Garden Escapes in Bushland and Reserves

A responsible gardening guide for the Greater Sydney region

SYDNEY WEEDS NETWORK INC

Acknowledgements

The Board of the Sydney Weeds Network Inc. gratefully acknowledge permission by Mid Coast Council to adapt its publication 'Garden Escapees & Other Weeds of Bushland & Reserves - A responsible gardening guide for the Mid North Coast of New South Wales'. Some amendments to text and graphics have been made by Amanda Kotlash (Sydney Weeds Network's Executive Officer) with guidance from Sydney Weeds Network members; network members' expertise and extensive field experience provide Sydney residents with detailed knowledge of the impact of invasive plants growing in their gardens. The majority of the revisions made were by Matt Sheehan and Shauna Potter from Wild Matters Pty Ltd.

Principal Author & Researcher	Terry Inkson
Design & Layout	Terry Inkson
Artwork	Isabelle Strachan and Roy Bisson (unless otherwise marked)
Photography	Terry Inkson (unless otherwise marked)
Contributors & Reviewers	Isabelle Strachan, Mat Bell, Royce Holtkamp, Terry Schmitzer, Helen Kemp, Hank Bower, Sue Bower, Mike Smith, Grant Taylor, Greg Egan, Wendy Bushell, Mark Tull, Andrew Staniland, Steve Howard, Kerrie Simmons, Miles Dixon, Stephen Johnson, John Hosking, Gordon Rowland, Daryn Apolony

The printing of this booklet was funded by Greater Sydney Local Land Services. Special thanks to Mid Coast Council for their ongoing dedication to weed management and the development of this publication. © 2021 Mid Coast Council

NSW GOVERNMENT | Local Land Services Greater Sydney

Always read the label

Users of agricultural (or veterinary) chemical products must always read the label and any Permit, before using the product and strictly comply with the directions on the label and conditions of any Permit. Users are not absolved from compliance with the directions on the label or conditions of the Permit by reason of any statement made or omitted to be made in this publication.

Disclaimer

This booklet has been prepared in good faith based on available information. Although precautions have been taken to ensure the accuracy of information provided, the publishers, authors and printers do not accept responsibility for any claim, loss, damage or liability arising out of the use of this booklet.

Front cover

Lantana *(Lantana camara)*
Blue morning glory *(Ipomoea indica)*
Moth vine *(Araujia sericifera)*
Blue passionflower *(Passiflora caerulea)*
Blue periwinkle *(Vinca major)*
Glory lily *(Gloriosa superba)*
Indian hawthorn *(Rhaphiolepsis indica)*
Mickey Mouse plant (fruit) *(Ochna serrulata)*

Back cover

Ground asparagus *(Asparagus aethiopicus)*
Mickey Mouse plant (flower) *(Ochna serrulata)*
Moonflower *(Ipomoea alba)*
Scarlet passionflower *(Passiflora minata)*
Cats claw creeper *(Dolichandra unguis-cati)*
Cotton bush *(Gomphocarpus fruticosus)*
Natal ivy *(Senecio macroglossus)*
Water hyacinth *(Eichhornia crassipes)*

Contents

	Page
How to use this guide	2
How weeds are managed	4
Common plant parts	5
Manual weed control methods	6
Herbicide use	7
Vines & Scramblers	9
Ground Covers	28
Bulbous & Succulent Weeds	42
Grasses	64
Shrubs	72
Trees	84
Aquatic Weeds	102
Bibliography & further reading	110
Plant me instead	112
Index	115

How to use this guide

This guide has been designed to assist residents of the Greater Sydney region of New South Wales (NSW) to identify problematic plants in their gardens and surrounding bushland reserves and to offer advice on control methods.

The guide provides information on:

- weeds and their impacts
- your weed management responsibilities
- identifying common garden and bushland weeds
- responsible gardening and alternative planting options
- where to find more information.

What is a weed?

The definition of a weed is a plant that is growing where it is not wanted and is causing a negative impact. They may be unwanted because they:

- impact human health
- cause problems for agriculture
- invade natural areas
- compete with native plants for space, water, nutrients and light
- choke waterways
- alter and destroy habitat for native insect and animals.

How do weeds spread?

More than 65% of weeds originated from urban gardens. Plants escape from gardens in a variety of ways, but the main cause of spread is by green waste dumping in bushland and road reserves. This practice is harmful to the bush for many reasons, such as:

- introducing weeds (plant fragments, roots, tubers, seeds, spores)
- smothering native plants
- increasing nutrient loads
- increasing fire risk by increasing fuel loads.

Dumping in bushland and reserves is illegal and can attract fines.

Garden plants may also spread into bushland reserves directly from gardens where they are planted. 'Weedy' garden plants have:

- the ability to spread by vegetative means (e.g. bulbs, corms, tubers, root parts, stem fragments) (e.g. Glory lily, Coral tree, Trad)
- berries that can be eaten by birds and animals (e.g. Asparagus ferns, Cotoneasters, Olives, Camphor laurel, Blackberry)
- large amounts of seed that is easily distributed by wind, animals, water etc (e.g. Formosa lily, Longleaf willow primrose, Balloon vine, Moth vine).
- seeds with high viability
- an ability to survive under extreme conditions
- a history of weediness in similar climates.

You can prevent weedy garden plants impacting on the environment through responsible gardening habits. Here are some suggestions to help you make a difference:

- Replace invasive plants in your garden with safe and preferably native alternatives.
- Regularly prune your garden plants after flowering to prevent seed set and promote healthy and vigorous growth.
- Dispose of garden waste responsibly, never dumping it over the back fence, on roadsides or in bushland. Green waste is accepted at **most** Council waste management facilities. Contact your local Council for more information.
- Dispose of plant bulbs, tubers and seed heads in your general waste bin not the green waste bin.
- Cover your trailer when transporting your garden waste to stop weeds and seeds from blowing off and invading roadside and bushland areas. The NSW Environment Protection Authority has a web portal and an App for smart devices, to assist in reporting such offences (www.epa.nsw.gov.au).
- Get a mulcher and mulch appropriate garden waste on site, then use it in the garden or compost it.
- Join your local bushcare group and help clean up the public reserves and bushland areas in your neighbourhood. Contact your local Council for more information.
- Check with your local nursery that the alternative will grow well in your garden. See the 'Plant me instead' section of this booklet for alternative options (page 112).

How weeds are managed

Weeds are managed under the *NSW Biosecurity Act 2015*. Under the Act:

- weed management is a responsibility shared by all
- local control authorities (usually local councils) implement the Act and enforce compliance
- management action, investment and compliance effort are directed towards priority weeds.

Priority weeds

Some weeds have been identified as high priorities for management because of their impact on the economy, environment and community. Some weeds are priorities at the regional level (e.g. Greater Sydney region), others are a priority throughout NSW (State priority weeds).

To find out more information on weeds and their priority status check with your local council or visit: www.dpi.nsw.gov.au/biosecurity/weeds/weed-categories or https://weeds.dpi.nsw.gov.au

You can find out more about your role via the NSW Department of Primary Industries (DPI) website link: www.dpi.nsw.gov.au/biosecurity/weeds/home-gardeners

Use the links in the Key websites section (page 111), or contact the Weeds Officer at your local council for more information.

Prohibited Matter – you must report these weeds if you see them. Call the Biosecurity Helpline 1800 680 244

State priority weeds must not be sold or imported into NSW.

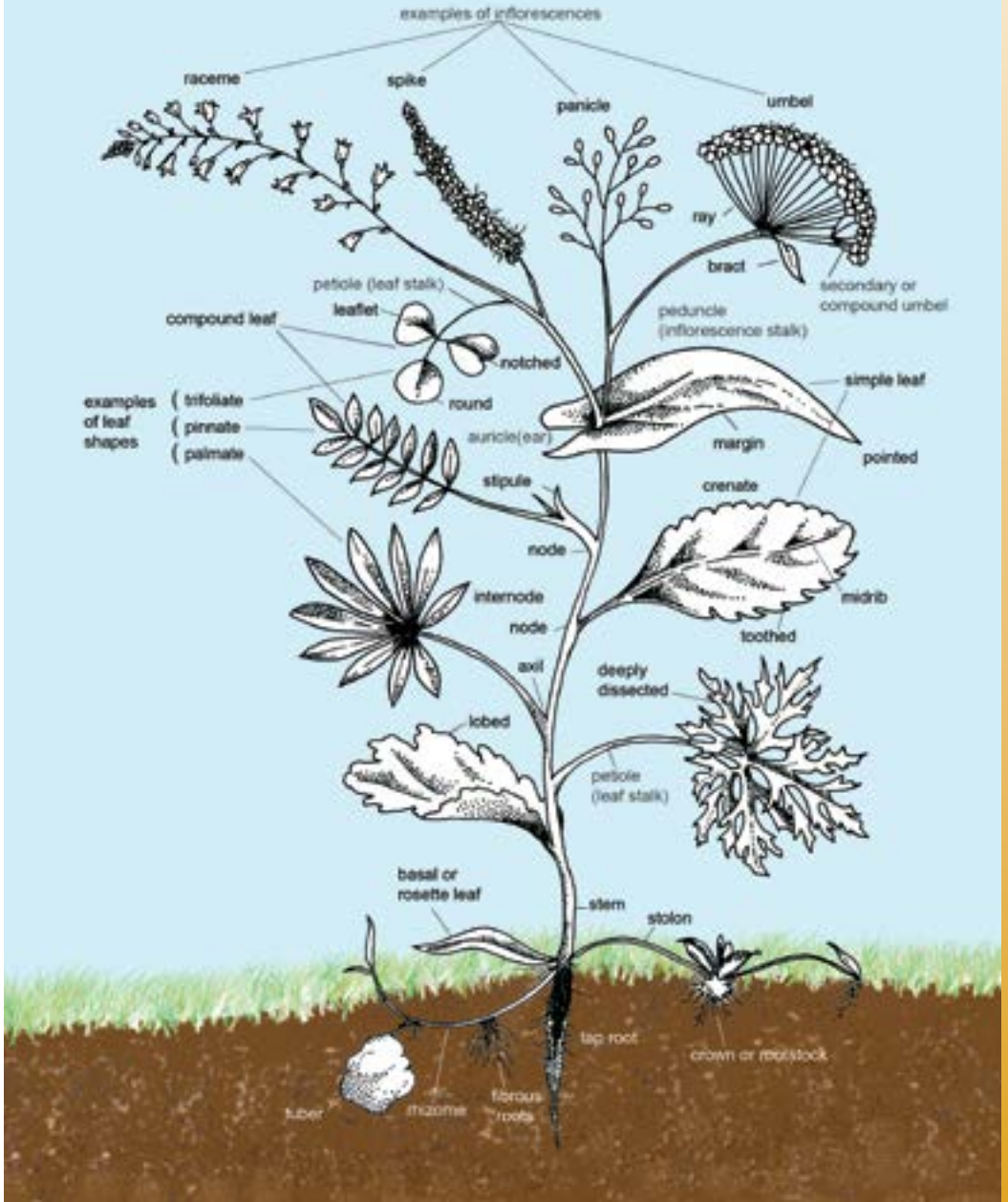
Regional priority weeds should not be sold unless they meet strict criteria. Please go to www.dpi.nsw.gov.au/biosecurity/weeds/weed-categories for more information or contact your local Council.

This plant is poisonous to humans and/or animals

Common plant parts

The following diagram illustrates the most common parts of plants described in this guide.

Illustration adapted from: Efficient Weed Management: Protecting your investment in the land (adapted from Healy 1982)



Manual weed control methods

Weed control should be timed to avoid seed setting. That is, prior to, or during flowering time.

Any section of the plant capable of reproducing (e.g. seeds, fruits, tubers/roots, some shoots) should be bagged, removed from the site and disposed of by deep burial at a waste management centre. Other vegetative matter can be mulched on site or taken to a waste management centre and disposed of in green waste.

For your safety use personal protective equipment (PPE) when working with weeds and herbicides. Examples include hat, safety glasses, gloves, long sleeves/pants, boots, sunscreen and insect repellent. Always wash your hands thoroughly when finished.

1. Hand pull/dig (using knife/trowel)

- Rake back leaf litter
- Cut down alongside plant
- Grasp stem or leaves at ground level and pull firmly while loosening soil from roots with knife/trowel
- Shake excess soil from roots and bag for removal or place plant on rock/log to die
- Replace leaf litter.

