



Murray River  
Council

# Priority Weeds

Identification Guide



Local Land  
Services



Located in the Southern Riverina, Murray River Council is a large, diverse municipality covering 11,865 square kilometres. From our heavy clay floodplains, our sandy Mallee hills and our many watercourses in-between, Murray River Council is susceptible to many different weeds that can cause major economic, environmental and social damage to our natural landscapes, agricultural lands and waterways.

Murray River Council and its Biosecurity Team are committed to the prevention and eradication of new weed incursions and the containment and asset protection of existing weed populations. Whilst we as a council endeavour to identify and prevent new weed incursions, we need your help. You as a landholder know your property better than anyone else and are out there every day looking after it.

This Weed ID Guide has been produced to help you identify a select group of weeds that we want to keep out of our council, or to continue to contain and reduce existing weed populations. Our goal is for you, as a community, to help us find new and existing weeds throughout the council's footprint.

We can all work together in reducing the impact of weeds in Murray River Council.

If you find, or suspect you have found any weeds, we encourage you to contact council's Biosecurity Team on 1300 087 004.

*"Murray River Council remains committed to the Prevention, Eradication and Containment of priority weeds throughout its LGA. Under the Biosecurity Act 2015, all landholders have a responsibility to Prevent, Eradicate and Contain Priority weeds on their land and Murray River Council sees this Weed ID Guide as a valuable aid to help assist landholders to achieve this goal."*

## Contacts

**Murray River Council - 1300 087 004**

[www.murrayriver.nsw.gov.au](http://www.murrayriver.nsw.gov.au)

[admin@murrayriver.nsw.gov.au](mailto:admin@murrayriver.nsw.gov.au)

**PO Box 906, Moama, NSW 2731**

## NSW DPI Reporting Suspected Prohibited Weeds

**NSW DPI Biosecurity Helpline 1800 680 244**

**Email - [weeds@dpi.nsw.gov.au](mailto:weeds@dpi.nsw.gov.au)**

**If you see any plant that looks suspicious, please contact your local council.**



African boxthorn removal, including root ball

## Acknowledgements

This guide has been developed based on the 2021 'Priority Weeds of the Murray and Riverina Regions Identification Guide'. Species contained in the guide are identified as priority weeds within the Murray Regional Strategic Weed Management Plans.

Graphic design and illustrations have been provided by Petaurus Education Group.  
All images within the book were sourced from <https://weeds.dpi.nsw.gov.au> unless otherwise stated.

Murray and Riverina Local Land Services Regional Weed Coordinators have contributed to the collection of information and review.

Thank you to the Biosecurity Teams at Murray River Council, Berrigan Shire Council, Edward River Council and Murrumbidgee Council for their input and photos.



## Disclaimer

The information contained in this publication is based on knowledge and information available at the time of writing. While the information contained in the document has been formulated with all due care, because of advances in knowledge, the users of the publication are responsible for assessing the relevance and accuracy of the content. Accuracy of information can be checked with the Local Council Biosecurity Officer or an independent advisor.

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# The NSW Biosecurity Act 2015

The *NSW Biosecurity Act 2015* (*The Act 2015*) has replaced the Noxious Weeds Act 1993 (repealed). NSW Department of Primary Industries (DPI) administer the *Biosecurity Act 2015* and determine the weed species covered by regulatory tools such as Prohibited Matter, Control Orders and Biosecurity Zones. All other species are subject to a "General Biosecurity Duty" and different regions may have specified legally enforceable control measures for different weeds species.

Local Control Authorities (Local Councils and County Councils) in NSW are responsible for enforcing Biosecurity (weed) Legislation and responding to circumstances where weeds are not being managed and/or are causing a biosecurity risk or impact. This includes such activities as conducting weed inspections on both public and private property; providing education, training and resources for both the public and staff in relation to weed management; administering and ensuring compliance with any of the above regulatory tools; and responding to breaches of *The Act 2015*. The aim is to reduce the impacts of weeds on the environment, economy and for the community's social well-being.

## Regulatory Tools

**Biosecurity Matter:** Biosecurity Matter refers to any living thing (other than a human), disease or contaminant of any type, and anything declared by regulation, to be a biosecurity matter. This means that weeds and invasive plants are subject to a General Biosecurity Duty. It is everyone's responsibility to be compliant to that Duty.

**Prohibited Matter:** There are specific weeds and invasive plants that are listed as "Prohibited Matter". A person who deals with any prohibited matter throughout the State is guilty of an offence. You can find a list of specifically prohibited weed matter (terrestrial and aquatic) in *The Act 2015* Schedule 2.

**Mandatory Measures Regulation:** May require persons to take specific actions with respect to weeds or carriers of weeds.

**Control Order:** Establishes one or more control zones and related measures to prevent, eliminate, minimise or manage a biosecurity risk or impact. Control orders are for managing weeds under approved eradication programs and last for five years (or can be renewed for longer-term eradication programs). Requires all parts of the plant to be destroyed and not be moved.

**Biosecurity Zone:** Aims at containment of a species and provides for ongoing strategic management in a defined area of the state. A Biosecurity Zone specifies the measures that must be taken in the defined area to manage the weed.



## Regulatory Tools

**General Biosecurity Duty:** Requires any person dealing with biosecurity matter or a carrier of biosecurity matter and who knows or ought to know of the biosecurity risks associated with that activity to take measures to prevent, minimise or eliminate the risk as far as is reasonably practicable. Specific measures to reduce the risk will be detailed in the regional weed plans for priority weeds on the following pages. Note, however, that the General Biosecurity Duty exists for all weeds that present a biosecurity risk and failure to comply with the Biosecurity Duty is an offence under The Act.

**Regional Recommended Measure:** The plant should not be bought, sold, grown, carried or released into the environment.

# NSW WeedWise

WeedWise is provided online or as a free smartphone app through the app stores. Like the web version, the smartphone app provides key information to help users reduce the impact of over 300 weeds in New South Wales.

The app provides information on impacts, toxicity, location, how it spreads, plant description and control methods.



WeedWise can be found at <https://weeds.dpi.nsw.gov.au/> or through your Apple App store or Google Play store.



## Help Stop the Spread!

Take care when purchasing plants (including online) to avoid species that are a listed priority weed for NSW and your region, including Weeds of National Significance (WoNs). Every person has a responsibility to prevent, minimise or eliminate the biosecurity risk from weeds (as far as is reasonably practicable).

Information on Weeds of National Significance can be found at:  
<https://www.environment.gov.au/biodiversity/invasive/weeds/weeds/lists/wons.html>

Information on plants that are not to be sold in all or parts of NSW can be found at:  
<https://weeds.dpi.nsw.gov.au/WeedListPublics/CategoryResults?showImages=True&categoryId=12&pageTitle=Plants%20not%20to%20be%20sold%20in%20all%20or%20parts%20of%20NSW>

## Weed Hygiene

The smallest of seeds can be carried far and wide by people, animals, vehicles, machinery and equipment, including such things as boats, kayaks and bikes, potentially spreading weeds to farms, roadsides, waterways, properties and bushland across the Murray and Riverina. Although preventing the spread of weeds can be difficult, it is the cheapest and most effective method of weed control. If everyone plays their part by practicing good weed hygiene it can help prevent the spread of weeds.



Weeds officer inspecting the under carriage of a vehicle for weed seeds.

### Did you know?

Councils help STOP the spread of WEEDS by marking serious weed locations with Red Guide Posts.

*By avoiding these areas we can all help stop the spread of WEEDS.*

START

[www.riverinaweeds.org.au](http://www.riverinaweeds.org.au)

END

If you see a red guide post along a roadside, this is indicating the presence of a priority weed species. Avoid pulling over or moving machinery or stock through these areas.

# Weed Hygiene

Simple things you can do to prevent weed spread include:

## STOP Avoid moving through infestations

- Be aware of weed infestations, stay on designated tracks and avoid pulling over in Red Guide Posted areas on roadsides as these mark locations where priority weeds are located.
- Avoid walking, driving, boating or riding in weed infested areas especially in wet & dewy conditions.
- Avoid operating machinery in infestations during peak weed seed production.
- Avoid moving stock from weed infested areas into clean areas during peak weed seed production.



## INSPECT Inspect and clean clothing and equipment

- Inspect and clean vehicles, machinery and equipment suspected of carrying weed seed before moving on from one site to another.
- On waterways inspect and clean boats, boat trailers, and equipment before entering and when leaving the waterway.
- Inspect and clean clothing and footwear before stepping into vehicles or entering bushland reserves.
- Inspect and clean vehicles before entering a property and when you leave.



## PROTECT Report suspicious plants

- Work in clean areas (or areas with the least amount of infestation) first and work towards infested or high-density areas.
- Keep high risk sites and pathways free of weeds.
- Maintain buffer zones and encourage '*come clean, go clean*'.



# Alligator weed (*Alternanthera philoxeroides*)

Eradication WoNS

Seen it? Call your local council now!

## What does it look like?

Alligator weed is a summer growing perennial herb, flowering from November to March. Alligator weed forms dense mats of interwoven creeping and layering stems.

Leaves	Flowers	Stems/Roots
Green. Shiny and spear-shaped. Leaves attach directly to the stem. Occur in opposite pairs along the stems. 2-7 cm long and 1-2 cm wide.	White. Small and papery. Occur in clusters on the tips of stems. 8-10 mm in diameter.	<b>Stems:</b> Red-green colour when young, becoming dark green with maturity. Hollow to aid in floating. Grow up to 10 m long.  <b>Roots:</b> Extensive underground root system. Relatively fine and short in water, become thicker in soil. Able to penetrate to depths of over 50 cm.

