitis and hay fever.

**Manual Control:**

Not recommended due to allergies and risk of spreading seed when disturbing plants.

**Herbicide control:**

Refer to Parthenium fact sheet.

## Invasive Matter & Biosecurity Category



### Prickly Pear

(*Opuntia* spp. other than *O. ficus-indica*)

WoNS

Restricted Invasive

Category 3

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Perennial, leafless, succulent shrub, usually 50–100cm tall, but can become much larger. Stems are divided into spiny, flattened, leafless segments. Large flowers range from yellow, orange, red, pink and purple to white. Produces barrel-shaped fruit which attracts many birds.

### Biological Control:

These can be species specific, but various insects are available.

Refer to the [Opuntoid Cacti fact sheet](#) ➤

### Manual Control:

Dig out and solarise or deep bury for composting.

### Herbicide control:

Refer to Prickly Pear fact sheet



[Tap to access link](#)



### Rat's Tail Grasses

(*Sporobolus jacquemontii*, *S. pyramidalis*, *S. natalensis*, *S. fertilis*)

Restricted Invasive

Category 3

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Erect robust tussock grasses to 2m, producing masses of seed, which can remain viable for up to 10 years.

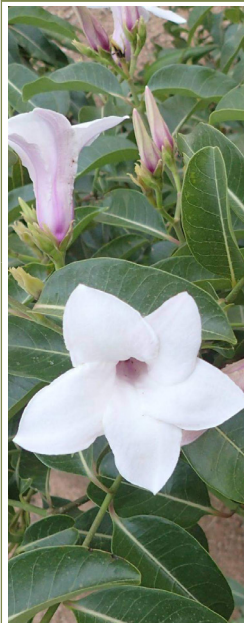
### Manual Control:

Reduce Seed Spread.

### Herbicide Control:

Refer to Rat's Tail Grass fact sheet.

## Invasive Matter & Biosecurity Category



**Rubber Vine**  
(*Cryptostegia grandiflora*)

WoNS  
Restricted Invasive  
Category 3

Photo credit: Ruth Martin

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Vigorous climbing vine with twining whip-like shoots. It can grow unsupported or will climb trees up to 30 m tall. The vine has dark green opposite leaves, which exude a milky sap. The stem and unripe seed pods also have sap. Leaves are often white to pink along the midrib. The large flowers have five white to light purple petals arranged in a funnel shape. Seed pods are distinctive, occurring in pairs at the end of a short stalk. Seed pods split open when ripe, releasing up to 450 brown seeds with white tufts of long, silky hair.

**Manual Control:**

Methods include fire and mechanical options, such as slashing.

**Herbicide Control:**

Various options available depending on site, density, land use and proximity to water. Refer to Rubber Vine fact sheet.



**Sicklepod**  
(*Senna obtusifolia*), **Foetid Senna** (*S. tora*),

**Hairy Senna** (*S. hirsuta*)

Restricted Invasive  
Category 3

Photo credit: Greg Calvert

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Woody shrubs to 2.5m tall and 1m wide. Composite leaves divided into 3 opposite pairs. Yellow 5 petaled flowers, followed by slender sickle shaped pods 10-15cm long, with a distinctive hook at the end. Dark brown shiny, flattened seeds are viable for up to 10 years and remain viable after passing through stock. Leaves have an offensive odour when crushed.

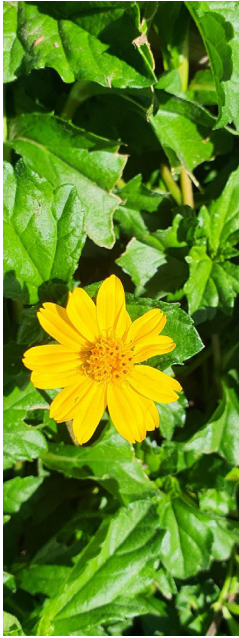
**Manual Control:**

Slashing somewhat ineffective due to likelihood of reshooting. Blunt blades can shatter stems to prevent reshoot. Methods to dislodge roots, such as hoeing are more effective.

**Herbicide Control:**

Refer to Sicklepod fact sheet.

## Invasive Matter & Biosecurity Category



**Singapore Daisy**  
(*Sphagneticola trilobata*)

Restricted Invasive  
Category 3

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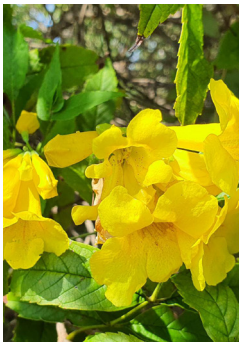
Vigorous ground cover, spreads rapidly and out-competes native plants, also invades lawns, irrigated areas and around drains. Will scramble over other vegetation. It has glossy green 3 lobed leaves in pairs along the stem, with yellow - orange, daisy-like flowers for most of the year. Regrows from fragments.

**Manual Control:**

Hand weeding can be effective, however it will regrow from small fragments so care should be taken to thoroughly remove plants.

**Herbicide Control:**

Various options depending on site, density, land use and proximity to water. Refer to Singapore Daisy fact sheet.



**Yellow Bells**  
(*Tecoma stans*)

Restricted Invasive  
Category 3

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Shrub to small tree 3 - 8m tall, compound leaves with serrated edges. Bright yellow flowers, 3-5 cm long, occur in clusters at the ends of branches. Papery, winged seed are produced in bean-like pods 10-30cm long.