Examples: Inkweed, Thistle

2. Crown cut/crowning (using knife)

- Only the underground growing heart of the plant needs to be removed
- Rake back leaf litter
- Grasp plant at ground level, gathering stems together, insert knife and cut in a circular motion to remove crown
- Replace disturbed soil/leaf litter and gently pat down.

Example: Ground asparagus

Herbicide use

Always read the label and Material Safety Data Sheets before using herbicides. For some weeds, off label permits exist for the use of certain herbicides.
Go to www.apvma.gov.au for details, download the APVMA App to your smart device, or contact the Weeds Officer at your local Council for up-to-date information on the legal use of herbicides.

PPE must always be used when handling herbicides and you should wash your hands thoroughly after use.

3. Skirting (using secateurs and herbicide)

- Gather and cut all vines around tree as close to the ground as possible
- Apply herbicide IMMEDIATELY (within 10 seconds of cutting) to ground cut stems first, then aerial stems
- Check for reshooting within 6 weeks, re-treating where necessary.

Examples: Morning glory, Moth vine, Ivy

Note: NOT suitable for vines with aerial tubers like Madiera vine

4. Stem scrape (using knife and herbicide)

- Working close to ground, scrape along the stem of the plant for about 15-30 cm to expose vascular tissue
- Apply herbicide to exposed vascular tissue IMMEDIATELY (within 10 seconds of scraping)
- Take care not to sever entire stem
- Leave plant in place until completely dead, and re-treat if necessary.

Examples: Madiera vine, Ochna, Senna, Morning glory

5. Cut & paint (using saw and herbicide)

This method is appropriate for woody weeds up to 10 cm basal stem diameter that don't have aerial tubers.

- Cut stem horizontally close to ground, below any branching stems or side shoots
- Apply herbicide to cambium layer IMMEDIATELY within 10 seconds of making cut.

Examples: Bitou bush, Lantana, Privet

6. Foliar spraying (using knapsacks and pressure sprayers)

This method uses herbicide diluted with water at a specific rate and is most suited for use on certain shrubs, grasses and dense vines.

- Spray foliage to the point of runoff (until every leaf is wet but not dripping)
- Do not make up more than is required for the job and do not store diluted herbicide as it may breakdown and become inactive
- Use fresh clean water for mixing (not ground or dam water) as herbicide may breakdown and become inactive.

Illustration: Weed Control Handbook - NSW DPI

7. Frilling (using saws/axes and herbicide)

This technique involves making a series of cuts around the base of large woody weeds and appling herbicide. Refer to the following section of the Sydney Weeds Network website for more information - sydneyweeds.org.au/weed-management-techniques

The NSW DPI have developed the following resources:

- Weed Wise – an online webpage that provides weed descriptions, photographs, impact and control information for many weed species. weeds.dpi.nsw.gov.au
- NSW Weed Control Handbook – a guide for weed control, including herbicide use.

Refer to the 'Key Websites' section (page 111) for web links or contact the Weeds Officer at your local council for more information.

Vines & Scramblers

Vines and scramblers are a large group of plants that use their modified stems and leaves – tendrils, twining stems, thorns and hooks – to either climb up trees or scramble out across the ground and over other plants.

Weedy vines and scramblers impact significantly on our natural environment. They typically smother native plants and seedlings and stop seedlings growing, especially in waterways. Some species are capable of killing mature trees (e.g. Cat's claw creeper).

This category of plants includes some of the most damaging weeds in the Greater Sydney region, and it is recommended that all species included in this section be removed from gardens and replaced with less invasive plants.

This section provides detailed information on priority vines and scramblers of the Greater Sydney region.

Other problematic vines and scramblers are listed below with their common name and corresponding botanical name..

Common Name	Botanical Name
Aerial yam	*Dioscorea bulbifera*
Blue trumpet vine	*Thunbergia grandiflora*
Cape honeysuckle	*Tecoma capensis*
Crab's eye vine	*Abrus precatorius*
Cup and saucer vine	*Cobaea scandens*
Creeping groundsel	*Senecio angulatus*
English ivy	*Hedera helix* varieties
Flame vine	*Pyrostegia venusta*
Mikania	*Mikania micrantha* (Prohibited Matter)
Pie melon	*Citrullus lanatus*
Rubber vine	*Cryptostegia grandiflora* (Prohibited Matter)
Silver-leafed desmodium	*Desmodium uncinatum*
Siratro	*Macroptilium atropurpureum*
Turkey rhubarb	*Rumex sagittatus*

Balloon vine

Cardiospermum grandiflorum

A fast growing vine with papery, balloon-like fruit. Commonly found in gardens, moist gullies and creek lines.

Habit Herbaceous perennial climber with stems to more than 10 m long.

Leaves 6-16 cm long, on a leaf stalk 2-10 cm long, with 3 leaflets each further divided into 3; margins of leaflets irregularly toothed.

Flowers Arranged in small clusters at the end of 5-30 cm long hairy stalks, ending with a pair of tendrils. Flowers consist of 4 white petals, 4 sepals arranged in pairs and several yellow stamens. Flowers for most of the year.

Fruit Inflated membranous capsule 4-8 cm long with 6 ribs and covered with short stiff hairs. Each capsule contains 3 blackish, round seeds, about 7 mm wide.

Roots Shallow and fibrous, fragments re-root readily.

Dispersal Seeds spread by wind, water and contaminated soil (earth moving equipment, car tyres etc).

Control Hand pull/dig, scrape and paint, skirting, foliar spraying.

A long-lived and fast growing vine with bright flowers. Found in gardens, along waterways and in urban bushland.

Black-eyed Susan

Thunbergia alata

Habit A delicate herbaceous and persistent twining or scrambling vine that will readily re-root from fragments and nodes.

Leaves Thin, textured. hairy when young. 2-8 cm long and 1-4.5 cm wide.

Flowers Heart-shaped or triangular. Bright orange to yellow sometimes white with a distinct black centre on a single stalk. Base of flower enclosed in pair of green sepals. Summer-Autumn.

Fruit The papery sepals remain to cover the beaked capsule containing few seeds.

Roots Tap and fibrous, will actively seek and block water/septic pipes.

Dispersal Vegetation and seed will spread by water, humans, contaminated soil (earth moving equipment, car tyres etc) and garden refuse dumping.

Control Hand pull/dig, scrape and paint, skirting, foliar spraying.

Brazilian nightshade

Solanum seaforthianum

A sprawling shrub or climber with bright red berries. Found in parks, gardens, urban bushland and along waterways and roadsides. All parts of the plant are poisonous to people and some animals.

Habit Perennial shrub or twining climber to 6 m.

Leaves Green with 3-9 deep lobes, almost to the midrib. Leaves on 2-4 cm stalks, spaced alternatively along stem, hairless except edges and veins on under surface.

Flowers Mauve-blue, star-shaped, 2-3 cm across in groups of up to 50 in Spring-Autumn.

Fruit Green berry up to 1 cm across, ripening to bright red.

Roots Shallow and fibrous.

Dispersal Seed is spread by water, animals, humans, contaminated soil (earth moving equipment, car tyres etc) and garden refuse dumping.

Control Hand dig, scrape and paint, skirting, foliar spray.

Cape ivy

Delairea odorata

A fleshy vine with strong smelling yellow flowers. Prefers damp, shady areas and commonly found in gardens, roadsides and fence lines. Leaves are poisonous to people and some animals.

Habit A climbing and trailing perennial, non-woody vine that smothers vegetation to heights of 10 m. Stems break easily.

Leaves Ivy or star-shaped with 5-7 lobes, fleshy, glossy green above, silvery below, often with a purple tinge.

Flowers Strongly scented on warm days, yellow and daisy-like in dense clusters lacking petals. Autumn-Spring.

Fruit Small, reddish-brown with a 'parachute' of fine hairs (pappus). A mature plant can produce in excess of 40,000 seeds annually.

Roots Shallow and fibrous, fragments re-root readily.

Dispersal Vegetation and seed is spread by wind, water, animals, humans, contaminated soil (earth moving equipment, car tyres etc) and garden refuse dumping.

Control Hand dig, skirting, foliar spray.

Cat's claw creeper

Dolichandra unguis-cati

A long lived woody vine that can kill mature trees. Plants have large yellow flowers and papery seed pods. Commonly found in waterways and coastal areas. MUST NOT be sold in NSW.

Habit Vigorous, blanketing climber in excess of 30 m with distinctive 3-pronged claws along the growing portion of the plant. The weight of the vine's mass can cause the supporting tree's branches to collapse and may even cause mature trees to fall. Mature stems can become very woody to 20 cm in diameter.

Leaves Leaflets are dark green and formed in opposite pairs along the vine. New leaves and tips are a showy red/brown colour.

Flowers Attractive bright yellow forming a bell shape when fully open and only occur on mature plants. Winter-Spring.

Fruit Long dark brown seed pods are formed which split open when mature exposing numerous hard brown seeds.

Roots Deep underground tuberous roots are abundant and sucker readily.

Dispersal Seed and tubers spread by wind, or water (e.g. during floods), by humans, contaminated soil (e.g. earth moving equipment, car tyres etc) and garden refuse dumping.

Control Hand dig, scrape and paint, foliar spray

Natal / German ivy

Senecio macroglossus

A popular plant for hanging baskets, with large, daisy-like flowers. Found in shady areas on the edge of rainforests and in creeks and gullies. Poisonous to people and some animals.

Habit Evergreen slender, twining herbaceous perennial.

Leaves Bright glossy green, fleshy, triangular or 5-pointed ivy-like.

Flowers Large, conspicuous pale yellow daisy flowers about 6 cm across and carried singly on long slender stalks are borne just about all year round, but mainly during the Summer months.

Fruit The seeds are small and stick-like with a tuft of greyish-white bristles at one end (pappus). Dandelion-like tufty balls.

Roots Shallow and fibrous, fragments that readily form new plants.

Dispersal Vegetation and seed is spread by wind, water, animals, humans, contaminated soil and garden refuse dumping.

Control Hand dig, skirting, foliar spray.

Glory / Flame lily

Gloriosa superba

A scrambler or climber with distinct flowers. Commonly grows in forests and coastal dunes in areas where Bitou bush has been controlled. All parts of the plant are poisonous to people and some animals.

Habit Glory lily is a perennial herb with climbing stems up to 4 m long. Top growth dies off in Winter before re-shooting in the Spring.

Leaves Shiny, green and hairless with 10-20 mm long tendrils at the tips which curl around supporting plants.

Flowers 45-70 mm wide, yellow, orange and red, borne singly on spreading stalks which arise in leaf forks. Flowers appear to be upside down with the petals pointing upwards, while 40-70 mm long stamens point downwards. Spring-Summer.

Fruit The seed pod is bright green and shaped like a rugby ball 40-100 mm long and 10-20 mm wide before turning brown and inverting to expose initially orange to red seeds that dry to 4-5 mm diameter brown balls.

Roots Fibrous initially, becoming a long and fleshy tuber that increases in size with age. Tuber fragments will create new plants.

Dispersal Seed and tubers, spread by humans, animals, birds, contaminated soil (earth moving equipment, car tyres etc) and garden refuse dumping.

Control Hand dig, foliar spray.

Japanese honeysuckle

Lonicera japonica

An aggressive climber with sweet smelling flowers. Found in moist gullies and bushland. Poisonous to people.

Habit A robust climbing or scrambling shrub to 8 m high. Young stems covered with short hairs. Older stems woody and hairless.

Leaves Leaves grow opposite each other, are generally hairless or sparsely hairy and are borne on short stalks 3-10 mm long. Leaves 2.5-8 cm long and 1-4 cm wide are usually oblong or egg-shaped with entire margins and pointed or rounded tips. Leaves on seedlings and young plants may be lobed.

Flowers Paired, long and tubular 3-4 cm, very sweetly scented. White, ageing cream to yellow or pale orange. Autumn-Spring.

Fruit Globe-shaped berry, 4-10 mm long, glossy black.

Roots Fibrous initially, becoming a dense, extensive and woody crown with age.

Dispersal Seed mostly spread by birds, but also humans, contaminated soil (earth moving equipment, car tyres etc) and garden refuse dumping.

Control Hand dig, skirting, scrape and paint, foliar spray.

Kudzu

Pueraria lobata

An aggressive climber or scrambler with sweet smelling flower clusters. Grows in waterways and roadsides, preferring deep loamy soils. Should NOT be sold in the Greater Sydney region.

Habit A rapid growing, vigorous, tendril twining perennial vine with thick rope-like, hairy stems up to 30 m long.