## How does this weed affect you?

- Forms dense mats of stems that hinder light penetration, and choke waterways.
- Outcompetes native vegetation and is a threat to biodiversity.
- Eliminates small crops and turf farms.
- Blocks and damages pumps and other water infrastructure, restricting water access.



Alligator weed has hollow stems

## How does it spread?

- Does not reproduce by seed, instead it is capable of growing from any plant fragments (vegetatively).
- Disperses via excavation, boating and sand dredging on waterbodies.
- Can also disperse through movement of soil or turf and spread on machinery and the hooves of animals.



Flowers clustered at the end of a stem

## Control

Physical removal (must be very careful to avoid fragmentation), biological and chemical control. **If you see this plant, report it to your local council for advice on the best control strategies for your situation.**



Alligator weed will grow in water and on land



Flowers and leaves of alligator weed



Alligator weed growing in dry conditions

## Frogbit (*Limnobium spp.*)

Common Name(s): Amazon frogbit, smooth frogbit

### What does it look like?

Frogbit is a perennial floating aquatic weed with small, round glossy leaves. Frogbit is fast-growing, forming dense mats over water bodies.

Leaves	Flowers	Fruit/Seeds	Stems/Roots
Bright green. Glossy on top. Up to 4 cm across. <b>Young:</b> Round and spongy on the underside. Float laying flat. <b>Mature:</b> Oval-shaped and lacks spongy underside. Can extend up to 50 cm above the water.	White-greenish or yellowish. Up to 13 mm in diameter.	<b>Fruit:</b> Green. Berry-like capsules that contain up to 100 seeds. <b>Long Stems:</b> Unbranched with no leaves. Up to 50 cm long. <b>Roots:</b> Hairy and floating plant. Grows quickly downwards from the base of the leaves. <b>Seeds:</b> Slightly flattened and hairy. 1 mm long.	<b>Short Stems:</b> Mostly branched and has leaves. <b>Roots:</b> Major roots are 2 mm thick and up to 20 cm long. Minor roots branch off major roots.

### How does this weed affect you?

- Forms large dense mats across water surfaces reducing light, food and shelter for aquatic fauna.
- Prevents native water plants from growing.
- Can block waterways and irrigation channels.



### How does it spread?

- Illegal dumping of aquarium or pond water.
- Tiny seedlings or plant fragments can be dispersed by water flow or wind and can attach to birds, watercrafts or equipment.

### Similar looking plants

Spongeplant (*Limnobium spongia*) but distinguished from frogbit by having wider leaves and a circle of red spongy cells on the underside. See <https://weeds.dpi.nsw.gov.au/Weeds/Spongeplant> for distinguishing features.

### Control

Chemical control - Please do not attempt to treat or dispose of this weed yourself. If you see this plant, report it. Call the NSW DPI Biosecurity Helpline 1800 680 244



Infestation of frogbit

### Prevention PM

Seen it? Call your local council now!

## Sagittaria (*Sagittaria platyphylla*)

Common Name(s): Arrowhead, slender arrowhead

### What does it look like?

Sagittaria is a perennial aquatic weed that grows up to 1.2 m tall. Sagittaria spreads quickly and forms dense infestations in wetlands and natural watercourses.

Leaves	Flowers	Fruit/Seeds	Stems
<b>Surfaced leaves:</b> Green. Oval-shaped with a pointed tip. 25 cm long and 10 cm wide. <b>Submerged leaves:</b> Long, narrow and strap-like. 50 cm long.	Appear in spirals or coils. Appear below leaves during spring-autumn. <b>Male flowers:</b> White petals with a yellow centre. <b>Female flowers:</b> Look like flattened green berries. No petals.	<b>Fruit:</b> Consist of clusters of tiny 1-seeded fruitlets. The cluster is 5-15 mm in diameter. <b>Seeds:</b> Oblong-shaped and flat. Sometimes grow with 1-3 narrow wings.	Green. Triangular in cross-section. Up to 80 cm long.

### How does this weed affect you?

- Forms dense clusters that restrict water flow and alter the flow regime of catchments and waterways.
- Threatens aquatic biodiversity and stream health.
- Impacts recreational water activities.



Flowers and stems of sagittaria

### How does it spread?

- Sagittaria reproduces by seed and vegetatively.
- Its creeping underground stems can pop up in different locations.
- Seed and plant fragments can also spread through flowing water.

### Similar looking plants

It is important to accurately identify sagittaria, it can be confused with other aquatic vegetation. See <https://weeds.dpi.nsw.gov.au/Weeds/Sagittaria> for distinguishing features.

### Control

Physical removal (must be very careful to avoid fragmentation).



Emergent sagittaria plants

Narrow-leaved emergent sagittaria

Sagittaria plants

### Containment WoNS

# Water Hyacinth (*Eichhornia crassipes*)

Common Name(s): Lilac devil, pickerelweed, water orchid

## Eradication WoNs

Seen it? Call your local council now!

### What does it look like?

Water hyacinth is a floating aquatic weed. In cool areas, the leaves die off during frosts but the crowns survive and regrow the following spring. Water hyacinth flowers from mid-late summer.

Leaves	Flowers	Fruit/Seeds	Stems/Roots
Bright green, sometimes rusty yellow on edges. Glossy, smooth and hairless. Obvious veins. <b>Open water:</b> Round, up to 30 cm in diameter. Curved upwards with wavy edges. On hollow, vase-shaped floating stems that are up to 50 cm long. <b>Dense crowds:</b> More narrow and upright. Up to 60 cm long (including the stem).	Light bluish-purple to dark blue. Upper petal is darker purple with yellow mark in centre. Funnel-shaped. On upright stems with between 3 and 35 (usually 8) flowers on each stem. 6 petals per flower. 4-7 cm long and 4-6 cm wide. Flowers only open for 2 days before withering.	<b>Fruit:</b> Capsules are about 10-15 mm long Mature under water. Contain up to 300 seeds per fruit. <b>Seeds:</b> Egg-shaped with ridges from end to end. 1-1.5 mm long.	<b>Stems:</b> <b>Vertical:</b> Erect and up to 60 cm long. Have flowers. <b>Horizontal:</b> No flowers. Up to 10 cm long. Produce daughter plants. <b>Roots:</b> Purple-black. Anchored to ground in shallow water. Fibrous and feather-like. Up to 1 m long.

### How does this weed affect you?

- Forms dense mats that smother the surface of waterways and doubles its mass every 5 days.
- Reduces water level and quality.
- Threatens the survival of aquatic flora and fauna.
- Severely impacts infrastructure and agriculture when in masses.



Flowers are bluish-purple with a yellow spot on the upper petal



Infestations can cover entire water bodies



Water hyacinth plant flowering - Philip Blackmore

### How does it spread?

- Seeds are released from fruit under water.
- Seeds are viable for up to 20 years.
- Each plant produces 2-4 daughter plants.
- Daughter plants, seeds and plant fragments can disperse by water flow, fauna, machinery and footwear.
- Intentional dumping into water ways and moving contaminated equipment and vehicles.

### Similar looking plants

Anchored water hyacinth (*Eichhornia azurea*) is closely related to the water hyacinth. Anchored water hyacinth does not have thick, vase-shaped leaf stems. The anchored water hyacinth's flower petals have serrated edges. See <https://weeds.dpi.nsw.gov.au/Weeds/WaterHyacinth> for distinguishing features.

### Control

Physical removal, biological and chemical control - **Please do not attempt to treat or dispose of this weed yourself.** If you see this plant, report it. Call the NSW DPI Biosecurity Helpline 1800 680 244

# Yellow water lily (*Nymphaea mexicana*)

Common Name(s): Mexican water lily, banana lily

## Eradication

### What does it look like?

Yellow water lily is a perennial water weed with large floating leaves and bright yellow flowers that grow above the water.

Leaves	Flowers	Roots
Upper surface is green, gaining brown blotches with maturity. Underside is mainly purple. Large, flat and round to heart-shaped. Waxy. Float on the surface of the water.	Light yellow. Star-shaped. Petals are deeply veined. Held above the water on a stem. Open during the day and close at night. Flowers produce seeds that are 2-3 mm long.	<b>Roots:</b> Has vertical and horizontal under water stems. Are small, yellow and banana-shaped. Fleshy. Grow in bunches.

### How does this weed affect you?

- Forms dense mats that choke waterways.
- Outcompetes and shades out other native plants.
- Prevents recreational activities such as swimming, boating and fishing.

### How does it spread?

- Yellow water lily reproduces by seed and vegetatively.
- Seeds, plant and root fragments disperse via water, boats, fishing gear, machinery and intentional planting.

### Control

Physical removal and chemical control - **If you see this plant, report it to your local council for advice on the best control strategies for your situation.**



Flowering yellow water lily



Yellow water lily infestation



Yellow water lily infestation - Mel Wilkerson



Yellow water lily leaves - Mel Wilkerson



Yellow water lily flower close-up - Mel Wilkerson



Yellow water lily roots - Mel Wilkerson

# Chilean needle grass (*Nassella neesiana*)

**Containment WoNS**

Seen it? Call your local council now!

## What does it look like?

Chilean needle grass grows in tussocks about 1 m high and produces spiky seeds. Chilean needle grass mainly flowers from November-February.