**Manual Control:**

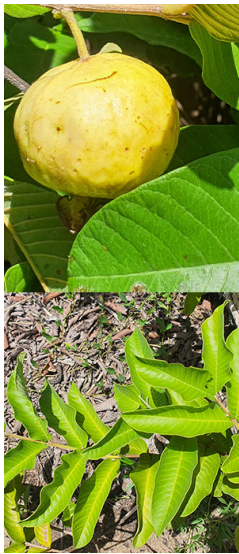
Effective for seedlings, but not for larger plants.

**Herbicide Control:**

Various options depending on site, density, land use and proximity to water. Refer to Yellow Bells fact sheet.



## Invasive Matter & Biosecurity Category



**Yellow Guava**  
(*Psidium guajava*)

Invasive

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Small tree up to 10 m, with spreading branches, and characteristic copper coloured bark which flakes away to reveal smooth pale green underneath. gLeaves are 7-15cm long and 3-5cm wide, oblong, bright green, leathery, downy on the underside and aromatic when crushed. Creamy white flowers are produced September to February and shed their petals to leave a tuft of yellow tipped stamens. Fruits are round with yellow skins when ripe, with pinkish red flesh, and can be between 5-10 cm in length.

### Manual Control:

Prevent fruit from setting, by pruning, but cutting stems off at ground level will promote reshooting and suckering away from parent plant.

### Herbicide Control:

Refer to Yellow Guava Fact Sheet

## Weed management options

There are various methods of weed control available and selection will depend on the target weed, site, budget etc.

Integrated Pest Management utilises a combination of various control methods which includes:

- **Physical** - hand weeding, slashing, mechanical removal
- **Biological** - introduction of another organism to consume/affect the invasive matter such as *Cactoblastus* Moth on Prickly Pear species.
- **Environmental management** - Fire, mulching, over-planting with natives
- **Herbicide control**- foliar spray, basal bark spraying, drill & fill, stem inject, cut & paint, scrape & paint etc.
  - **Five types of herbicide:**
    - **Non-selective** - fast knockdown, work on wide variety, eg Glyphosate
    - **Selective** - target specific plants eg Verdict (Haloxypop) for grass or Associate (Metsulfuron methyl) for broadleaf weeds
    - **Contact** - have limited movement within the plant, so complete coverage of the target is required. Compared to systemic herbicides they show symptoms rapidly, usually within 24 hours.eg. Diquat.
    - **Systemic** - the herbicide needs to translocate through the plant, so may take weeks for symptoms of treatment to develop on the target weeds.
    - **Residual** - e.g. aminopyralid in Grazon extra and Taskforce (Flupropanate) which suppress seed germination of new generation of weed.

## Some common herbicides for weed control and their general applications

Active Constituents	Trade Names	Target Weeds	Application Methods
Aminopyralid 4.47 g/L + Picloram 44.7 g/L	• Vigilant 2	• Woody weeds: Lantana, Devils Fig, • Vines such as Madeira, Siratro	• Cut & Paint • Scrape & Paint
Flupropanate 745g/L	• Taskforce • Tussock	• Rat's Tail Grasses (Sporobolus sp.)	• Foliar Spray
Fluroxypyr 333 g/L	• Starane • Advanced	• Mother of Millions, • Broadleaf selective, woody weeds such as Chinee Apple & Captain Cook Tree	• Foliar spray (use spray oil) • Basal Bark • Cut stump
Glyphosate (360g/L)	• Round up • Weedmaster Duo	• Non selective - kills almost everything. • Aquatic safe options available	• Foliar Spray • Cut stump, Drill & Fill
Haloxypop 520 g/L	• Verdict • Halfback	• Grass selective	• Foliar Spray, must use spray oil
Metsulfuron Methyl (600g/L)	• Associate • Ken Met	• Broadleaf weed selective • Mother in Law's Tongue • Lantana, Sensitive Weed, Siratro etc.	• Foliar Spray (must use wetter) • Stem Inject for Cactus
Triclopyr 240 g/L + Picloram 120 g/L	• Access	• Prickly Pear • African Tulip • Rubber Vine • Guava	• Basal bark spray • Cut stump • Frill & fill • Mix with diesel
Triclopyr 300g/L + Picloram 100g/L	• Conqueror • Raizon	• Sicklepod • African Tulip	• Foliar spray • Stem Inject
Triclopyr 600 g/L	• Garlon 600	• Cactus • Succulents	• Foliar Spray

*\*Always refer to the label before mixing or using herbicides.*

Always read the label for correct dosage, necessary PPE and restraints (such as safe application time before rain, proximity to water) for each herbicide. Also check current weather conditions, including wind and likelihood of rain for your area before applying herbicide.

Herbicides are registered for use on specific weeds and in specific situations. The various fact sheets state which herbicides and methods are registered for different invasive matter. Always seek this advice to save time, money and off target damage when underaking weed control activities.

If you cannot find suitable methods and/or herbicides registered for particular target weeds, there may be an off label permit available, such as permit 11463 which allows use of different herbicides on environmental weeds in non-crop areas.

The Australian Pesticides and Veterinary Medicines Authority (APVMA) is the Australian Government regulator of agricultural and veterinary chemical products and produces the guidelines and permits for herbicide use in Australia, which we should all consult and comply with.



[apvma.gov.au](https://apvma.gov.au)

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