Leaves Large, sparsely hairy, alternately arranged, compound with 3 lobed or un-lobed leaflets, the top one usually larger. Pale green above and greyish-green below.

Flowers Purple, blue or pink coloured pea-shaped flowers with a yellow spot. Flowers occur in elongated clusters 15-40 cm long during Summer.

Fruit Flattened pods, 5-12 cm long and about 12 mm wide, covered in dense reddish-brown hairs, containing 8-12 seeds.

Roots Thickened storage roots develop into large tubers up to 1.8 m long and 15 cm wide, and travel as deep as 1 metre.

Dispersal Mainly vegetatively but also by seed spread by water, animals, humans, contaminated soil and garden refuse dumping.

Control Hand dig, skirting, scrape and paint, foliar spray.

Forest & Kim Starr

Forest & Kim Starr

Madeira vine

Anredera cordifolia

A climber with fleshy leaves and obvious aerial tubers. Commonly found in coastal areas and rainforest edges. MUST NOT be sold in NSW.

Habit Vigorous, hairless perennial climber in excess of 30 m.

Leaves Fleshy broadly egg or heart-shaped, alternately arranged and bright green.

Flowers Small, fragrant, creamy white coloured in drooping clusters to 20 cm long. Separate flowers on stalks evenly spaced along a central stem. Spring-Summer.

Fruit Rarely fruits.

Roots Fleshy and tuberous. Tubers are capable of sprouting even after being pulverised.

Dispersal Tubers transported by water, animals, humans, contaminated soil (earth moving equipment, car tyres etc), garden refuse dumping and water, such as along rivers in floods. Aerial tubers will be shed from stems if the vine is cut, and remain viable in soil from 5 to 10 years

Control Hand dig, scrape and paint, foliar spray. Never cut and paint.

Morning glory

Ipomoea indica I. cairica, I. alba, I. purpurea, I. quamoclit

Fast growing scramblers or climbers with soft flowers. Commonly found in open, disturbed places including coastal areas, roadsides, rainforest edges and urban areas. Prefers moist soils.

Habit Robust and extensive twining perennial vine to 10 m.

Leaves I. indica, I. alba, I. purpurea: dark green; variably heart-shaped or 3-lobed, 20-180 mm long. I. cairica: Light green; hairless, 5-7 -lobed, star-shaped leaves to 90 mm long. I. quamoclit: pinnatisect; ovate in outline.

Flowers Variable by species, trumpet/funnel-shaped flowers 20-80 mm diameter; coming in shades of purple, blue, mauve, pink, red and white. Spring-Autumn.

Fruit *I. cairica*: 4-valved capsule containing 4-6 seeds, which have parachute-like attachments. indica, purpurea: 3-valved capsule; seeds loosely scurfy. Seed rarely set with *I. indica*.

Roots Fibrous initially, becoming dense, extensive and crown-like with age. Will set root from stem fragments when in contact with the soil.

Dispersal Seed is spread by wind, water, birds, animals, humans, contaminated soil (earth moving equipment, car tyres etc) and garden refuse dumping (particularly *I. indica*).

Control Hand dig, skirting, scrape and paint, foliar spray.

Ipomoea indica

Ipomoea cairica

Ipomoea purpurea

Ipomoea alba

Ipomoea indica

Ipomoea alba

Ipomoea cairica

Ipomoea purpurea

Ipomoea cairica

Ipomoea quamoclit

Moth vine

Araujia sericifera

A fast growing vine with large green fruit. Found in parks, gardens, coastal areas, waterways, roadsides and fence lines. Prefers warm climates and moist soil. Poisonous to people and animals.

Habit Twining perennial climber reaching up to 6 m on supporting vegetation. Milky latex exuded from damaged stems and leaves.

Leaves Opposite, oblong to triangular, 3-11 cm long, 1-6 cm wide, dark green above, grey-green below.

Flowers Fragrant, tubular, 0.8-1.4 cm long, 5-lobed, 5-stamens, white to pale pink in groups of 2-5. Late Spring-Autumn.

Fruit Grey-green choko-shaped pod, turning brown and woody with age, opening to release numerous black seeds approximately 4 mm long, each possessing a tuft of white silky hairs that aid its spread by wind.

Roots Shallow and fibrous.

Dispersal Seeds spread by wind, water and contaminated soil (earth moving equipment, car tyres etc).

Control Hand pull/dig, scrape and paint, skirting, foliar spray.

Mysore thorn

Caesalpinia decapetala

An aggressive, thorny scrambler with long-lived seeds. Found in coastal areas, forest edges, disturbed areas and roadsides. Prefers tropical or sub-tropical climates. Should NOT be sold in the Greater Sydney region.

Habit Scrambling perennial shrub with densely prickled arching canes that form self standing thickets up to 7 m high. Can climb up to 20 m on supporting vegetation.

Leaves Alternate, bipinnate, and somewhat hairy on both sides, dark green above, paler below.

Flowers Varying shades of yellow, with 5 petals 10-15 mm long, 5 sepals 9-10 mm long, ten stamens 10-16 mm long, and a style 15-20 mm long.

Fruit Flattened, oblong, hairy, woody pods 6-1 0 cm long by 25 mm wide. Green turning brown when fully mature, splitting open to release 4-9 brown/black seeds 6-10 mm across.

Roots Shallow and fibrous.

Dispersal Seeds spread by birds, wind, water and contaminated soil (earth moving equipment, car tyres etc).

Control Hand pull/dig seedlings, cut or scrape and paint, foliar spray. Rootstocks will regrow if the roots are not removed or if the cut stumps are not treated with herbicide.

Passion flower / Passion fruit

Passiflora edulis, P. subpeltata,
P. tarminiana, P. caerulea
P. suberosa, P. foetida, P. miniata

A fast growing vine with striking flowers. Found in coastal areas, urban bushland, gardens, waterways and disturbed areas. Some species are poisonous to people and animals.

Habit	Vigorous climber with tendrils.
Leaves	Varying with species; from 10-150 mm long; generally 3-lobed sometimes ovate; pale green with powdery film and blunt tips to dark green with pointed tips.
Flowers	Passion flowers are very distinctive in shape. They range from 1-5 cm across with colours from plain white to white blotched purple, pinks and reds; 5-10 petals; numerous cream/yellow stamens and a prominent divided stigma. Spring-Summer.
Fruit	Globe or egg-shaped drupes, generally pulpy, 15-50 mm long, glossy, yellow, green, red or purple/black.
Roots	Lateral roots form at right angle to stem, break easily when pulled, re-shoot from remnant root stock.
Dispersal	Seeds spread by humans, water, animals and garden refuse dumping.
Control	Scrape and paint, cut and treat root system, Foliar spray with penetrant.

Passiflora subpeltata

Passiflora edulis

Passiflora subpeltata

Passiflora caerulea

Passiflora suberosa

Passiflora caerulea

Passiflora caerulea

Passiflora miniata

Passiflora miniata

Pampas lily of the valley

Salpichroa origanifolia

A fast growing sprawler or climber with small whitish flowers. Grows in full sun or shade, tolerating long dry periods. Found in coastal areas, gardens, roadsides and disturbed areas.

Habit A scrambling or climbing herb with stout spreading roots and rhizomes.

Leaves Oval-shaped leaves are unequal in size, variously hairy, with leaf stalks about the same length as the leaf blades.

Flowers Bell-shaped whitish flowers 6-8 mm long, form at the leaf axils.

Fruit Smooth yellow berry when ripe, containing about 20 brown to pale yellow flattened seeds.

Roots Thick, woody, extensive and mostly horizontal root system, which can be up to 1 m deep.

Dispersal Reproduces from seed and root segments, which are spread by birds and machinery.

Control Seedlings can be removed by hand. Mature plants have horizontal roots up to 3 m wide and 1 m deep. They can be removed by persistent digging over several seasons. Fruit should be cut and bagged.

A fast growing thorny vine that forms impenetrable thickets. Grows in areas with more than 700 mm of rainfall. Often found in disturbed areas, waterways and roadsides. MUST NOT be sold in NSW.

Blackberry

Rubus fruticosus spp. agg.

Habit Semi-deciduous shrub with long scrambling thorny canes generally 2-3 m high growing from a woody stem. Forms impenetrable thickets. The arching stems are green to reddish purple and covered in prickles.

Leaves Hairy, prickly, divided into 3 or 5 serrated leaflets, dark green on top, paler underneath.

Flowers Flowers are 5-petalled, resemble a single rose, pink to white. Occur from November to March.

Fruit Bunches of succulent berries ripen from green to black, aggregated berry occurring in late Summer.

Roots Grows from a woody, stocky rhizome with several lateral roots.

Dispersal Seeds spread by animals - mostly birds. Can reshoot vigorously from its crown, canes root down to produce new plant, it sends up shoots from its roots and can regrow from root fragments. Roots sucker after fire.

Control Hand pull/dig seedlings, cut or scrape and paint stems.

Ground Covers

These herbaceous plants often seem innocuous in reserves and bushland areas, but they actually displace native ground covers, reducing the biodiversity and altering the ecology of natural areas.

Many of these plants are still for sale in nurseries and local markets. Like all categories of plants in this booklet, if grown in a garden setting, they must be pruned regularly to remove spent flowers and prevent seed set.

Take care to dispose of plants, seeds and propagules responsibly.

This section provides information on priority ground cover weeds of the Greater Sydney region. Other problematic ground covers are listed below with their common name and corresponding botanical name.

Common Name	Botanical Name
Beach daisy	*Arctotheca populifolia*
Common tansy	*Tanacetum vulgare*
Coreopsis	*Coreopsis lanceolata*
Creeping cinderella weed	*Calyptocarpus vialis*
Crucifix orchid	*Epidendrum radicans*
Evening primrose	*Oenothera spp.*
Horehound	*Marrubium vulgare*
Horsetails	*Equisetum spp.*
Fireweed	*Senecio madagascariensis*
Ginger lily	*Hedychium gardnerianum*
Japanese knotweed	*Persicaria capitata*
Koster's curse	*Clidemia hirta* (Prohibited Matter)
Mist flower	*Ageratina riparia*
Mouse-ear hawkweed	*Hieracium pilosella*
Obedient plant	*Physostegia virginiana*
Opium poppy	*Papaver somniferum* (Prohibited Matter)
Orange hawkweed	*Pilosella aurantiaca*
Ox-eye daisy	*Leucanthemum vulgare*
Parthenium weed	*Parthenium hysterophorus* (Prohibited Matter)
Paterson's curse/Bugloss	*Echium spp.*
Pennywort	*Hydrocotyle bonariensis*
Polka dot plant	*Hypoestes phyllostachya*
Scarlet sage	*Salvia coccinea*
St John's wort	*Hypericum perforatum*
Thistles	*Carduus spp.; Carthamus spp.; Centaurea spp.; Cirsium spp.; Cynara spp.; Onopordum spp.; Picnomon spp.; Silybum spp.; Scolymus spp.; Sonchus spp.; Rhaponticum spp.*
Veined verbena	*Verbena spp.* (exotics)
Witchweed	*Striga spp.* (Prohibited Matter)

Trailing plant with soft purple flowers. Prefers moist, shady sites like waterways but will grow in full sun. Poisonous to pets and horses.

Blue periwinkle

Vinca major

Habit	Spreading perennial herb to 50 cm high.
Leaves	Opposite, ovate, 1.5-9 cm long, 1.5-4.5 cm wide, glossy green above, paler below; on leaf stalk 0.5-1.5 cm long.
Flowers	Violet-blue to mauve, 3-6 cm wide, tubular with 5 spreading lobes 1.3-2.5 cm long, stamens attached to inside of tube and within tube. Flowers mostly late Winter-late Summer.
Fruit	Produced in pairs joined at the base, membranous, cylindrical 3.5-5 cm long, about 0.4 cm wide. Seeds flat, hairless, 7-8 mm long, 1-10 per fruit.
Roots	Fibrous. Stems root at nodes and sometimes at tips.
Dispersal	Seed is rarely produced in Australia. Mainly spread vegetatively by humans via garden refuse dumping.
Control	Hand dig, bagging all plant parts and removing from site. Foliar spray.

Blue stars

Aristea ecklonii

Clumping plant with small blue flowers. Found in waterways, gardens, urban bushland, disturbed areas and roadsides.

Habit Evergreen perennial herb resembling a clump of grass.

Leaves Up to 60 cm tall, linear and leathery and red at the base.

Flowers Bright blue flowers in a loose panicle on a taller stem. Close early afternoon.

Fruit Pods 2 cm long, 3-sided, contain numerous small seeds.