Leaves	Seeds/Seedheads
Flat. Coarse or ribbed on the surface. Has a small tuft of hairs at the base of the leaf blade and leaf sheath. 1.5 mm wide and up to 1 m tall.	Pale brown when mature. Very sharp. Backwards pointing hairs. 8-10 mm long. Held inside two purple colour structures that are 16-25 mm long. <b>At the end of the seed is a long bristle (awn), it is:</b> Twisted when dry. Circle of 1 mm long sharp teeth where it joins the seed. Difficult to detach. 6-9 cm long.

## How does this weed affect you?

- Injures animals eyes and hides.
- Takes over pastures.
- Can halve productivity during summer.
- Downgrades wool and hinders meat quality.
- Reduces biodiversity.

## How does it spread?

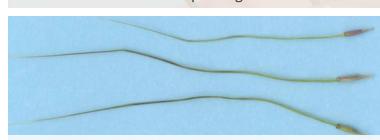
- Chilean needle grass can disperse through agricultural equipment and vehicles.
- Disperses by attaching to wool or fur.
- Disperses through contaminated hay and straw.
- Can also disperse via floodwaters.

## Similar looking plants

It is important to accurately identify chilean needle grass prior to undertaking control measures, as it can be confused with both native pasture grasses (*Austrostipa spp.*) and pasture weeds. Chilean needle grass is the only grass that has the circle of little teeth where the bristle joins the seed. Similar pasture weeds include *Nassella tenuissima*, and *Nassella trichotoma*. See <https://weeds.dpi.nsw.gov.au/Weeds/ChileanNeedleGrass> for distinguishing features.

## Control

Pasture management, physical removal and chemical control. The persistant seed bank of chilean needle grass makes it difficult to control. **Please do not attempt to treat or dispose of this weed yourself. If you see this plant, report it. Call the NSW DPI Biosecurity Helpline 1800 680 244**



# Coolatai grass (*Hyparrhenia hirta*)

**Containment**

Seen it? Call your local council now!

## What does it look like?

Coolatai grass is a long-lived summer active perennial that forms dense grass tussocks and grows to 1.5 m tall. Coolatai grass mainly flowers from spring-autumn, but will flower all year if conditions are suitable.

Leaves	Seeds/Seedheads
Greyish-green leaves that turn orange-red in winter. Sharp. Base of leaves are usually hairless and bent upwards. Leaf blade is flat and 2-3 mm wide.	Brown seedheads. Occur in paired clusters. 5-8 seedheads per cluster. Arise from a 3-8 cm long flower stem. Paired clusters are up to 35 mm long.

## How does this weed affect you?

- Coolatai grass is a major threat to native biodiversity in stock routes, reserves and national parks.
- One of the few grasses capable of invading undisturbed native ecosystems.
- Dominates pastures.



## How does it spread?

- Seeds can attach to the fur and wool of animals, clothing, and on vehicles.
- Seeds can be dispersed through slashing for 'road safety'.
- Seeds can also be dispersed via wind.
- Some seeds remain viable passing through an animal's gut and spread through their droppings.

## Similar looking plants

It is important to accurately identify coolatai grass prior to undertaking control measures, as it can be confused with both native pasture grasses and pasture weeds- such as *Cymbopogon refractus*, *Themeda australis* and *Bothriochloa macra*. See <https://weeds.dpi.nsw.gov.au/Weeds/CoolataiGrass> for distinguishing features.

## Control

Quarantine, roadside management, pasture management and chemical control. **If you see this plant, report it to your local council for advice on the best control strategies for your situation.**



## What does it look like?

Serrated tussock grows in upright tussocks up to 45 cm tall and 25 cm wide. The colour of the plant changes over seasons.

Leaves	Flowers/Seedheads	Seeds	Roots
Whitish at the base, light green in the middle and brown on the tips. Look like shallots. Tightly rolled, with serrated edges. Narrow and stiff. Erect.	On a spike that leans over. Clustered in a group. Branched with single flowers on each branch. Within reddish-brown to purple, specialised leaves.	Golden brown. Small and hard. 1.5 mm long. Ring of white hairs at the base of the seed. Bristle is 25 mm long and at the tip of the seed.	Deep. Fibrous.

## How does this weed affect you?

- Serrated tussock is a fire hazard.
- Low palatability for livestock, animals grazing on it become malnourished.
- Takes over pastures and native vegetation.
- Reduces pasture quality and agricultural values.

## How does it spread?

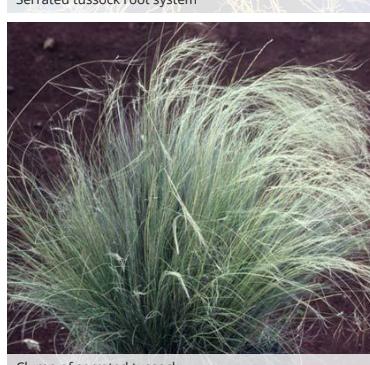
- A single plant can produce 140,000 seeds each season.
- These seeds can be dispersed long distances by wind (up to 10km or more) and water (up to 60km).
- The seeds also spread through contaminated feed and hay.
- Animals disperse seeds via hooves, fur and fleece.
- Seeds can remain viable passing through an animal's gut and spread via droppings.
- Contaminated agricultural equipment and vehicles can also disperse seeds.

## Similar looking plants

Serrated tussock looks very similar to native Australian grasses and introduced weeds *Nassella neesiana* and *Nassella tenuissima*. See <https://weeds.dpi.nsw.gov.au/Weeds/SerratedTussock> for distinguishing features.

## Control

Pasture management, physical removal, biological and chemical control. If you see this plant, report it to your local council for advice on the best integrated weed control strategies for your situation.



## What does it look like?

Johnson grass is an erect perennial grass up to 2 m tall. The leaves have a pronounced mid-vein and rough margins. The seedhead is 10-35 cm long, with loose spreading branches.

Leaves	Seeds/Seedheads	Stems/Roots
Green with a distinctive white midvein. Smooth surface with rough edges. Alternately arranged along the stems. Up to 50 cm long.	Vary from green to deep red.	<b>Stems:</b> Creeping underground stems. <b>Roots:</b> Fibrous root system.

## How does this weed affect you?

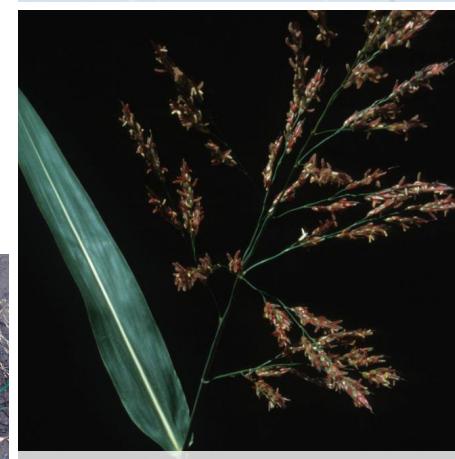
- Johnson grass is toxic to livestock.
- Overtakes crops, pastures and roadsides.
- Harbours crop pests and diseases.
- Contaminates seed crops.

## How does it spread?

- Johnson grass reproduces by seed and vegetatively.
- Seed and plant fragments are dispersed by contaminated hay and grain.
- Seeds can be dispersed through wind, water, animals and birds.
- Creeping underground stems can produce new daughter plants nearby.

## Control

If you see this plant, report it to your local council for advice on the best integrated weed control strategies for your situation.



# Spiny burrgrass (*Cenchrus longispinus*) (*Cenchrus spinifex*)

Common Name(s): Gentle annie, innocent weed

## Species of Concern

### What does it look like?

Spiny burrgrass is a summer-growing grass that forms large clumps and generally grows to 30 cm but can reach 60 cm or more.

Leaves	Burrs	Seeds	Stems
Bright green. Narrow leaf blades. Smooth, sometimes serrated. Can be twisted.	Burrs are yellow-orange. Covered in fine hairs. Sharply pointed and rigid spines. <b>C. longispinus:</b> Burr spines are often tinted purple. Burr spines are between 5.8-7.6 mm long. <b>C. spinifex:</b> Usually no purple tint. Burr spines are up to 5 mm long.	Seeds can be found inside each burr.	Grow from the base of the plant and can be erect or spreading.

### How does this weed affect you?

- Injures livestock, causing swelling and ulcers in the mouth.
- Injures humans and dogs.
- Penetrates the wool and hide of stock, reducing the value to both.
- Creates shearing difficulties.
- Creates inconvenience and discomfort to agricultural workers.



### How does it spread?

- The barbed spines on the seed burr can disperse by attaching to animal fur, wool, clothing, vehicles and equipment.

### Control

If you see this plant, report it to your local council for advice on the best integrated weed control strategies for your situation.



# Bathurst burr (*Xanthium spinosum*)

Common Name(s): Burr weed, cockleburr

## Species of Concern

### What does it look like?

Bathurst burr is a compact annual, summer growing herb. Stems produce many groups of 3-pronged, stiff, yellowish spines at the base of each leaf or branch.

Leaves	Flowers	Burrs/Seeds	Stems
Dark green. Prominent white veins. Lighter underneath with a covering of fine hairs. Leaves are divided into 3 irregular lobes, with the middle lobe being the longest.	<b>Male flowers:</b> Yellow to creamy white. Consist of numerous tiny flowers. Arranged in dense, round clusters. Occur at the very tip of the stem.  <b>Female flowers:</b> Green. Can be solitary or in small clusters. Occur at the fork of the leaf. Usually found below male flowerheads.	<b>Burrs:</b> Green when young, turning a yellow-straw colour, eventually browning with maturity. Oval-shaped burr containing 2 seeds. Covered in numerous hooked spines. 1 to 1.5 cm long. Burrs are formed late summer-autumn.  <b>Seeds:</b> Brown or black. Flat. 1 of each pair of seeds is larger than the other.	Yellowish-green when young, darkening with maturity. Erect. Along the stem are groups of 3-pronged, yellow spines.