Roots Aggressive dense fibrous root system of rhizomes developing into tubers and corms.

Dispersal Seed are spread by water flow, wind, machinery or on boots of walkers. Isolated occurrences suggest that it may also be spread by animals either ingesting the fruits or catching seeds on their feathers or fur.

Control Best removed by hand. If in abundance foliar spraying is an option.

A garden plant with clusters of small flowers. Found in parks, gardens, roadside, waterways and urban bushland.

Butterfly flower / Clockweed

Oenothera lindheimeri
Oenothera curtiflora
(**Formerly *Gaura parviflora***)

Habit Sprawling perennial herb, 0.6-1.2 m high with a 0.6-0.9 m spread.

Leaves The leaves are simple, narrow, irregular and spoon-shaped, 2.5-7.6 cm long, with toothed margins. Often blotched red.

Flowers Small, butterfly-like blooms adorn long willowy stems. Blooms are white when they open at dawn, fading to rose-pink by the end of the day and are produced for a very long period. Other varieties produce flowers of pinks and crimson. Spring-Autumn.

Fruit Small 4-sided elongated capsule persisting after the flowers containing numerous tiny seeds.

Roots Fibrous root system tolerant of a wide range of soil types from sand to clay.

Dispersal Seed and vegetation spread by water, humans, contaminated soil (earth moving/slashing equipment, car tyres etc) and garden refuse dumping.

Control Hand pull/dig, foliar spray.

Oenothera lindheimeri

Oenothera lindheimeri

Gazania

Gazania spp.

A tough, clumping ground cover plant. Bright daisy-like flowers produce lots of seed. Commonly found in coastal areas, roadsides and bushland. Tolerates varied conditions, including drought.

Habit Clumping, low-growing perennial herb to 15 cm high, that withstands salt-laden winds and grows well in sandy soils.

Leaves Elliptic to narrow-oblanceolate, irregularly pinnatisect, dark green above white hairy underneath.

Flowers Brightly coloured long stemmed daisy-like flowers to 8 cm wide, in white, red, bronze, yellow and orange tones. Spring-Autumn.

Fruit Each flower produces large amounts of seeds, individually contained in a 4 mm long dry fruit (achene), covered in hairs.

Roots Fibrous root system tolerant of a wide range of soil types from sand to clay preferring drier to free draining conditions.

Dispersal Abundance of seed spread by wind. Seed and vegetation spread by garden refuse dumping, contaminated soil.

Control Hand pull/dig, foliar spray.

Impatiens / Busy Lizzy

Impatiens walleriana varieties

A common garden plant with large soft flowers. Found in urban bushland, waterways, roadsides and disturbed areas. Prefers moist, shady sites.

Habit Bushy, succulent-stemmed perennial that grows in a spreading mound 15-60 cm tall depending on variety. Shade tolerant, favouring moist conditions.

Leaves Ovate to elliptic leaves light to dark green, sometimes with a bronze-red cast and serrated edges. The opposite leaves are arranged spirally around a thick, green or brownish, brittle stem. Fragments of stem re-root readily.

Flowers Large (to 5 cm across), fleshy, with 5 petals. Pink, rose, red, lilac, purple, orange, white and bicolours. Spring-Autumn.

Fruit Explosive capsules contain hundreds of small, viable seeds, which are expelled some distance when ripe.

Roots Fibrous root system tolerant of a wide range of soil types from sand to clay.

Dispersal Seed and vegetation is spread by water, humans, contaminated soil and garden refuse dumping.

Control Hand pull/dig, bagging all plant parts and removing from site. Foliar spray.

Lippia

Phyla canescens

A mat-like ground cover with small flowers. Prefers heavy clay soils and can establish on bare ground. Tolerates drought and inundation.

Habit Hardy, mat forming, perennial herb with stems that root at nodes.

Leaves Ovate, with blunt short teeth; 0.5-3 cm long, 2-10 mm wide, without hairs or with short dense hairs; leaf stalk absent or short.

Flowers Inflorescence a dense short cylindrical to globe-shaped spike of tubular flowers, on a stalk which is 1-6.5 cm long. Petals usually lilac or pink. Flower tubes 2-3 mm long. Spring- late Autumn.

Fruit Ellipsoid to globose, 1.5-2 mm long.

Roots Thick, woody taproot.

Dispersal Seed and fragments spread by water, humans, contaminated soil (earth moving equipment, car tyres etc) and garden refuse dumping.

Control Foliar spray, pasture improvement techniques.

Nasturtium

Tropaeolum majus

A creeping plant with soft bright flowers and fleshy stems. Found in coastal areas, waterways, urban bushland, disturbed sites and roadsides.

Habit Quick growing, soft sprawling succulent annual herb. Tolerates a wide range of soil conditions but prefers full sun.

Leaves Broad circular leaves are arranged spirally around stem supported by long stalks joined at the centre of the leaf. Leaves and stems are soft and fleshy.

Flowers Large 5-petalled funnel-formed flowers in shades of yellow, red and orange. Spring-Autumn.

Fruit Green and succulent, 10 mm long.

Roots Fibrous and succulent.

Dispersal Seed and vegetation is spread by water, humans, contaminated soil (earth moving equipment, car tyres etc) and garden refuse dumping.

Control Hand pull/dig bagging all plant parts and removing from site. Foliar spray.

Seaside daisy

Erigeron karvinskianus

A mat forming plant that takes over in open areas. Tolerates poor, dry soils, high salinity and drought. Grows in a range of conditions including moist, disturbed areas.

Habit An aggressive spreading perennial herb to about 50 cm high. Grows vigorously smothering low native ground covers.

Leaves Simple, evergreen, elliptical to oval, pubescent on both sides, and reach 32 mm long by 13 mm wide.

Flowers Small daisy flowers 1-2 cm across are borne all year round. Each flower has a yellow centre, a corolla that is 5-lobed with white petals, which become pink and finally purple with age.

Fruit Dandelion-like tufts; 1 mm long hard dry seed (achene) attached to a pappus of fine whitish hairs, 2 mm long.

Roots Fibrous, shallow; rooting at the nodes.

Dispersal Seed spread by wind, humans and contaminated soil (earth moving equipment, car tyres etc) and garden refuse dumping. Plants will spread vegetatively by cuttings rooting at the nodes.

Control Hand pull/dig bagging all plant parts and removing from site. Foliar spray.

Singapore daisy

Sphagneticola trilobata

A mat forming plant that creeps along the ground. Found in low-lying coastal areas and beaches and disturbed areas. Tolerates wet and dry conditions. Should NOT be sold in the Greater Sydney region.

Habit Dense mat-forming perennial herb to 70 cm high, stems spreading to 2 m or more that root at nodes.

Leaves Simple, dark green above, paler below, 3-11 cm long, 2.5-8 cm wide, with white hairs and toothed margins, sometimes trilobed.

Flowers Solitary in leaf axils with yellow disc and ray florets; to 3.5 cm wide on stalks 3-14 cm long. Flower heads with 4-14 petals, 6-15 mm long, inner (disc) florets tubular. Spring-Autumn.

Fruit Seeds 4-5 mm long, tuberculate and topped with Dandelion-like tufts.

Roots Fibrous, shallow; rooting at the nodes.

Dispersal Seed spread by wind, humans and contaminated soil (earth moving equipment, car tyres etc) and garden refuse dumping. Plants will spread vegetatively by cuttings rooting at the nodes.

Control Hand pull/dig bagging all plant parts and removing from site, Foliar spray.

Spider / Ribbon plant

Chlorophytum comosum

Clumping plant. Popular in rockeries or hanging baskets as it tolerates drought conditions. Found in urban bushland, coastal sites, grassy and sandstone locations in the Sydney area.

Habit	A tufted grass-like perennial herb, to 60 cm high.
Leaves	Linear strap/grass-like leaves to 1 cm wide and 60 cm long forming a point at the apex, leaves may be solid green, although the variegated form with pale green and white stripes is more common.
Flowers	Small white flowers with 6 petals are borne along outward arching wiry stalks in branching heads for most of the year.
Fruit	Small plantlets are produced at the tips of the flowering branches. When the branches bend over and the plantlets come into contact with the soil they take root. Capsules are formed that contain many seeds.
Roots	Fleshy tuberous roots 5-10 cm long form at the base of clumps.
Dispersal	Main method of reproduction is vegetative where by new plantlets take root. Spread by humans, contaminated soil (earth moving equipment, car tyres etc) and garden refuse dumping.
Control	Hand pull/dig, bagging all plant parts and removing from site. Foliar spray.

A native plant from areas north of Taree. Mistaken for local species (*L. longifolia*) and planted in bushland. Could hybridise with local species. Prefers moist, sandy soils but tolerates dry conditions.

Spiny headed / Slender mat rush / River reed

Lomandra hystrix

Habit	Tufted hardy plant with dark green, strappy leaves to 1.3 m.
Leaves	Leaf tips pointed with 2-4 tiny side teeth lower down.
Flowers	Clusters of fluffy yellow lemon, green or cream scented flower spikes as tall as leaf blades.
Fruit	Round, about 5 x 4 mm with three sections. Up to 3 small, hard seeds per fruit.
Roots	Fibrous root system.
Dispersal	Widely used in large scale revegetation projects along roadsides and watercourses. Seedlings easily spread into neighbouring bushland.
Control	Hand pull/dig, remove flower heads before seed set.

Trad

Tradescantia fluminensis,
T. zebrina, T. spathecea

This shade loving, weak rooted herb is often the cause of skin irritations in dogs. Many other forms are well known garden plants including the popular 'Moses in the cradle' (Rhoeo).

Habit Weak, perennial, creeping succulent herb, rooting from distinct nodes. Grows vigorously, layering and smothering low native ground covers. Shade tolerant and moisture loving.

Leaves Simple, alternate, ovate leaves that are glossy and dark green, to 6 cm long. Slightly fleshy.

Flowers Small 1-2 cm white flowers, with 3 petals and 6 hairy stamens. Spring-Summer.

Fruit Papery capsule, seed not viable in Australia.

Roots Stolons form underground, with weak, shallow roots forming at nodes.

Dispersal Main method of reproduction is vegetative whereby stem fragments re-root. Stem fragments spread by water, and contaminated soil (green waste dumping, earth moving etc). Common in watercourses.

Control Hand pull/dig, bagging all plant parts and removing from site. Foliar spray.

Similar native species: *Commelina cyanea* (photo bottom right). This native ground cover has hairy leaf sheaths, blue flowers and a strong primary root system.

Tradescantia albiflora

Tradescantia zebrina

Commelina cyanea
Native look-a-like

Common garden and landscaping plant. Tough and tolerant of poor, dry soils and grows in a wide range of conditions. Active management needed in all gardens.

Wild iris

Dietes bicolor
Dietes iridioides

Habit Perennial rhizomatous clumps of erect sword-shaped leaves. The adult plant is approximately 1 m wide and 1 m tall.

Leaves Leathery, sword-shaped, strappy leaves 1-2 cm wide to 60 cm long; arranged in flat fans.

Flowers Short-lived, iris-like flowers that are either white, yellow and mauve or yellow with brown spots produced. Spring-Summer.

Fruit Green, 3-celled capsule containing numerous hard angular seeds 1-2 mm in diameter.

Roots Rhizomatous and fibrous, will re-shoot from any rootstock left in soil.

Dispersal Seed is spread by water, humans, contaminated soil and garden refuse dumping.

Control Hand pull/dig, foliar spray.

This strap leaf plant could easily be replaced in the garden with the Australian native Mat Rush (*Lomandra longifolia*) or the Blue flax lily (*Dianella caerulea*).

Main photo: Dietes bicolor
Inset: Dietes iridioides

Dietes bicolor

Bulbous & Succulent Plants

These plants are extremely hardy due to their above ground and below ground storage structures, which are modified leaves, stems and roots.

In this group of plants we have included many of the Asparagus species (e.g. Bridal creeper). These plants are prolific, hardy (drought-resistant), shade tolerant and highly invasive. They have extensive underground rhizomes that form thick mats capable of reducing water penetration into soil; vigorous vegetative structures that are capable of smothering native vegetation and produce copious amounts of berries (red or black) that are readily consumed and spread by animals and birds. They are also spread by green waste dumping as rhizomes are capable of surviving for long periods of time out of the soil.

Bridal creeper fact: First recorded in Australia in 1857 in a nursery catalogue, by the 1870s Bridal creeper was a common garden plant; its flowers were used in floral arrangements, particularly in wedding bouquets. Within 50 years of introduction, Bridal creeper had become naturalised in many areas across most of southern Australia.

This section provides detailed information on priority bulbous and succulent weeds of the Greater Sydney region. Other problematic bulbous and succulent weeds are listed below with their common name and corresponding botanical name..

Common Name	Botanical Name
Aloes	*Aloe spp.*
Cabbage tree	*Cordyline australis*
Cactus/Prickly pears	*Opuntia spp.*
Cactus/Prickly pears	*Austrocylindropuntia spp.*
Cactus/Prickly pears	*Cylindropuntia spp.*
Century plant	*Agave americana, Agave spp.*
Coastal gladiolus	*Gladiolus gueinzii*
Freesia	*Freesia hybrida*
Gladiolus	*Gladiolus spp.*
Harrisia	*Harrisia spp.*
Mother-in-law's tongue	*Sansevieria spp*.
Naked lady	*Amaryllis belladonna*
Onion grass	*Romulea rosea*
Soursob/Shamrock/Wood sorrel	*Oxalis spp.*
Various succulents	*Sedums*, *Kalanchoe*, and many other genera

Common garden and landscaping plant. Found in sandy coastal sites, roadsides, disturbed areas and natural areas including the Greater Blue Mountains World Heritage Area. Poisonous to people.

Agapanthus

Agapanthus spp.

Habit	An erect fleshy, clumping, perennial lily with long strappy leaves.
Leaves	Long (up to 700 mm), strap-like, glossy bright green, fleshy.
Flowers	Small (30 mm) trumpet-shaped blue or white flowers that form large spherical clusters (umbels) at the end of long (1200 mm) smooth tubular stalks. Very showy floral display in Summer.
Fruit	3-sided leathery green capsules form in clusters at the end of stalks, drying brown and papery when mature. Contain numerous winged, small black seeds.
Roots	Shallow, fleshy, densely matted and quite robust.
Dispersal	Seed and tubers spread by water, wind, humans, contaminated soil (earth moving equipment, car tyres etc) and garden refuse dumping.
Control	Hand pull/dig, bagging all plant parts and removing from site. Foliar spray, cut and paint.

This is a popular garden plant that needs active management in all gardens. This may be as simple as actively removing spent flower stalks prior to seed set, or as comprehensive as complete removal from gardens.

Arum lily

Zantedeschia aethiopica

A common garden plant with large white flowers. Prefers wet, sunny areas but can grow in full shade. Tolerates water logging, fire and cold conditions. Very poisonous and has caused deaths in cattle and children.

Habit Erect, tuberous, evergreen perennial herb to 1.5 m high.

Leaves Arrowhead-shaped, dark green leaves to 45 cm long and 20 cm wide borne at the ends of stout, smooth, succulent green stems to 75 cm long and winged at the base.

Flowers Pale yellow spike to 9 cm long surrounded by a pure white funnel-shaped spathe to 25 cm coming to a point. Winter-Summer.

Fruit Berry, green or yellow maturing to orange 5-10 mm long containing about 4 yellow-brown seeds.

Roots Fleshy tuberous rhizome.

Dispersal Rhizomes, cormlets and seed are spread by water, humans, contaminated soil (earth moving equipment, car tyres etc) and garden refuse dumping.

Control Hand pull/dig, bagging all plant parts and removing from site. Foliar spray, cut and paint.

Bridal creeper

Asparagus asparagoides

A climber with glossy 'leaves', small white flowers and red berries. Tuberous roots form thick underground mats. Common in coastal areas, roadsides and bushland. Prefers high nutrient soils and tolerates drought, frost and fires. MUST NOT be sold in NSW.

Habit Wiry twining climber to 3 m in length and branch extensively. Stems emerge annually in Autumn from a mat, 0-10 cm deep.

Leaves Bright green, shiny 'leaves' occur alternately along stems. Pointed, ovate, 4-30 mm wide and 10-70 mm long.

Flowers White, 6-petalled flowers, 5-8 mm in diameter. Early Spring.

Fruit Pea-sized green berries turning pink then red/burgundy in late Spring-early Summer. Berries contain 1-9 seeds that are black when mature.

Roots Branching rhizomes that bear numerous fleshy tubers.

Dispersal Seed and rhizomes spread by water, animals, birds, humans, contaminated soil and garden refuse dumping.

Control Difficult to control. Foliar spray, dig or grub out mature plants. Ensure that rhizomes and tubers are removed off site. Remove and bag berries. Follow-up: hand pull all emerging seedlings. Biological control is effective.

Wombat Berry *(Eustrephus latifolius)* **is a similar native species**

Bridal veil asparagus

Asparagus declinatus

A fleshy scrambler or low climber. Forms dense mats above and below ground. Not known to be in NSW. Grows in roadsides, bushland, coastal areas and edges of waterways. MUST NOT be sold in NSW. Plants must be reported to the DPI Biosecurity Helpline 1800 680 244.

Habit Highly invasive, herbaceous perennial. Sprawling ground cover or semi-climber up to 3 m that forms dense mats. Above ground stems dieback annually during Summer. Soft and thornless.

Leaves Soft, greyish or bluish-green needle-like cladodes up to 20 mm long and 0.5-1.5 mm wide form in groups of 3 along stem segments.

Flowers White sometimes with greenish or brownish markings. Borne in pairs or solitary, 5-8 mm across. Mainly during Winter.

Fruit Round or egg-shaped berry, 8-15 mm long and around 7 mm wide, turning from green to bluish-grey or white with age. Each berry generally contains 5-8 but sometimes up to 14 seeds.

Roots Extensive, perennial, underground rhizomes and tubers.

Dispersal Seeds and rhizomes spread by water, animals, birds, humans, contaminated soil and garden refuse dumping.

Control Difficult to control. Foliar spray, dig or grub out mature plants. Ensure that rhizomes and tubers are removed off site. Remove and bag berries. Follow-up: hand pull all emerging seedlings.

Old world garden plant. Mainly found in riparian areas and near forest margins, or in disturbed sites near human habitation; can germinate in conditions from full sun to rainforest with greater than 80% canopy closure.

Broom asparagus / Asparagus fern

Asparagus virgatus

Habit Erect perennial herb or shrub with stiff stems, 0.4-0.8 m high; can attain very large and continuous infestations.

Leaves Needle-like cladodes, 3-6 in each axil, cylindrical, 3-15 mm long 0.5-1 mm wide.

Flowers Solitary, greenish white, stalks 7-12 mm long, petals 3-4 mm long mainly Spring-Summer.

Fruit Orange berry round to egg-shaped, 4-6 mm diameter containing 1 seed. Fruits most of year.

Roots Fibrous, forming an extensive rhizomatous root mass.

Dispersal Seeds and rhizomes spread by water, animals, birds, humans, contaminated soil and garden refuse dumping.

Control Difficult to control. Crowning, ensure that the crown and rhizomes are removed off site. Remove and bag berries. Follow-up: hand pull all emerging seedlings. Foliar spray, possibly with lower rates of herbicides.

Climbing asparagus fern

Asparagus plumosus

A climber that can reach 5 m into tree canopies. Tolerates low light and neglect and is relatively widespread in sheltered sites and rainforests along the coast. Can be confused with *A. africanus*. MUST NOT be sold in NSW.

Habit Tough, perennial, wiry, twining climbing vine with occasional spines and fine, feathery fern-like foliage.

Leaves Fine, feathery, leaf-like cladodes arranged in horizontal sprays.

Flowers Flowers are small, greenish-white and arranged at the tips of branches in Summer.

Fruit Bluish-green berries to 4-5 mm across that turn black when ripe and contain 1-3 seeds. Autumn.

Roots A woody crown with rhizomes at base of stems, with a fleshy root mass radiating out from the crown. No distinct tubers.

Dispersal Seeds and rhizomes spread by water, animals, birds, humans, contaminated soil and garden refuse dumping.

Control Difficult to control. Cut and paint, basal bark, foliar spray, crowning. Ensure that the crown is removed off site. Remove and bag berries. Follow-up: hand pull all emerging seedlings.

A long-lived climber or scrambler with spines. Found in rainforests, urban bushland, roadsides and disturbed areas. Tolerates dry conditions. Can be confused with *A. plumosus*. MUST NOT be sold in NSW.

Climbing asparagus

Asparagus africanus

Habit Perennial climber or scrambling shrub with woody stems 8-12 m long. Spines on older stems to 10 mm long.

Leaves Needle-like cladodes, 7-12 in each axil, cylindrical, 8-15 mm long, 0.5 mm wide produced in a clusters. Branches and cladodes spirally arranged.

Flowers White, produced in small clusters, stalks 5-10 mm long, petals 3-4 mm long mainly in Spring.

Fruit Green berry turning orange when ripe, round, 5-6 mm diameter containing 1 seed. Fruits may be present most of year.

Roots Central crown, with rhizomes and fleshy roots (no distinct tubers).

Dispersal Seeds and rhizomes spread by water, animals, birds, humans, contaminated soil and garden refuse dumping.

Control Difficult to control. Cut and paint, basal bark, foliar spray, crowning. Ensure that the crown is removed off site. Remove and bag berries. Follow-up: hand pull all emerging seedlings.

Snakefeather

Asparagus scandens

A fast growing vine with papery, balloon-like fruit. Creeping or climbing vine that can form dense mats on the ground. Grows in waterways, coastal areas, forests and disturbed areas. Often found in shady areas and prefers year round moisture. Tolerates cold and frost. MUST NOT be sold in NSW.

Habit Perennial climber with thornless, wiry scrambling stems to 2 m long. Stems branch in one flat plane.

Leaves Bright green, flattened leaf-like cladodes in clusters of 3 of unequal length, 5-15 mm long, 0.5-1 mm wide, with a distinct midrib, tapering at the base.

Flowers Small, white to pale pink, bell-shaped solitary flowers or in clusters of 2-3 produced in Winter-early Spring.

Fruit Orange-red berry round to egg-shaped, 5-7 mm diameter containing 1 seed. Fruits until Summer.

Roots Small central crown with fibrous roots and slender tubers

Dispersal Seeds and rhizomes spread by water, animals, birds, humans, contaminated soil and garden refuse dumping.

Control Difficult to control. Cut and paint, foliar spray, crowning mature plants. Ensure that the crown is removed off site. Remove and bag berries. Follow-up: hand pull all emerging seedlings.

Shauna Potter

Sheldon Navie

Sheldon Navie

Sheldon Navie

Ground asparagus

Asparagus aethiopicus

A very popular house plant because of its ability to withstand dry conditions, low light and neglect. Found in sand dunes and rainforests, rock crevices and waterways. MUST NOT be sold in NSW.

Habit Highly invasive, herbaceous perennial. Sprawling ground cover with short sharp spines and branched stems up to 2 m. A tough, woody crown is formed at base of stems. Dense mats smother low native vegetation and suppress natural regeneration.

Leaves Bright green, flattened leaf-like cladodes up to 20 mm long, with a distinct midrib and abrupt point. Single or in clusters of 2-5.

Flowers Small, white to pale pink, bell-shaped flowers in clusters of 4-8 produced during Summer.

Fruit Pale green berries that ripen to red in late Winter-early Spring.

Roots Central crown with a thick mat of fibrous roots, rhizomes and fleshy tubers extending from the centre.

Dispersal Seeds and rhizomes spread by water, animals, birds, humans, contaminated soil and garden refuse dumping.

Control Difficult to control. Cut and paint, foliar spray, crowning mature plants. Ensure that the crown is removed off site. Remove and bag berries. Follow-up: hand pull all emerging seedlings.

Steve Howard

Pompom / Ming asparagus

Asparagus macowanii

This species is sometimes confused with *A. retrofractus*, but they are easily separated (see differences below). It is recommended that *A. macowanii* be called 'Pompom asparagus' and *A. retrofractus* 'Zigzag asparagus' to prevent further confusion. Should NOT be sold in the Greater Sydney region.

Habit Shrubby perennial with smooth erect stems, 1-2.5 m tall, bearing short recurved spines on lower part of stems only.

Leaves Cladodes, 8-15 mm long, <0.5 mm wide, clustered in each axil (clusters are densely packed and globose especially near the ends of the branches).

Flowers Small, white, more or less in dense clusters appearing on branches before the cladodes have fully developed.

Fruit Dark purplish to black berry, round to egg-shaped, 7-10 mm diameter usually containing 1-2 seeds.

Roots Central underground crown, with fibrous or semi-succulent roots.

Dispersal Seeds and rhizomes spread by water, animals, birds, humans, contaminated soil and garden refuse dumping.