### How does this weed affect you?

- Bathurst burr is toxic to most livestock.
- One of the most common and economically threatening weeds in Australian agriculture.
- Burrs contaminate wool adding a substantial processing cost to remove.
- Reduces wool value due to 'vegetable fault'.
- Significant weed that reduces productivity of summer and horticultural crops.



Comparison of xanthium burrs, from left to right: bathurst burr, noogoora burr, Californian burr, Italian cocklebur, and South American burr



Bathurst burr plant close-up



Bathurst burr leaves



Whole bathurst burr plant

# Bridal creeper (*Asparagus asparagoides*)

Common Name(s): Common bridal creeper

## What does it look like?

Bridal creeper is a climbing perennial plant that grows during autumn and winter. It dies back over summer or when conditions are very dry. If there is enough moisture over summer the leaves will not fall off.

Leaves	Flowers	Fruit/Seeds	Stems
Green. Veins are parallel along the leaf. Oval-shaped with tapered tips. Shiny and soft. Alternate along the stems. 4-30 mm wide and 10-70 mm long.	White. Tubular-shaped. 6 petals per flower. 5-8 mm in diameter and 1 cm long. Flowers in early spring.	<b>Fruit:</b> Green berries when young, turn pink, deepening to a red-burgundy with maturity. Round. Sometimes sticky when mature. 5-10 mm in size. Each berry contains several black seeds. Berries mature in late spring-early summer. <b>Seeds:</b> Black and shiny. Round or oval-shaped. 3-4 mm in diameter.	Above ground stems emerge from underground stem mat once a year in autumn. <b>Above ground:</b> Green. Creeping, long, twisting stems. 3 m in length. Branches extensively. <b>Underground:</b> Cream-brown. Up to 10 cm underground. Form a dense mat.

## How does this weed affect you?

- Its climbing stems and foliage smother native vegetation.
- The thick underground mat prevents establishment of native seeds and root growth of other vegetation.
- Rare native plants are threatened with extinction by this weed.
- Causes losses to primary industries, such as smothering citrus and avocado trees.

## How does it spread?

- Bridal creeper reproduces by seeds and vegetatively.
- Birds, rabbits and foxes eat the fruit and disperse the seeds via their droppings.
- Movement of soil containing roots can disperse plants further.

## Similar looking plants

*A. asparagoides*, *A. declinatus*, *A. africanus*, *A. plumosus*, *A. aethiopicus*, and *A. scandens*, are all similar looking species. The modified leaf-stems and fruit can help distinguish between these weeds. See each profile on <https://weeds.dpi.nsw.gov.au/Weeds/BridalCreeper> for distinguishing features.

## Control

Pasture and horticultural management, biological and chemical control.



Bridal creeper wrapped around branch



Flowers and flowerbuds of bridal creeper



Bridal creeper leaves with rust



Bridal creeper smothering trees - Ricky Desailly

## Containment WoNs

# Caltrop (*Tribulus terrestris*)

Common Name(s): Bindii, cat's head, goat's head burr

## Species of Concern

## What does it look like?

Caltrop is a flat, sprawling, summer-growing, annual herb. Its trailing stems lie flat on the ground, radiating from a central taproot. Caltrop flowers from spring-autumn.

Leaves	Flowers	Burrs/Seeds	Stems
Upper surface is dark green, with white hairs on the underside that give leaves a silvery appearance. Oblong-shaped. Occur in opposite pairs of 4-8 leaflets along the stem. Leaflets are 5-12 mm long and 3-5 mm wide.	Bright yellow. 5 petals per flower. Petals are 3-3.5 mm long. Flowers are 8-15 mm Flowers only last one day.	Burrs are brown. Burrs are covered in sharp and rigid spines. When ripe, burrs will split into segments, with 4 spines on each segment. Each burr contains up to 4 seeds. Spines are 4-5.5 mm long.	Green-reddish brown. Grow up to 2 m long. Stems are low-growing.

## How does this weed affect you?

- Caltrop is toxic to livestock.
- Burrs can injure livestock and people.
- Forms dense mats that can prevent the germination and growth of other species.



Caltrop burrs compared to a 20c piece - Tim Moodie

## How does it spread?

- Caltrop reproduces by seed, producing up to 20,000 seeds per plant.
- The spiky burrs are dispersed by attaching to vehicles, equipment, the fleece/fur/feet of fauna and the shoes or clothing of humans.
- Buried seeds can remain viable for several years.



Caltrop stem, leaves and burrs - Tim Moodie

## Similar looking plants

Yellow vine (*Tribulus micrococca*), is a native species of tribulus. Yellow vine has larger yellow flowers, and round burrs with no spines. Yellow vine is still considered a weed, but currently has no weed management or control measures in the Murray region.

## Control

Physical removal and chemical control.



Caltrop growing along the ground - Tim Moodie



Caltrop stems and leaves - Tim Moodie



Dense mat of caltrop in-flower - David Saunders

# Castor oil plant (*Ricinus communis*)

## Eradication

**Seen it? Call your local council now!**

### What does it look like?

Castor oil plant is a fast-growing shrub usually 3 m tall (occasionally up to 12 m). Castor oil plant is a perennial plant, unless it is growing in areas with regular severe frosts where it will die in winter.

Leaves	Flowers	Fruit/Seeds	Stems/Roots
Dark red-brown, turning green-blue when older. 10-40 cm in diameter. Star-shaped with toothed edges. Divided into 7-9 lobes. Glossy and hairless with prominent midveins. Strong smelling. Attached underneath to stalks 10-30 cm long.	Red (female) or creamy-yellow (male) both without petals. Clustered in spikes at the end of stems. Present year round, mainly in summer.	<b>Fruit:</b> Reddish-green with 3 segments, each containing one seed. Egg-shaped or rounded. 2.5 cm long and covered in soft spines. <b>Seeds:</b> Mottled brown or grey with a yellowish knob at one end. Oval-shaped. Smooth and shiny. 10-15 mm long and 6-10 mm wide.	<b>Stems:</b> Dull, pale green sometimes tinged red. Grey when older. Hollow and hairless. <b>Roots:</b> Castor oil plant has a strong tap root and thick fibrous side roots.

### How does this weed affect you?

- Poisonous to people and livestock, causing serious illness or death.
- Invades pasture, reducing productivity.
- Can outcompete native plants.
- Reduces habitat and food for native animals.

### How does it spread?

- Castor oil plant reproduces by seed.
- Seeds can remain viable for over four years.
- Seeds disperse through the water, in contaminated soil on shoes or on vehicles and machinery.
- Birds and other animals eat the fruit and disperse the seeds via their droppings.
- Seeds can also be dispersed through people dumping garden waste.

### Similar looking plants

Castor oil plants look similar to two other weed species:

Bellyache bush (*Jatropha gossypiifolia*).

Physic nut (*Jatropha curcas*).

Both of these plants have leaves with 3-5 lobes and flowers with petals.

### Control

Wear protective clothing including gloves and eye protection before starting any control work.

Physical removal and chemical control.



Castor oil plant flowerhead - R.G. & F.J. Richardson  
Castor oil plant seeds - R.G. & F.J. Richardson



Red and green leaves and fruit - Maria Edmonds



Stems of castor oil plant - Kylie van der Kolk  
Leaves have 7-9 lobes - R.G. & F.J. Richardson

# Common thornapple (*Datura stramonium*)

## Species of Concern

Common Name(s): Jimsonweed, thornapple, datura, Devil's trumpet

### What does it look like?

Common thornapple is a leafy annual plant up to 1.5 m tall but usually 30-60 cm tall. Common thornapple grows quickly and usually flowers from summer-autumn then dies in autumn.

Leaves	Flowers	Fruit/Seeds	Stems/Roots
Dark green on top, light green underneath. Oval or broadly Diamond-shaped with jagged edges. 8-35 cm long and 5-20 cm wide. Soft and hairless. Alternate along stems. The leaves smell foul when crushed.	White to light purplish. Trumpet-shaped with 5 lobes (fused petals) each tapering to a thin point. 5-10 cm long. Perfumed. Closed at night.	<b>Fruit:</b> An egg-shaped capsule. 5.0-6.5 cm long and 2-5 cm wide. Covered in spines of different lengths, up to 2 cm long. Held upright. <b>Seeds:</b> Dark brown to black. 3-4 mm long and 2-3 mm wide. Kidney-shaped and flat.	<b>Stems:</b> Green to purple. Upright and 30 cm-1.5 m long Round and smooth or slightly hairy. <b>Roots:</b> The roots are branched and either shallow, or a taproot up to 1 m deep, with stringy side roots.

### How does this weed affect you?

- Poisonous to people and livestock, causing serious illness or death.
- Reduces crop yields (e.g., sorghum, cotton, soybeans).
- Reduces pasture productivity and makes harvesting produce difficult.
- Hosts diseases of horticultural crops such as tomatoes and potatoes
- Competes with native plants.