Control Difficult to control. Crowning, ensure that the crown is removed off site. Remove and bag berries. Follow-up: hand pull all emerging seedlings, cut and paint, basal bark, foliar spray.

Asparagus macowanii - densely clustered cladodes in 'pompoms'. Straight smooth stems. Purplish to black fruits. Erect stems with fewer and smaller spines.

Asparagus retrofractus - Sparsely clustered cladodes. Zig-zagged and ribbed stems. Orange-red fruits. Longer more scrambling stems and numerous obvious spines.

Sheldon Navie

Karen L Wilson

Sheldon Navie

A climber with woody, thorny stems. Found in waterways, littoral rainforest, wet sclerophyll, swamp oak and subtropical rainforest. Prefers moist, semi-shaded areas. Should NOT be sold in the Greater Sydney region.

Sicklethorn asparagus

Asparagus falcatus

Habit Robust climber with woody perennial stems to 5-7 m long, with stout hooked spines to 3 cm long;

Leaves Cladodes, 30-90 mm long, 3-7 mm wide, linear, most are slightly sickle-shaped.

Flowers Small, white, fragrant, numerous arranged in branched cluster. Spring-Summer.

Fruit Reddish, round berry 7-10 mm wide, contain 1-3 seeds. Mature in Winter.

Roots Central underground crown, with fibrous roots to swollen tubers that resemble sweet potatoes.

Dispersal Seeds and rhizomes spread by water, animals, birds, humans, contaminated soil and garden refuse dumping.

Control Difficult to control. Crowning, ensure that the crown is removed off site. Remove and bag berries. Follow-up: hand pull all emerging seedlings, cut and paint, basal bark, foliar spray.

Sheldon Navie

Sheldon Navie

Sheldon Navie

Canna lily / Indian shot

Canna indica
Canna x generalis

A very widely planted species that prefers wet boggy sites, waterways and disturbed areas. Commonly used in septic tank absorption trenches.

Habit Erect, herbaceous perennial to 2 m high with no true stems. Stems are a collection of tightly furled leaf bases.

Leaves Dark green to multi coloured and striped, large 60 by 25 cm, arranged alternately on stems.

Flowers Tubular flowers (yellows, oranges, reds and pinks) formed in asymmetrical clusters. Spring-Autumn.

Fruit Black, globular seeds 5-7 mm long borne in capsule, and spread by birds.

Roots Extensive, fleshy rhizome formed underground.

Dispersal Seeds and rhizomes spread by water, humans, contaminated soil (earth moving equipment, car tyres etc) and garden refuse dumping.

Control Hand pull/dig, bagging all plant parts and removing from site. Foliar spray, cut and paint.

Elephant ears / Taro

Colocasia esculenta

A fast growing plant with large velvety leaves. Grows in waterways, wetlands, swamp and lake edges. Prefers nutrient rich, moist or wet soils. Poisonous to people.

Habit Erect, rhizomatous tuberous, evergreen perennial herb to 1.5 m high.

Leaves Heart-shaped, dark green leaves to 60cm long prominently veined. Stem and leaf colour varies depending on variety of plant.

Flowers Pale yellow spike enclosed by a greenish yellow hood-like spathe. Winter-Summer.

Fruit Small berry, green or yellow maturing to orange 5-10 mm long containing about 4 yellow-brown seeds.

Roots Fleshy tuberous rhizome.

Dispersal Roots, tubers and seeds are spread by water, humans, contaminated soil (earth moving equipment, car tyres etc) and garden refuse dumping.

Control Hand pull/dig, bagging all plant parts and removing from site. Foliar spray, cut and paint.

Fishbone fern

Nephrolepis cordifolia

Once a popular basket and rockery plant due to its ability to withstand low light and neglect. A local native on the far north coast of NSW, this plant has become weedy from Sydney to the Mid North Coast of NSW.

Habit Terrestrial fern that forms dense clumps of upright, arching fronds that resemble fish bones with erect rhizome and slender stolons.

Leaves Compound fronds with opposite or alternate leaflets, often overlapping at base, to 1 m. Leaflets to 6 cm long.

Flowers Nil.

Fruit Spores carried in round, brown clusters (sori) that form in 2 rows on underside of frond.

Roots Erect, branching rhizomes above or below ground level, with wiry stolons bearing rounded, hairy tubers.

Dispersal Spores carried by water, wind and contaminated soil (tyres, earth works, people's shoes, green waste dumping). Problematic in any damp, shady areas, where it will completely dominate ground cover layer. Plants also spread via rhizomes.

Control Hand pull/dig, bagging all plant parts and removing from site. Foliar spray.

Similar local native species: Rasp fern (*Doodia aspera*) and Sickle fern (*Pellaea falcata*).

Formosa / Taiwan lily

Lilium formosanum

An upright plant with large, white flowers. Grows in bushland, disturbed sites, roadsides and coastal areas.

Habit Deciduous perennial herb with annual flowering stalks 1-2 m long.

Leaves Mid to dark green, elongated, linear, sessile leaves are arranged spirally or whirled along the stems.

Flowers Large trumpet-shaped highly fragrant flowers, pure white on the inside, pink or purple/brown stripes on the outside bearing prominent yellow anthers. Summer.

Fruit Copious papery winged seeds borne in a large capsule.

Roots Underground bulb with numerous fleshy scales (resembling garlic).

Dispersal Seeds, bulbs and bulb scales spread by water, wind, humans, contaminated soil (earth moving equipment, car tyres etc) and garden refuse dumping.

Control Difficult to control. Hand dig, ensuring all bulb scales are removed. Best done before flowering. Extensive follow-up required. Remove and bag seed heads (capsules). Foliar sprays ineffective.

Ginger lily

Hedychium gardnerianum

Large, spreading plant out-competes natives for light and moisture in most habitats. Heavy and difficult to remove from the bush.

Habit Robust perennial herb 2-3 m high with creeping underground stems (rhizomes) up to 1 m long.

Leaves About 40 cm long and 15 cm wide. Alternately arranged and lance-shaped with long pointed tips.

Flowers Yellow with red filaments and very fragrant, in spike-like clusters, Summer-Autumn.

Fruit Produces large amounts of seed.

Roots Large fleshy rhizomes forming dense layers up to 1 m thick.

Dispersal Ginger lily is mostly dispersed by seed, spread mainly by birds, but other animals as well. Once established, plants can expand vegetatively by rhizomes. However, new plants can also develop from small pieces of rhizome, which may be spread by the dumping of garden waste.

Control Difficult to control. Physical removal of all plant parts and/or herbicide application.

Amanda Kotlash

Montbretia

Crocosmia x crocosmiiflora

This pretty bulb invades bushland, roadsides streams banks and even gardens. Tolerates full sun, moist areas, frost, shady and windy conditions. Takes over and displaces native grasses and ground covers.

Habit Erect deciduous perennial herb to 0.9 m.

Leaves Basal linear strap-like flat leaves around 30-80 cm long and 1-2 cm wide die down in Autumn after producing its seeds, and reappear in Spring.

Flowers Orange yellow tubular flowers are formed solitary in spike inflorescences on short wispy unbranched stems during Summer.

Fruit Produces large amounts of seed.

Roots Globular corms live and produce plants for 2 years or more, and new corms are formed annually. Long rhizomes are also produced, each of which grows into a new plant.

Dispersal Roots, rhizomes, corms and seeds spread by humans, contaminated soil (earth moving equipment, car tyres etc) and garden refuse dumping.

Control Difficult to control. Hand dig, ensuring all corms are removed. Extensive follow-up required. Foliar spray with penetrant when flowering.

Mother of millions

Bryophyllum spp.

Often confused with the Australian native Christmas bells, this mat forming plant will grow under the poorest of conditions in areas such as a crack in a rock, gravel on the side of a road or on cliff faces, sand dunes and pastures. Poisonous to people, pets and livestock.

Habit Erect, smooth fleshy succulent stems to 1 m, with green-pink grey stems.

Leaves Leaves vary depending on the species, but all are succulent either cylindrical or boat-shaped and have many small teeth on the leaf tip or margins that produce new plantlets (vegetative reproduction).

Flowers Produced in a cluster at the tip of long stems. Flowers are drooping, bell-shaped, orange-red to scarlet, 4-lobed to 2-3 cm long. Mainly Winter-Spring.

Fruit Dry capsule, producing hundreds of tiny black seeds. Prolific seeder.

Roots Weak fibrous roots form from all vegetative parts.

Dispersal Main method of reproduction is vegetative whereby stem fragments re-root. Human activities such as mowing/slashing and green waste dumping are the common method of vegetative spread. Seeds are spread by water and contaminated soil.

Control Difficult to control. Hand pull/dig, bagging all plant parts and removing from site. Foliar spray.

B. delagoense

B. x houghtonii

An upright plant with feather-like flowers and lots of white, fleshy tubers. Mainly grows in coastal areas but also disturbed areas and waterways. Prefers damp, shady sites, causes skin irritation.

Parrot / Christmas lily

Alstroemeria psittacina

Habit An erect, long stemmed perennial lily to 1 m high, with sprays of red and green spotted flowers from clusters of tubers.

Leaves Pale green, alternate, spoon-shaped, 3-10 cm long, 10-35 mm wide with a long, narrow, base, a rounded tip and entire margin, twisted on the petioles so that the undersides face up. Petiole 1-6 cm long.

Flowers Solitary or borne in umbels. Perianth red and green, spotted black. Summer.

Fruit Globe-shaped, 3 valved capsule with prominent ribs, 10-15 mm diameter. Reddish brown seeds 2.5-3 mm diameter.

Roots Fibrous roots forming rhizomes and tubers.

Dispersal Rhizomes, tubers and seed are spread by water, humans, contaminated soil and garden refuse dumping. Possibly also spread by animals and birds.

Control Difficult to control. Hand pull/dig, bagging all plant parts and removing from site, cut and paint, foliar spray with herbicide and penetrant.

James Gaither

Spanish bayonet

Yucca aloifolia
Yucca spp.

A spiky plant with large flower clusters. Found in sand dunes, roadsides of the Mid North Coast. Tolerates drought and cold conditions, poor and saline soils. Prefers full or part sun.

Habit Evergreen, herbaceous, slow growing perennial shrub or small tree, forming large spiny rosettes of leaves. Often freely branched.

Leaves Depending on species. Green-bluish grey fleshy, linear to narrow-lanceolate, 0.3-1 m long, 2-5 cm wide, apex acute with terminal spine 10-20 mm long, margins finely toothed, surfaces glabrous.

Flowers Creamy white, multi flowered panicle 1-3 m long.

Fruit Oblong purplish capsule, 6-8 cm long, indehiscent (doesn't open on its own accord at maturity); seeds black.

Roots Large, dense and fleshy.

Dispersal Seed and vegetative reproduction where stem segments and leaf rosettes take root. Spread by humans, contaminated soil (earth moving equipment, car tyres etc) and garden refuse dumping.

Control Hand or mechanical removal, cut and paint, drilling, foliar spray. All plant parts should be removed from site.

Watsonia

Watsonia meriana 'bulbillifera'

An upright, tall plant with orangey flowers. Commonly found in disturbed bushland and roadsides, particularly near water.

Habit Erect perennial herb to 2 m.

Leaves Basal linear sword-shaped leaves up to 0.6 m long with distinct midrib are arranged in a fan-like formation. Above ground parts die back to underground corm each Autumn.

Flowers Curved trumpet-shaped salmon pink to orange red flowers formed solitary in spike inflorescences on tall reddish unbranched stems. Spring-Summer.

Fruit No seed set, but small bulbils are produced in clusters of up to 16 along the stem below the flowers.

Roots Globular corm. 1-3 new corms produced each growing season.

Dispersal Roots, bulbils and corms spread by water, humans, contaminated soil (earth moving equipment, car tyres etc) and garden refuse dumping.

Control Difficult to control. Hand pull/dig, ensuring all corms are removed. Extensive follow-up required. Remove and bag all bulbils. Foliar sprays available.

Grasses

Grasses are commonly overlooked; however, exotic grass species have invaded reserves and bushland in the Greater Sydney region where they are aggressively displacing the native ground covers. Grasses are the most successful and widespread group of plants known to humans.

Although many of these species are desirable pasture and turf grasses in home lawns, parks and playing fields, they are also problematic bushland and garden weeds because they are capable of setting copious volumes of viable seed within a short time after germination. While many of these species only invade disturbed areas with adequate light levels, some of these species are also shade tolerant, and thus can invade intact bushland areas.