White trumpet-shaped flowers of Common thornapple - Harry Rose



Thorny fruit held upright on the plant - Harry Rose



Common thornapple is an erect herb with large leaves - Harry Rose

# Creeping knapweed (*Rhaponticum repens*)

**Common Name(s):** Hardhead thistle, Russian thistle, Russian knapweed

## What does it look like?

Creeping knapweed is an upright, branched perennial herb that grows to about 1 m tall. The leaves die-off in autumn and plants are dormant through winter.

Leaves	Flowers	Seeds	Stems/Roots
Silvery-green when young, turning greyish-green with maturity. No spines or thorns.	Pink to purple. A solitary flowerhead occurs on the tip of each stem.	Creamy white. Sometimes speckled. Oval-shaped. Has a tuft of stiff, barbed hairs up to 8 mm long. <b>The scales are:</b> Green. Have papery-thin, pale yellow, hairy tips.	<b>Stems:</b> Young stems are covered in soft, grey hairs. Older stems are less hairy and slightly grooved. Branched. <b>Roots:</b> <b>Horizontal Roots:</b> Extend several meters across and contain many buds that eventually develop into new plants. <b>Vertical Roots:</b> Reach to depths of 5-7 m.
<b>Leaves at base of plant:</b> Irregularly, lance-shaped. Toothed edges. Occur in clusters. Up to 15 cm long and 2.5 cm wide.			
<b>Stem-leaves:</b> Sparsely covered in fine hairs. Edges are either smooth, or slightly toothed. Alternately arranged along the stems. 1-5 cm long and 0.2-1 cm wide. Upper leaves are smaller.			

## How does this weed affect you?

- Creeping knapweed competes with cereal crops, reducing yields by up to 80%.
- Produces chemicals that exclude other vegetation.
- Can taint flour milled from contaminated grain, due to bitter-tasting seeds.

## How does it spread?

- Creeping knapweed reproduces by seed and vegetatively.
- Buds present on horizontal roots can develop into new plants.
- Plant fragments and seeds disperse through contaminated hay, grain, vehicles and equipment.
- Seeds can disperse via water.
- Some seeds can also remain viable passing through an animal's gut and spread via droppings.

## Similar looking plants

It is important to accurately identify creeping knapweed, as it can be confused with other weeds. See <https://weeds.dpi.nsw.gov.au/Weeds/CreepingKnapweed> for distinguishing features.

## Control

Chemical control.



Creeping knapweed flowerhead close-up



Roadside infestation of creeping knapweed



Base of creeping knapweed

## Eradication

Seen it? Call your local council now!

# Devil's claw Purple flowered (*Proboscidea louisianica*)

**Yellow flowered (*Ibicella lutea*)**

## Species of Concern

Seen it? Call your local council now!

## What does it look like?

Devil's claw is a low-growing annual plant with woody horn-like seed capsules. Devil's claw can grow to 50 cm high and spread to 1.5 metres wide. Devil's claw flowers from late-summer to autumn.

Leaves	Flowers	Seed Capsules	Stems
Green.	Trumpet-shaped. <b>Purple flowered:</b> Creamy-white to mauve or purple with dark purple and orange markings. <b>Yellow flowered:</b> Large, round or kidney-shaped leaves.	Woody capsules are 8–10 cm long and 1–2 cm wide. Have 2 woody horns that are 10–25 cm long.	Cream-greenish. Branched and covered with sticky hairs.

## How does this weed affect you?

- The woody seed capsules can attach to the hooves or head of livestock, causing injury.
- This may restrict feeding, leading to eventual death from starvation or cause lameness.
- Reduces wool quality.
- Outcompetes summer crops.



Yellow flowered Devil's claw



Purple flowered Devil's claw

## How does it spread?

- The woody capsules can disperse by attaching to the fur, fleece and hooves of animals.
- Capsules can also attach to clothing and equipment.

## Control

Chemical control.



Devil's claw pod and seeds



Devil's claw (purple flowered) seedpod and leaves



Devil's claw (purple flowered) close-up



Devil's claw (yellow flowered) whole plant



Devil's claw (purple flowered) leaves - David Saunders

## Ground cherries Perennial (*Physalis longifolia*)

Prairie (*Hederifolia*)

### What does it look like?

Perennial ground cherry is a herb that grows up to 50 cm high and has yellow flowers with dark blotches. Prairie ground cherry is a summer-growing perennial between 25-60 cm high with pale yellow flowers.

Leaves	Flowers	Fruit	Stems
Green. Wavy edges. <b>Perennial:</b> Tapered at both ends. Alternate along the stems. <b>Prairie:</b> Egg-shaped with a tapered tip. Hairy on the edges and veins. 4-6 cm long and 3-4 cm wide.	Bell-shaped. 5 fused petals. Occur singularly on the tip of the stems. <b>Perennial:</b> Yellow. Centre has a brown to purple spotted area on petals. <b>Prairie:</b> Pale yellow.	Fruit is a single round berry. Green when young, turning orange with maturity. Fruit is covered by a leaf-like husk. Produced all year round.	Green. Hairless to slightly hairy. Branched and ribbed.

### How does this weed affect you?

- Unpalatable to livestock.
- Perennial ground cherry and prairie ground cherry both compete with pasture and native plants.

### How does it spread?

- The fruit husk disperses via water and wind.
- Seeds can germinate when the fruit passes through an animal's gut and is then dispersed via droppings.
- Both perennial ground cherry and prairie ground cherry can reproduce via plant fragmentation, and can disperse through contaminated hay.

### Control

Chemical control.



Prairie ground cherry whole plant



Prairie ground cherry whole plant



Prairie ground cherry fruit



Perennial ground cherry flower



Prairie ground cherry flowers



Perennial ground cherry flowers, stems, and leaves

### Containment

## Horehound (*Marrubium vulgare*)

Common Name(s): White horehound

### Species of Concern

### What does it look like?

Horehound is a bushy perennial plant, growing 30 to 80cm high, with deeply crinkled leaves.

Leaves	Flowers	Fruit/Seeds	Stems
Green. Covered in white hairs that give leaves a silvery appearance. Rounded with toothed edges. Deeply crinkled. Occur in opposite pairs along the stem.	White. Small and tubular. Occur in dense clusters in the forks of the leaves.	<b>Seed capsules:</b> Have spines. <b>Seeds:</b> Brown-black. Egg-shaped.	Branched. Woody at the base. Square. Densely covered in white hairs.

### How does this weed affect you?

- Outcompetes agricultural and native flora.
- Seed capsules attach to wool, causing considerable matting of sheep fleece.

### How does it spread?

- Horehound reproduces entirely by seed.
- Seed capsules attach to animals, clothing and vehicles.
- Seeds can also disperse via water and contaminated agricultural produce.

### Control

Biological and chemical control.



Horehound bush



Horehound with small white flowers



Horehound leaves



Horehound seedling



Horehound bush

### What does it look like?

Khaki weed is a low growing ground cover with hairy stems. The roots are perennial but the above ground growth is annual. Khaki weed flowers from spring-autumn.

Leaves	Flowers	Fruit/Seeds	Stems
Green. Round-oval in shape with tapered tips. Covered in short, soft hairs that are sometimes present on leaf stems and blades. Juvenile plant forms rosettes. Oppositely arranged along the stems with maturity.	Greenish-yellow or green. Occur in small round clusters. Clusters occur at the fork in the leaves. Barbed hairs at the base of petals that harden and form spiny burrs.	Fruit are burrs. Yellowish-orange. Shiny. Spiny.	Reddish. Covered with short, soft hairs. Spread as a thick ground cover.

### How does this weed affect you?

- Its spiny burrs can cause injuries to humans, dogs and livestock.
- Contaminates crops and devalues wool.

### How does it spread?

- Khaki weed reproduces entirely by seed.
- Seeds disperse by burrs attaching to animals, clothing and vehicles.

### Control

Physical removal and chemical control.



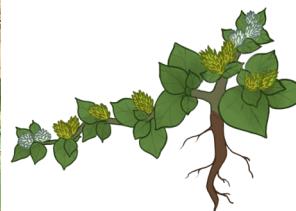
Khaki weed leaves and burrs



Khaki weed growing on asphalt - Tim Moodie



Khaki weed leaves burrs



Khaki weed plant



Whole khaki weed plant - Jen Cunningham

Common Name(s): Bitter weed, false ragweed, carrot grass

Seen it? Call your local council now!

### What does it look like?

Parthenium weed is an erect annual herb that usually grows around 1–1.5m tall but can grow to 2 m tall. Most leaves die after the plant flowers.

Leaves	Flowers	Seeds	Stems/Roots
Pale green. Covered with soft, fine hairs. Lower leaves are 5-20 cm long. Forms a rosette of deeply lobed leaves at the base of the plant. Stem-leaves are alternately arranged and become smaller and less lobed towards the top of the plant.	Creamy-white. Star-like with 5 'points'. Located at stem tips in clusters. 4–6 mm in diameter.	Dark brown-black. Flattened. Triangular with 2 thin, white, spoon-shaped appendages. 1–2 mm across.	<b>Stems:</b> Pale green and erect. Grooved or ribbed, making stems look striped. Become woody with maturity. Highly branched. <b>Roots:</b> Has one deep, thick main root. Fibrous roots branching from the main root.

### How does this weed affect you?

- Toxic when touched or inhaled by humans, or eaten by livestock; causing a range of health issues and death.
- Produces chemicals that inhibit the growth of nearby plants.
- Parthenium weed is unpalatable to stock and outcompetes pastoral plants, reducing the productivity of pastures.
- Reduces crop yields and competes with crop seedlings such as sunflowers and sorghum.