All of the species in *Pennisetum* have now been moved into the genus *Cenchrus*.

This section provides detailed information on priority grasses of the Greater Sydney region. Other problematic grasses are listed below with their common names and corresponding botanical name.

Common Name	Botanical Name
African feather grass	*Cenchrus macrourus*
African love grass	*Eragrostis curvula*
Bahia grass	*Paspalum notatum*
Broadleaf paspalum	*Paspalum mandiocanum*
Buffalo grass	*Stenotaphrum secundatum*
Chilean needle grass	*Nassella neesiana*
Columbus grass	*Sorghum almum*
Common couch	*Cynodon dactylon*
Coolatai grass	*Hyparrhenia hirta*
Fine bristled burr grass	*Cenchrus brownii*
Giant pigeon grass	*Setaria verticillata*
Giant Parramatta grass	*Sporobolus fertilis*
Giant paspalum	*Paspalum urvillei*
Giant rat's tail grass	*Sporobolus pyramidalis*
Grader grass	*Themeda quadrivalvis*
Johnson grass	*Sorghum halepense*
Kikuyu	*Cenchrus clandestinus*
Large quaking grass	*Briza maxima*
Mossman river grass	*Cenchrus echinatus*
Olive hymenachne	*Hymenachne amplexicaulis*
Parramatta grass	*Sporobolus africanus*
Red natal grass	*Melinis repens*
Rhodes grass	*Chloris gayana*
Slender pigeon grass	*Setaria parviflora*
Spiny burrgrass	*Cenchrus longispinus*
Spiny burrgrass	*Cenchrus spinifex*
Thatch grass	*Hyparrhenia rufa*
Whiskey grass	*Andropogon virginicus*

Widely cultivated as a garden ornamental or for privacy: often escapes cultivation and invades natural areas.

Bamboo – Rhizomatous

Phyllostachys spp.

Habit	A long-lived bamboo with erect stems usually growing 2-8 m tall, but occasionally higher. Often forms dense stands from creeping underground rhizomes that form suckers emerging into new canes.
Leaves	Stem leaves lanceolate to narrow-lanceolate, bent downward, sometimes wrinkled, quickly dying away. Foliage leaf blades lanceolate, usually 5-15 cm long, 6-22 mm wide, covered with dense soft-hairs or almost hairless.
Flowers	Rarely produced in Australia.
Fruit	Seeds rarely produced in Australia.
Roots	Robust, creeping above and below ground rhizomes.
Dispersal	Mainly by rhizome creep from deliberate plantings, contaminated soil and garden refuse dumping. Rarely if ever grows from seed.
Control	Cut and paint individual stems. An off label permit exists for foliar spraying with specialised herbicides, by professional weed managers, in certain situations.

Stems of *Phyllostachys spp.* have a prominent groove, called a sulcus, that runs along the length of each segment. This feature makes them one of the most easily identifiable genera of bamboo.

Phyllostachys aurea

Fountain grass / Swamp foxtail

Cenchrus setaceus* / *Cenchrus purpurascens

A popular landscape grass that has escaped into roadsides, railway lines and coastal areas. Prefers exposed, dry habitats.

Habit Tufted or clump-forming perennial grass to 1 m.

Leaves Thin leathery, arching leaves to 80 cm long, with prominent veins.

Flowers Inflorescence spike-like and feathery, purplish, at the end of long canes. Flowering time: Summer-Winter. *P. setaceum:* seed heads to 30 cm long, P. alopecuroides, seed heads to 8 cm long.

Seed Both species strongly self-seed. Some new varieties are claimed to have low seed viability.

Roots Fibrous and shallow.

Dispersal Seed spread by water, wind, humans, contaminated soil (earth moving equipment, car tyres etc) and garden refuse dumping.

Control In bushland situations: Hand dig (bag seed heads), foliar spray. In the garden: cut flower heads before seeding, bag and dispose of by deep burial at a waste management centre.

Used extensively in the landscaping industry, for its eye-catching seed heads. Banned in NZ. Purple fountain grass, is considered to be less weedy and able to be sold if labelled correctly as *Cenchrus advena* 'Rubrum'.

A tall, clumping grass with fluffy seed heads. Grows on river banks, wetlands, roadsides, parks and gardens and disturbed areas. Should NOT be sold in the Greater Sydney region.

Giant reed

Arundo donax

Habit Long-lived perennial grass growing in dense clumps up to 8 m in height. Giant Reed can grow up to 10 cm a day.

Leaves Large, elongated, alternate, lance-shaped with a pointed tip, 5-100 cm long, 1-8 cm wide.

Flowers Feathery plumes 40-60 cm long are often seedless or rarely fertile. Late Spring-early Winter.

Fruit The feathery plumes break apart at maturity leaving small oblong grains 1-2 mm long enclosed in papery bracts. Grains are rarely fertile.

Roots Robust rhizomes and fibrous roots.

Dispersal Seeds and rhizomes spread by water, and garden refuse dumping. Reproduces mainly by creeping rhizomes and rhizome fragments. Can reproduce by seed.

Control Hand pull/dig juvenile plants, foliar spray adult plants.

Giant reed often grows in wetlands or near waterways and seriously depletes water supplies, using as much as 2,000 litres of water per standing metre of growth.

Liriope / Lily turf

Liriope spp.* especially *L. spicata

A very popular garden plant that is used extensively in landscaping for its hardiness in extreme conditions.

Habit Clump forming and spreading, grass-like perennial lily.

Leaves Glossy dark green, narrow strap-like, dense linear foliage from 20-50 cm long curving and then recurves towards the ground to form rounded clumps.

Flowers Spikes of small purple, violet or white flowers rise from the centre of clumps.

Fruit Black, pea-sized berries, each containing 1 seed.

Roots Dense, fibrous root mass. Some species develop fleshy tubers.

Dispersal Seed spread by water, birds and humans via contaminated soil and garden refuse dumping. Spread locally by seed falling from plant and rhizomes.

Control In bushland situations: Hand dig (bag seed heads), foliar spray. In the garden: cut flower heads before seeding, bag and dispose of by deep burial at a waste management centre.

Active management is necessary in all garden situations to prevent this plant from degrading bushland and riparian areas.

Mexican feather grass

Nassella tenuissima

Initially mislabelled and sold as an ornamental in Australia under the names Elegant spear grass, Pony tail and Angel's hair. Not known to be naturalised in Australia to date. MUST NOT be sold in NSW. Plants must be reported to the DPI Biosecurity Helpline 1800 680 244.

Habit Drooping perennial tussock forming grass which grows in dense clumps up to 0.8 m in height.

Leaves Leaf blades to 0.5 mm wide, tightly rolled and with small serrations that can be felt when fingers are moved downward along the blade. Distinguished by hairless nodes, some usually visible; ligule membranous and hairless, to 2.5 mm long.

Flowers Seedhead: Young seedheads held among the leaves; mature seedhead to 25 cm long; glumes purplish in the lower half to 1 cm long; callus bearded. Summer.

Seed Lemma to 3 mm long, awn narrow, straight or obscurely twice bent, 4.5-9 cm long; attached centrally to the top of the lemma.

Roots Fibrous clump.

Dispersal Seed spread by water, animals, humans, contaminated soil (earth moving equipment, slashers, mowers etc) and as an ornamental.

Control Hand pull/dig, bag all seed heads. Foliar spray.

Most recently found in gardens around Lithgow in 2019, with all plants controlled. It has the potential to spread to around 65% of NSW.

Pampas grass

***Cortaderia jubata* (Pink pampas grass)**
***Cortaderia selloana* (Pampas grass)**

A tall, clumping grass with fluffy seed heads. A major weed in Sydney. Prefers open, sunny locations. Tolerates waterlogging. Should NOT be sold in the Greater Sydney region.

Habit Large, long lived perennial tussock forming ornamental grass to 4.5 m tall.

Leaves Light green, up to 2 m long and finely tapering with prominent midrib and sharp edges that will cut the skin. A rim of hairs (to 3 mm long) at leaf base (ligule).

Flowers Large feathery heads on stems to 3 m tall. White-beige (*C. selloana*), or pink-mauve (*C. jubata*). Up to 50 plumes formed on one mature plant. Both single sex and bisexual plants exist. Summer-Winter.

Seed Small (2 mm), short-lived, up to 100,000 seeds set per plume.

Roots Strong fibrous root with rhizomes capable of re-shooting.

Dispersal Seeds and rhizomes spread by water, wind, humans, contaminated soil (earth moving equipment, car tyres etc) and garden refuse dumping.

Control Crowning, slash and hand dig with mattock, foliar spray. Bag all seed heads.

Cortaderia selloana

Cortaderia selloana

Panic veldtgrass

Ehrharta erecta

An aggressive, perennial grass almost constantly in seed, spreads rapidly excluding many small native ground cover species.

Habit Vigorous, shade-tolerant, rhizomatous and loosely tufted perennial grass, that will out-compete native ground covers in nearly all soil conditions.

Leaves Bright green, flat leaf blade with soft hairs on surface, to 5-20 cm long, 2-10 mm wide. Stems rounded, prominent mid-vein on the underside of leaf.

Flowers Inflorescences borne on stems, 10-80 cm long and grow at any time during the year. The stem can be upright or curved, often branched near the base and sometimes tinged red.

Seed Profuse and rapid production of 3 mm long and oval-shaped, shiny seeds. Range from immature green to a bleached, dry appearance. Seeding occurs every 6 weeks and viability approaches 100%.

Roots Relatively weak and fibrous, easily removed by hand.

Dispersal Seed spread by water, animals (mainly birds), humans, contaminated soil (earth moving equipment, car tyres etc) and garden refuse dumping.

Control Hand pull/dig, bag all seed heads. Foliar spray.

Similar native species: Weeping meadow grass (*Microlaena stipoides*).

Shrubs

Shrubs are woody plants that form single or, more commonly, multi-stemmed bushes. They can range in size from 0.5-3 m and are quite often thorny plants that can form impenetrable thickets and/or have colourful, succulent berries that become bird and animal 'lollies'. Some shrubs form scramblers that, with the support of larger trees can grow taller (e.g. Lantana, Bitou bush).

Many shrubs spread via irresponsible dumping of garden waste into bushland and reserves. Inadequate garden maintenance also allows plants to seed and spread to nearby areas via wind, water and animals who eat the seed. Weedy shrubs can become huge problems. For example, Lantana has invaded over 4 million hectares throughout Australia.

Lantana fact: First record of *Lantana camara* in Australia was in 1841 in the old Adelaide Botanic Gardens. It was first recorded in cultivation in NSW in 1843 near Sydney. The species quickly spread northward and was recorded as naturalised in the 1850s, in Brisbane in 1861, and in the Hastings and Clarence catchments of NSW in the late 1860s. In 1895 it was listed as one of the 10 worst weeds in NSW and one of the 20 worst weeds in Australia.

This section provides detailed information on priority shrubs of the Greater Sydney region. Other problematic shrubs are listed below with their common name and corresponding botanical name.

Common Name	Botanical Name
Butterfly bush	*Buddleja davidii / Buddleja madagascariensis*
Castor oil plant	*Ricinus communis*
Crofton weed	*Ageratina adenophora*
Elderberry	*Sambucus nigra*
Gorse	*Ulex europaeus*
Groundsel bush	*Baccharis halimifolia*
Hawthorns	*Crataegus spp.*
Mimosa	*Mimosa pigra* (Prohibited Matter)
Mimosa bush	*Vachellia farnesiana*
Narrow-leaved cotton bush	*Gomphocarpus fruticosus*
Oleander	*Nerium oleander* (single flowering species)
Orange jessamine	*Murraya paniculata* (seed grown species)
Spanish heath	*Erica lusitanica*

Shrubs with yellow daisy-like flowers. Bitou bush is very common along the NSW coast, growing mostly in sand dunes. Boneseed is less common, with scattered infestations along the south and central coasts. Both MUST NOT be sold in NSW. Boneseed plants must be eradicated and their presence reported to the DPI Biosecurity Helpline 1800 6800 244.

Bitou bush[1] / Boneseed[2]

***Chrysanthemoides monilifera ssp. rotundata*[1]**
***Chrysanthemoides monilifera ssp. monilifera*[2]**

Habit Sprawling woody evergreen shrubs to 2-3 m (will grow much higher if supported by taller vegetation).