Parthenium weed flowers have five points



Parthenium plants can flower when they are only four weeks old



Parthenium weed at six leaf stage



Flowering parthenium weed

### Similar looking plants

Parthenium weed looks similar to many other plants, including annual ragweed (*Ambrosia artemisiifolia*), greater beggar's ticks (*Bidens subalternans*), Bishop's weed (*Ammi majus*), hemlock (*Conium maculatum*) and fleabane (*Conyza spp.*). See: <https://weeds.dpi.nsw.gov.au/Weeds/PartheniumWeed> for distinguishing features.

### Control

Never touch the plant with bare hands. Use a dust mask if working near the weed.

Biological and chemical control. Please do not attempt to treat or dispose of this weed yourself. If you see this plant, report it. Call the NSW DPI Biosecurity Helpline 1800 680 244

# Silverleaf nightshade (*Solanum elaeagnifolium*)

Common Name(s): Silverleaf nettle

## What does it look like?

Silverleaf nightshade is an upright and branched weed that can grow to 60 cm tall. Silverleaf nightshade grows in the summer, flowering from summer to autumn.

Leaves	Flowers	Fruit/Seeds	Stems/Roots
Silvery-green on top, paler on the underside. Sometimes have brown-yellow spines on the underside. Wavy edges. Alternate along the stem. 5–10 cm long.	Purple or white. 5 overlapping petals per flower. Star-shaped when open. Up to 25 mm in diameter.	Fruit are round and smooth berries. Green striped when young. Turning yellow-orange with maturity. Up to 1 cm in diameter. Plants can produce up to 60 berries. Each berry contains 10–210 seeds.	<b>Stems:</b> Silvery-green. Erect and branching. Covered in spines that are about 5 mm long. Spines are red-brown to yellow. <b>Roots:</b> Deep and branching Growing between 2–5 m long.

## How does this weed affect you?

- Ripe fruit can potentially poison livestock when ingested.
- Halves summer crop yields through direct competition.
- Reduces winter crop yields by depleting soil moisture.
- Invades pastures and reduces growth of flora.



Silverleaf nightshade flower close-up



Flowers and leaves - Tim Moodie



Stems are covered in sharp red spines

## How does it spread?

- The climate affects how Silverleaf nightshade reproduces, in tropical areas it disperses by seed and root fragments.
- In moderate areas it tends to disperse more from root fragments.
- Seeds can germinate when the fruit passes through an animal's gut and is then spread via droppings.
- Plant fragments can disperse via cultivation, contaminated soil or dumped garden waste.
- Seeds can also be dispersed via water and contaminated hay and grains.

## Similar looking plants

It is important to accurately identify silverleaf nightshade, as it can be confused with other species of nightshade. See <https://weeds.dpi.nsw.gov.au/Weeds/Details/126> for distinguishing features.

## Control

Pasture management and chemical control.



Comparison of young and mature berries



Silverleaf nightshade infestation - Tim Moodie

# St. John's wort (*Hypericum perforatum*)

Species of Concern

## What does it look like?

St. John's wort is a herb that grows up to 1 m tall. From a distance, infestations appear: yellow, from October-January, dark green, brown and yellow from February-April, and brownish-red in winter.

Leaves	Flowers	Fruit/Seeds	Stems/Roots
Green, but paler on the underside. Egg-shaped with a tapered tip. Dotted with black and translucent glands. Arranged in opposite pairs along the stems.	Bright yellow, with small black dots around the edges of petals. 5 petals per flower. Occur in small clusters at the tips of the stems.	<b>Fruit:</b> Are sticky capsules with 3 compartments. Green when young, turning red-brown with maturity. Capsules split open at the tip to shed seeds. 8 mm long. <b>Seeds:</b> Light brown to black. Bean-shaped and bumpy. Small and sticky. Up to 1 mm long.	<b>Stems:</b> Non-flowering: Green. Spread from the base as a ground cover. Can form tangled mats. <b>Flowering:</b> Erect and woody with a reddish tinge. Branch near the tip. 2 ridges that run opposite along the length of the stem. <b>Roots:</b> Vertical roots grow to about 1 m deep into the soil. Creeping, horizontal roots that produce new plants.

## How does this weed affect you?

- Poisonous to livestock, causing a range of illnesses, stillbirths or death.
- Competes with pasture plants.
- Reduces pasture yield and property value.
- Reduces the value of wool with 'vegetable fault'.



St. John's wort flowers close-up



Left to right: closed flower bud, open flower, and a small green seed capsule



St. John's wort roots

## How does it spread?

- St. John's Wort reproduces by seed and vegetatively.
- Seed disperses via contaminated agricultural produce, vehicles, equipment, water and mud attached to animals.
- Root fragments are dispersed by agricultural vehicles and equipment.

## Similar looking plants

St. John's wort is similar in appearance to tangled hypericum (*Hypericum triquetrifolium*). See <https://weeds.dpi.nsw.gov.au/Weeds/StJohnsWort> for distinguishing features.

## Control

Pasture management, physical removal, biological and chemical control.



St. John's wort flowers



St. John's wort flower close-up



St. John's wort infestation

# Sticky nightshade (*Ricinus communis*)

## Prevention

**Seen it? Call your local council now!**

### What does it look like?

Sticky nightshade is an erect plant up to 1.5 m high. Most of the plant is hairy and covered in very sharp prickles. It is an annual or short-lived perennial. Flowering usually occurs during spring and summer.

Leaves	Flowers	Fruit	Prickles/Roots
Green to yellowish on both sides. 5–14 cm long and 4–10 cm wide with deep lobes. Hairy and prickly on both sides. Sticky. On stalks up to 4 cm long.	White or pale bluish-purple. Star-shaped with 5 petals that curve backwards and bright yellow anthers in the centre. 35–50 mm in diameter. Occur in groups of 4–12. Present spring to summer.	<b>Fruit:</b> Round berries. Bright red when ripe. 15–20 mm diameter.	<b>Prickles:</b> Yellow to red. 1–10 mm long. Occur on stems, leaves (top and bottom), leaf stalks and at the base of flowers.  <b>Roots:</b> Are extensive. Produce horizontal underground stems known as rhizomes.

### How does this weed affect you?

- Has sharp prickles which can injure people, pets, livestock, and native animals.
- Competes with crops and pastures.
- Can make harvesting difficult (for example, in vineyards).
- Prevents native plants from growing.
- Is suspected to have caused cattle deaths in Greater Sydney region.



### How does it spread?

- Sticky nightshade reproduces by seed and vegetatively.
- Birds and other animals eat the fruit and disperse the seeds via droppings.
- Seeds are dispersed when the fruit floats on water.
- Seeds can also be dispersed through contaminated soil, fodder, or equipment.
- Plant fragments can disperse via contaminated soil, cultivation, or earth moving equipment.



### Similar looking plants

Red buffalo burr (*Solanum rostratum*), also a weed, may have yellow flowers. Narrawa burr (*Solanum cinereum*) is a native plant. Its petals are less defined, and its fruits will ripen to yellow.



### Control

Pasture management physical removal, and chemical control.

# Tropical soda apple (*Solanum viarum*)

## Prevention

**Seen it? Call your local council now!**

### What does it look like?

Tropical soda apple is an upright, branching, perennial shrub growing to 2 m in height.

Leaves	Flowers	Fruit/Seeds	Stems/Roots
Green with cream-coloured veins on both sides. Densely covered in short hairs. Large. Irregularly lobed with curved edges, tapering at the tips. Covered in pointy, cream-coloured spines. Alternate along the stem. 10–20 cm long and 6–15 cm in diameter.	White. 5 petals per flower. Petals curve down towards the stem. Occur in clusters of 3–6 on the tips of the stems. 1.5–2 cm in diameter.	<b>Fruit:</b> Pale green with dark green veins when young. Becoming yellow and golf ball-sized with maturity. Flesh of the fruit is pale green and scented. Between 2–3 cm in diameter.  <b>Seeds:</b> Pale brown. Tear-shaped. Sticky.	<b>Stems:</b> Green and can be woody. Erect and branching. Has thorn-like spines scattered along the stems, up to 12 mm long.  <b>Roots:</b> Extensive root system. Deep main root. Creeping, horizontal roots that produce new plants.



Common Name(s): Boxthorn

## What does it look like?

African boxthorn is a woody, thorny shrub that can grow up to 5 m high and 3 m wide. Boxthorn sometimes drops its leaves and appears dead during drought or in winter. Flowers from spring to summer.

Leaves	Flowers	Fruit/Seeds	Branches/Roots
Bright green. Tear drop-shaped. Smooth and fleshy. Occur in clusters along the branchlets. 10-40 mm long. Leaves can drop off plant, giving it a dead look, during droughts or winter.	White to purple. Tubular at the base with purple or pale blue markings. Occur in clusters along the branchlets. 5-10 mm in diameter. Fragrant.	<b>Fruit:</b> Round, green berries when young, turning orange-red with maturity. 5 petals per flower. <b>Seeds:</b> Light brown-yellow. Irregularly-shaped. Flattened and smooth with small raised dots. 2.5 mm long and 1.5 mm wide. Between 35-70 seeds in each berry.	<b>Branches:</b> Rigid and very branched. Has thorns up to 15 cm long. <b>Roots:</b> Main root is deep. Extensively branched.

## How does this weed affect you?

- African boxthorn is toxic to humans.
- Has large thorns that can injure livestock.
- Forms dense, spiny clusters that block access for vehicles and people.
- Prevents livestock from accessing shade.
- Provides shelter and food for pest animals.
- Competes with other vegetation.

## How does it spread?

- African boxthorn reproduces after 2 years, by seed and root fragments.
- Birds and other animals eat the fruit and disperse the seeds via their droppings.
- Root fragments are also dispersed by agricultural vehicles and equipment.

## Control

Pasture management, physical removal and chemical control. **Please do not attempt to treat or dispose of this weed yourself. If you see this plant, report it. Call the NSW DPI Biosecurity Helpline 1800 680 244**



African boxthorn with fruit



Flower and leaves close-up



Fruit and thorns on stems



Fruit and flower close-up



African boxthorn whole plant

## What does it look like?

Blackberry is a shrub with tangled, prickly stems. It can be hard to tell different Rubus species apart. Contact your local council weeds officer for advice on identification. Blackberry flowers late-November to late-February.

Leaves	Flowers	Fruit/Seeds	Stems/Roots
Dark green on the tops of leaves. Lighter green on the underside.	White or pink. Clustered in a cylinder or pyramid shape on the end of canes.	Green berries when young, turning red to purple-black with maturity. Are edible. Each berry contains 20-30 seeds.	<b>Stems (Canes):</b> Green, purplish or red depending on how much light they get. Covered in sharp prickles. Vertical, arched or growing along the ground. Up to 7 m long. <b>Roots:</b> Woody. Main root up to 4 m deep. Secondary roots that grow horizontally from the base for 30-60 cm, then branch down into thin roots.

## How does this weed affect you?

- Unpalatable to most livestock.
- Fuel for bushfires.
- Provides shelter for pest species.
- Is a preferred food source for many pest species.
- Forms dense clusters that restrict livestock access to waterways and vehicle access via fire trails.
- Takes over pastures.
- Reduces native habitat for flora and fauna.
- Has already cost \$100 million to control and in lost production.



Blackberry flowers and leaves



Red and blue-black blackberry fruit and leaves



Blackberry has thorny stems



Blackberry leaves covered in black and yellow spots, damage from leaf rust fungus

## How does it spread?

- Blackberry reproduces by seed and vegetatively.
- Seeds can be dispersed by birds, and other animals that eat the fruit and disperse the seeds through their droppings.
- Seeds also spread by water and through contaminated soil.
- When old canes touch the ground, they can sprout roots and become new plants.

## Similar looking plants

It is important to accurately identify blackberry; as it can be confused with many other native and introduced rubus species. See <https://weeds.dpi.nsw.gov.au/Weeds/Blackberry> for distinguishing features.

## Control

Pasture management, physical removal, biological and chemical control.

# Boneseed (*Chrysanthemooides monilifera* subsp. *monilifera*)

## Eradication WoNS

Seen it? Call your local council now!

### What does it look like?

Boneseed is an erect, woody, perennial shrub which grows up to 3 m high. Boneseed has bright yellow daisy-like flowers that are mainly present between August-October.

Leaves	Flowers	Fruit/Seeds	Branches
Green. Varying in shape from oval to spoon-shaped. Irregularly serrated edges. Alternate along the stems. New growth is covered with white hairs, that shed with maturity. 3-9 cm long.	Yellow. 5-8 petals per flower. Occur in clusters on the tips of branches. Up to 3 cm in diameter.	Young fruit are round, green and fleshy, turning black with maturity. Each fruit contains a single, smooth, round seed. Seeds are 6-7 mm in diameter and bone-coloured when dry.	Green to purple when young, becoming woody with maturity. Branched and upright.

### How does this weed affect you?

- Forms dense clusters several metres high which excludes most native understorey, especially after fire.
- Outcompetes native vegetation, making it a threat to a number of rare or endangered native species.
- Negatively impacts native fauna, due to loss of habitat and food sources.



Boneseed flower close-up



Boneseed leaves are oval-shaped with irregularly serrated edges

### How does it spread?

- Boneseed reproduces entirely by seed.
- One plant can produce 50,000 seeds a year.
- Birds and other animals eat the fruit and disperse the seeds via their droppings.
- Seeds can also be dispersed through contaminated landscape supplies and dumped garden waste.

### Similar looking plants

Boneseed looks similar in appearance to bitou bush (*Chrysanthemooides monilifera* subsp. *rotundata*). See <https://weeds.dpi.nsw.gov.au/Weeds/BitouBush> for distinguishing features.

### Control

Biological and chemical control. Your local council weeds officer will assist with identification and information on control, removal and eradication of this weed. If you see this plant report it to your local control authority or the NSW DPI Biosecurity Helpline 1800 680 244



Whole boneseed plant



Boneseed plant - Tim Moodie



Bitou bush plant parts (right) compared to boneseed plant parts (left)

# Cape broom (*Genista monspessulana*)

Common Name(s): Montpellier broom

## Eradication WoNS

Seen it? Call your local council now!

### What does it look like?

Cape broom is an upright, perennial shrub growing to 3 m high. It usually has one main stem with many branches. Cape broom flowers winter to spring.

Leaves	Flowers	Seeds/Seedpods	Stems
Dark green. Oblong-shaped with tapered tips. Hairy on the underside. Occur in clusters of 3 leaflets. Centre leaflet is longer than outer two.	Bright yellow. Consist of 5 unequal petals (the top most petal is the largest). Occur in clusters of 3-9 at the end of branches. 8-12 mm long.	<b>Seedpods:</b> Green when young, turning brown to black with maturity. Covered in fine hairs. Inflated. Each pod contains 5-8 seeds. <b>Seeds:</b> Dark brown to black. Smooth, round and slightly flat. Up to 3 mm long.	Young stems are ridged, green and lightly hairy, becoming woody and hairless with maturity. Usually has 1 main stem with many branches.

### How does this weed affect you?

- Forms dense clusters that shade out and compete with smaller shrubs and ground cover species.
- Severely impacts the regeneration of overstorey plants.
- Fixes nitrogen, increasing soil fertility which encourages weeds in native areas.
- Are fuel for bushfires.



Flowers and seedpods - note that seedpods are hairy all over



Cape broom plant - Paul Martin



Cape broom leaves and flowers - Paul Martin

### How does it spread?

- Cape broom reproduces entirely by seed.
- Seeds are mainly dispersed via movement of soil by graders and agricultural equipment.
- Animals can also help to disperse the seeds.

### Similar looking plants

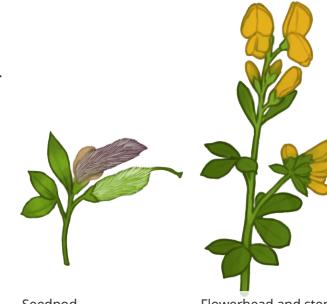
It is important to accurately identify cape broom; as it can be confused with other native species. **If you see this plant, report it to your local council for accurate identification and advice on the best control strategies for your situation.**

### Control

Biological and chemical control.



Whole cape broom plant



Seedpod



Cape broom leaves and flowers - Paul Martin

# Galvanised burr (*Sclerolaena birchii*)

## Species of Concern

### What does it look like?

Galvanised burr is a densely branched, short-lived, perennial shrub about 1 m in height and diameter, with stout woolly branches.

Leaves	Flowers	Fruit/Seeds	Stems/Roots
Green and densely covered in fine white hairs, that give the plant a blue-green appearance. Egg-shaped. Flat. Alternately arranged along the stem. 12-15 mm long and 4-7 mm wide.	Flowers are not noticeable. Occur singularly in the forks of the leaves. Flowers most of the year.	Fruit are burrs, that are hard and woolly. Has 4-5 horizontal spines. The shortest spines are clustered together. The longest spine is up to 15 mm long. Each burr contains 1 seed. Burr are 2-3 mm in diameter.	<b>Stems:</b> Densely covered in fine white hairs that give the plant a blue-green appearance. Short, woolly branches. Short, brown, pointy spines occur along the stems. <b>Roots:</b> Main root can be up to 80 cm deep. Secondary shallow roots branching from the main root.

### How does this weed affect you?

- Unpalatable to livestock.
- Burrs attach to fleece making shearing more difficult and expensive.
- Reduces wool value by causing 'vegetable fault'.
- Restricts stock movement and movement of cultivation equipment.
- Competes with pastoral and native vegetation.



### How does it spread?

- Galvanised burr reproduces entirely by seed.
- Seeds are dispersed as stem pieces with burrs that break off and become a tumbleweed that is moved by the wind.
- Stem pieces with burrs can also be dispersed by attaching to the fur and wool of animals.

### Control

Pasture management and chemical control. **Galvanised burr removal is managed under the Native Vegetation Act 2003** so seek advice from your local weeds officer regarding restrictions and requirements.



Infestations occur close to fence lines



Galvanised burr whole plant

# Gorse (*Ulex europaeus*)

Common Name(s): Common gorse, golden gorse

Eradication WONS

Seen it? Call your local council now!

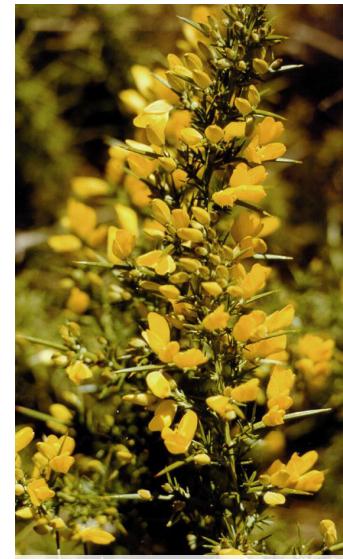
### What does it look like?

Gorse is a spiny, branched, evergreen, perennial shrub, which commonly grows 1–2.5 m in height. It is long-lived (up to 30 years) and has a deep and extensive root system.

Leaves	Flowers	Seeds/Seedpods	Branches/Roots
Dark green. Turn into spines with maturity.	Bright yellow. Consist of 5 unequal petals. (The top most petal is the largest.)	<b>Seedpods:</b> Grey when young, turning black with maturity. Oblong and inflated. Covered in fine hairs. Each pod contains 1-6 seeds. 10-20 mm long and 6 mm wide. <b>Seeds:</b> Brown-green. Heart-shaped and very hard. Up to 4 mm long.	<b>Branches:</b> Green, soft and hairy when young, turning brown and woody with maturity. Heavily branched and deeply wrinkled. Each smaller branch ends in a single sharp spine. <b>Roots:</b> Deep and extensive root system. Can form roots along branches.

### How does this weed affect you?

- Increases fuel for bushfires.
- Forms dense impenetrable clusters, restricting access for stock movement and vehicles.
- Reduces pasture carrying capacity.
- Provides shelter for pests.
- Competes with native vegetation.



Gorse flower sprig

### How does it spread?

- Gorse reproduces entirely by seed.
- Each plant can produce thousands of seeds per year and seeds are viable for up to 30 years.
- Seedpods burst, dispersing seeds.
- Seeds can be dispersed by soil movement, water, equipment and vehicles.
- Seeds can also potentially be dispersed by birds and other animals.

### Control

Please do not attempt to treat or dispose of this weed yourself. If you see this plant, report it. Call the NSW DPI Biosecurity Helpline 1800 680 244



Gorse plant



Left to right: scotch broom; cape broom; gorse

# Mesquite (*Prosopis species*)

## Prevention WoNS

Seen it? Call your local council now!

### What does it look like?

Mesquite can be either a single-stemmed tree (up to 15 m in height) or a multi-stemmed shrub with drooping branches (3–5 m high). The whole plant has an untidy appearance. Flowers in spring and early summer.

Leaves	Flowers	Seeds/Seedpods	Bark/Branches/Spines/Roots
Bright green. Each leaf is made up of a cluster of up to 8 pairs of tiny leaflets, giving it a fern-like appearance. Occur at each point where the branch changes direction.	Green to cream-yellow. Occur in a cylindrical cluster on the tips of branches. Clusters are 5–8 cm long.	<b>Seedpods:</b> Green when young, turning straw-coloured or purplish with maturity. Seedpod is smooth. Slightly moulded around each seed. Up to 20 cm long. Each pod contains 5–20 seeds.	<b>Bark/Branches:</b> Bark is smooth and dark red-green in young stems, turning rough and grey with maturity. Branches have a distinctive zig-zag shaped. <b>Spines:</b> Cream. Are sharp. Occur in pairs along the main stem. Up to 75 mm long. <b>Roots:</b> Deep main root. Extensive secondary root system branching from main root.

### How does this weed affect you?

- Outcompetes pastoral and native vegetation.
- Forms dense clusters that restrict access to waterways.
- Hinders mustering.

### How does it spread?

- Mesquite species reproduces by seed, and its extensive root system can produce new stands of plants.
- Seeds can be dispersed by birds, livestock and other animals that eat the berries and disperse the seeds through their droppings.
- Seeds only germinate when the outer casing has been damaged, so water, fire and animal consumption help trigger germination.

### Control

Biological and chemical control. If you see this plant, report it to your local council for accurate identification and advice on the best control strategies for your situation.



Long, sharp spines of mesquite



Mesquite leaves and spines



Young mesquite seedpods



Mesquite's lamb's tail-shaped flower



Mesquite has clusters of greenish to cream-yellow flowers

# Sweet briar (*Rosa rubiginosa*)

## Species of Concern

Common Name(s): Eglantine

### What does it look like?

Sweet briar is an erect perennial shrub, commonly growing 1.5 to 2 m high but can be up to 3 m. Flowers usually appear in late spring

Leaves	Flowers	Fruit/Seeds	Stems/Roots
Dark green. The leaves are made up of clusters that consist of 2–4 pairs of oval-shaped leaflets, plus 1 leaflet on the very tip of the stem. The leaflets have serrated edges and there are short prickles on the stems of the leaf cluster. Have an apple-like fragrance.	Pink to white. 5 petals per flower. Occur in loose clusters on the tips of the branches. Flower stem is covered in sticky hairs. Fragrant. 20–50 mm in diameter.	<b>Fruit:</b> Green capsules when young, turning orange-red with maturity. Egg-shaped and fleshy. Capsules have spikes at the end closest to the stem. Capsules have tendrils coming off the opposite end of the fruit. Capsules are 15–20 mm long. <b>Seeds:</b> Yellow. Irregularly shaped. 4–7 mm long.	<b>Stems:</b> Smooth and green-reddish in colour when young, becoming rough and woody with maturity. Arch at the tip of the stem. Have many backwards curving, flat spines up to 1.5 cm long. Shrub grows up to 3 m tall. <b>Roots:</b> Extensive roots are at least 1 m long and branch horizontally.

### How does this weed affect you?

- Sweet briar can reduce the carrying capacity of land.
- It can restrict vehicle and livestock movement.
- Harbours pest species.



Sweet briar flowers



Fruit and leaves close-up - Tim Moodie

### How does it spread?

- Sweet briar reproduces by seed and its horizontal root system.
- Seeds can be dispersed by birds, and other animals that eat the capsules and disperse the seeds through their droppings.
- Capsules and seeds can also be dispersed by water.
- The root system and fragments of the root can produce new plants.

### Control

Pasture management, physical removal and chemical control.



Sweet briar whole plant - David Saunders



Flower, fruit and leaves of sweet briar



Sweet briar fruit - Tim Moodie

## Woody Weeds

# No Space for Weeds

'No Space for Weeds' is a community weed awareness campaign led by DPI. It promotes the principle of 'shared responsibility' for weed management.

Things you can do to protect our communities from priority weed species:

At **HOME** is aimed at home gardeners and property owners; at **WORK** targets those who have the potential to spread weeds as part of their job; while at **PLAY** is about how to prevent the spread of weeds through recreational activities including bushwalking, camping, fishing, four wheel driving and boating.

Dumping garden and aquarium waste can spread weeds. You can stop the spread of weeds at **HOME**

- Dispose of garden and aquarium waste suitably - at a waste management centre or compost, not in the bush or waterways.
- Manage weeds at home - don't let them move next door.
- Stop weeds at your gate - don't bring them home.

Vehicles, machinery, equipment, livestock can spread weeds. You can stop the spread of weeds at **WORK**

- Check livestock and equipment for weeds and seeds.
- Wash down vehicles and machinery on site - leave weeds behind.
- Be careful not to take weeds with you to your next place of work.

Bushwalking, camping, fishing, four wheel driving and boating can spread weeds. You can stop the spread of weeds at **PLAY**

- Be careful not to take weeds to your favourite place.
- Be on the look out for weeds and seeds.
- Check and clean all your gear before you leave.

So when you see the '*No Space for Weeds*' logo, get involved and learn more about how you can help solve the problem. It's easy!

## Useful Websites

<https://www.dpi.nsw.gov.au/biosecurity/weeds>

NSW Department of Primary Industries.

Weed categories, control and identification, strategies and policy and legislation.

<https://weeds.dpi.nsw.gov.au/>

NSW WeedWise

<http://plantnet.rbgsyd.nsw.gov.au/>

PlantNET flora search.

Plant identification and species information.

<http://www.nswweedsoc.org.au/>

The Weeds Society of NSW Inc.

Promoting the awareness, understanding and control of weeds.

<https://www.environment.nsw.gov.au/topics/animals-and-plants/pest-animals-and-weeds>

Office of Environment and Heritage.

Management of weeds in national parks, weeds and biodiversity, legislation.

<https://research.csiro.au/weed-biocontrol/>

CSIRO

Biological weed control information.

<http://anpsa.org.au/weeds.html>

Australian Native Plants Society (Australia)

Environmental weeds in Australia.

<https://murray.lls.nsw.gov.au/>

Murray Local Land Services

Biosecurity and Murray Regional Strategic Weed Management Plan.

<https://riverina.lls.nsw.gov.au/>

Riverina Local Land Services

Biosecurity and Riverina Regional Strategic Weed Management plan.

<https://www.environment.vic.gov.au/invasive-plants-and-animals/weed-risk-ratings>

Victoria - Department of Environment, Land, Water and Planning.

[https://www.environment.vic.gov.au/\\_data/assets/pdf\\_file/0028/390970/Advisory-list-environmental-weeds-VIC.pdf](https://www.environment.vic.gov.au/_data/assets/pdf_file/0028/390970/Advisory-list-environmental-weeds-VIC.pdf)

Weed risk ratings and environmental weeds in Victoria.

<http://www.herbiguide.com.au>

HerbiGuide

Weed information.

[https://www.dpi.nsw.gov.au/\\_data/assets/pdf\\_file/0017/123317/weed-control-handbook.pdf](https://www.dpi.nsw.gov.au/_data/assets/pdf_file/0017/123317/weed-control-handbook.pdf)

NSW Weed Control Handbook.

<https://www.farmbiosecurity.com.au/>

Farm Biosecurity website

## Murray Local Land Services Region & Local Government Areas



This Priority Weeds Identification Guide has been developed by Murray River Council, Edward River Council and Berrigan Shire, to assist you in identifying and reporting weeds within our Local Government Areas.