Leaves Simple, alternate, practically hairless except for a cottony down on young leaves. Bitou bush: obovate to broad-obovate or broad-elliptic 3-8 cm long and 1.5-5 cm wide, usually smooth edged or irregularly toothed. Boneseed: obovate to elliptic tapering at the base 2-9 cm long and 1.5-5 cm wide very coarsely toothed with pointed tips.

Flowers Bright lemon yellow daisy-like flower 2.5-3 cm in diameter, clustered at the ends of branches for much of the year. Main flowering period Autumn. Bitou bush: 5-13 petals. Boneseed: 4-8 petals.

Fruit Fleshy green berries 5-7 mm in diameter that turn black on ripening. The berries are produced in clusters formed at the ends of branches. Each berry contains 1 seed. Bitou bush: obovoid to ellipsoid, black seed. Boneseed: globose to subglobose, white seed.

Roots Generally shallow in young plants, becoming extensive with age. On dunes, roots become deep due to constant sand accruement.

Dispersal Seed spread by water, animals (foxes, rats and birds), humans, contaminated soil (earth moving equipment, car tyres etc) and garden refuse dumping.

Control Hand pull/dig juvenile plants, cut and paint, foliar spray adult plants.

Cassia[1], Popcorn senna[2], Arsenic bush[3]

Senna pendula var. glabrata[1]
S. didymobotrya[2]
S. septemtrionalis[3]

Medium sized shrubs with yellow flowers and obvious seed pods. Found on roadsides and disturbed areas, urban bushland, waterways, coastal areas.

Dispersal Seed spread by water, animals (foxes, rats and birds), humans, contaminated soil (earth moving equipment, car tyres etc) and garden refuse dumping.

Control Hand pull/dig juvenile plants, cut and paint, scrape and paint, basal bark or foliar spray adult plants.

Cassia: medium sized at 2-4 m tall.
Leaves: compound, 3-6 pairs of obovate leaflets with rounded tips, 20-50 mm long; 10-20 mm wide with prominent yellowish coloured margins.
Flowers: bright yellow, to 3 cm borne in abundance in loose clusters.
Seed pods: relatively straight, hairless and almost cylindrical, occasionally with one or more constrictions, 10-20 cm long; 8-12 mm diameter.

Popcorn senna: medium sized at 2-3 m tall.
Leaves: compound with 7-15 pairs of oblongish, opposite leaflets, pubescent underneath, 15-60 mm long; 6-20 mm wide.
Flowers: bright yellow with dark persistent upper bracts, borne in erect, spike-like clusters 10-40 cm long carried well above the leaves.
Seed pods: oblong, flat, 7-10 cm long, 15-20 mm wide, glabrescent depressed between the seeds.

Arsenic bush: medium sized at 1-3 m tall.
Leaves: compound, 3-5 pairs of ovate, opposite leaflets with pointed tips, 45-70 mm long; 15-35 mm wide.
Flowers: bright yellow, to 3 cm borne in loose elongated clusters.
Seed pods: straight, hairless and almost cylindrical 7-8 cm long, 10-15 mm diameter.

Senna pendula var. glabrata

Senna pendula var. glabrata

Senna didymobotrya

Senna didymobotrya

Senna pendula var. glabrata

Senna septemtrionalis

Senna septemtrionalis

Coral berry

Ardisia crenata

A common indoor plant due to its low light requirements, *Ardisia* has escaped cultivation and is recorded as being weedy from the Mullumbimby area to Sydney.

Habit Evergreen, compact shrub 1-2 m high with a bushy head.

Leaves Dark glossy green above, paler and dull below, elliptic to slightly oblanceolate, 5-12 cm long, 1.5-3.5 cm wide; margins serrated and crinkled.

Flowers Inflorescence is a many-flowered umbel. Flowers rather inconspicuous, white and starry, petals 4 mm long. Summer-Autumn.

Fruit Scarlet red globose berry, 5-8 mm diameter. Long lasting usually persisting through Winter.

Roots Shallow and fibrous.

Dispersal Seed spread by water, animals (foxes, rats and birds), humans, contaminated soil (earth moving equipment, car tyres etc) and garden refuse dumping.

Control Hand pull/dig, scrape and paint, foliar spray.

Cotoneaster

Cotoneaster spp.

At least nine species of *Cotoneaster* have naturalised in Australia. There are numerous native alternatives available which will attract birds to the garden. Poisonous to people, livestock and pets.

Habit Evergreen shrub or small tree to 4 m high usually with arching branches.

Leaves Varying with species but, usually elliptic to ovate 1.5-4 cm wide, green above paler or silvery below. Young growth often woolly.

Flowers White clusters. Each flower about 8 mm wide, 5-petalled. Flower stalk densely hairy. Spring-Summer.

Fruit Red fleshy fruit (pome) 6-10 mm long, almost globe-shaped. Containing 2 yellowish, flattened seeds.

Roots Substantial woody tap and lateral root system.

Dispersal Seed spread by water, animals (mainly birds), humans, contaminated soil (earth moving equipment, car tyres etc) and garden refuse dumping. The main problem is that people plant Cotoneaster to attract birds to the garden.

Control Hand pull/dig juvenile plants. Cut and paint or scrape and paint mature plants.

Cotoneaster franchetii

Cotoneaster pannosus

Cotoneaster glaucophyllus

Firethorn

Pyracantha spp.

Thorny shrubs with smooth leaves and bright coloured fruit. Form thickets in coastal areas.

Habit Scrappy, large, evergreen shrub 3-6 m high and 3.5 m wide armed with sharp thorns at the ends of the arching branches.

Leaves Varying with species but usually dark, glossy green, ovate to lance-shaped to 3.5 cm long sometimes with a toothed margin.

Flowers Clusters of small white flowers appear as corymbs up to 5 cm across in Spring in masses.

Fruit Varying with species. Green, round flattened berries 0.6 cm in diameter ripen to shades of red, orange, or yellow in Autumn/Winter.

Roots Substantial woody tap and lateral root system.

Dispersal Seed spread by water, animals (mainly birds), humans, contaminated soil (earth moving equipment, car tyres etc) and garden refuse dumping. The main problem is that people plant Firethorn to attract birds to the garden.

Control Hand pull/dig juvenile plants. Cut and paint or scrape and paint mature plants.

Indian hawthorn

Rhaphiolepis indica

A commonly cultivated garden plant especially in coastal areas due to its ability to tolerate drought conditions and salt laden winds. Less weedy or sterile cultivars may be available.

Habit Drought hardy, salt tolerant evergreen, low growing, spreading shrub to 1-1.5 m high.

Leaves Dark green on top, paler below; thick, leathery, serrated, ovate to elliptic or obovate, 3-7 cm long, 5-30 mm wide, pubescent or hairy at first, sharply toothed.

Flowers Panicle of star-shaped flowers 10 mm diameter. Petals are white or pink, with 5 petals, and may be lightly fragrant.

Fruit Blue-black pome fruits each containing 1-2 seeds.

Roots Extensive lateral, woody and relatively deep.

Dispersal Seed spread by animals (mainly birds), humans, contaminated soil (earth moving equipment, car tyres etc) and garden refuse dumping.

Control Hand pull/dig, cut and paint, foliar spray.

Lantana

***Lantana camara* (common)**
***Lantana montevidensis* (spreading)**

Scrambling or sprawling shrubs with bright coloured flowers and round fruit. Grows on roadsides, river banks, pastures, and bushland. Prefers disturbed areas, well drained, fertile soils and warm climates. Poisonous to people and livestock. *Lantana camara* MUST NOT be sold in NSW.

Habit An evergreen, prickly, square stemmed, scrambling woody thicket forming shrub 2-4 m high. Will climb to 10 m if supported.

Leaves Pale to mid green, ovate, arranged in opposite pairs, roughly hairy, finely toothed margins and highly scented.

Flowers Rounded heads to 3 cm wide of numerous small tube-shaped flowers of various colours including pink, red, yellow, orange and white produced all year. Common Lantana: usually multi coloured combinations; Spreading Lantana: usually solid colours.

Fruit Clusters of succulent green berries ripening black to 5 mm wide, each containing 1 seed.

Roots Extensive lateral, woody and relatively shallow. Will re-shoot from any root stock left in the ground.

Dispersal Vegetation and seed spread by water, animals (mainly birds), humans, contaminated soil (earth moving equipment, car tyres etc) and garden refuse dumping.

Control Hand pull/dig juvenile plants. Cut and paint, foliar spray.

Lantana montevidensis

Lantana camara

Lantana camara (Pink)

Lantana camara (Red)

Naturalised in bushland throughout Greater Sydney, as the copious supply of seeds from suburban gardens is readily available to foraging birds.

Mickey Mouse plant

Ochna serrulata

Habit A dense evergreen shrub 2-4 m high with rough stems. Bark has numerous lenticels (corky spots) protruding outwardly.

Leaves Alternately arranged oblong to lanceolate leaves to 6 cm long, glossy green on both surfaces, slightly paler below. Leaf margins finely serrated and often wavy, new growth is reddish-brown in colour.

Flowers Yellow with 5 petals in Spring-Summer. Green calyx turns red after petals drop and fruit matures.

Fruit Succulent green berries to 8 mm across, in clusters of 4-6. Ripen to black in Summer. Each berry contains a single seed.

Roots Strong tap-root formed, with characteristic kink that renders it susceptible to breaking. Will reshoot form any root stock left in ground.

Dispersal Seed spread by water, animals (foxes, rats and birds), humans, contaminated soil (earth moving equipment, car tyres etc) and garden refuse dumping.

Control Hand pull/dig juvenile plants. Scrape and paint. Very hard to control.

Pigeon berry / Golden dewdrop

***Duranta erecta* cultivars**

Has become naturalised in some areas. It requires active management in all gardens. Poisonous to people and pets.

Habit A straggly evergreen shrub 1-5 m high with drooping branches and sharp spines.

Leaves The ovate leaves are 2.5-7.6 cm long and arranged on the stem in pairs opposite each other, or in whorls of 3.

Flowers Showy inflorescences bloom almost all year long in terminal or lateral racemes up to 15 cm long. The individual flowers are tubular with 5 petals, white, light blue, violet or purple, and spread out at the mouth about 1 cm across.

Fruit Spherical yellow berry to 1.5 cm in diameter borne in showy hanging bunches.

Roots Substantial tap and lateral root system.

Dispersal Seed spread by water, animals (mainly birds), humans, contaminated soil (earth moving equipment, car tyres etc) and garden refuse dumping.

Control Hand pull/dig. Cut and paint or scrape and paint, foliar spray.

Duranta 'Sheena's Gold'

Duranta 'Geisha Girl'

Duranta 'Geisha Girl'

Introduced to Australia in the 1800s as an ornamental. A major woody weed of temperate areas, especially the Barrington Tops, NSW. There are other hybrids and species with different coloured flowers that may also naturalise. Poisonous to people. MUST NOT be sold in NSW.

Scotch broom

Cytisus scoparius

Habit Large, erect, perennial, woody, semi-deciduous shrub to 4 m tall.

Leaves Sparse, tiny grey-green leaves with 3 leaflets; older plants may be almost leafless.

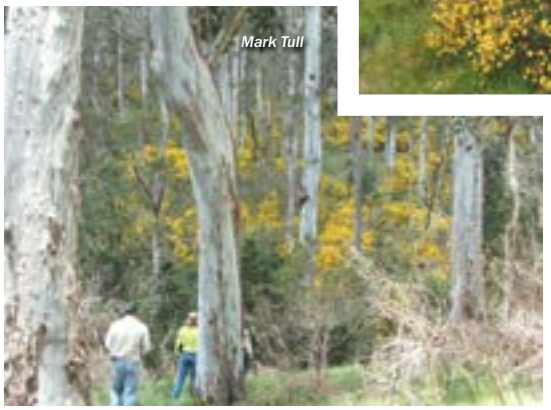
Flowers Numerous yellow, pea-like, 1.5-2.5 cm long late Winter to Summer.

Fruit Seed pods 2-7 cm long and about 1 cm wide containing up to 22 seeds per pod but often less. Seed greenish to brown. Seeds are released explosively from ripe pods.

Roots Extensive with a stout taproot and laterals that sucker readily.

Dispersal Seed spread by water, animals, humans, contaminated soil (earth moving equipment, car tyres etc) and garden refuse dumping. Seed pods can eject seeds up to 4 m from the plant.

Control Hand pull/dig. Cut and paint or scrape and paint, foliar spray.



Mark Tull

Mark Tull

Trees

The tree weeds are often the most obvious, simply by virtue of the fact that they occupy a large area in an ecosystem. Because of the sheer size many of these plants can attain, it makes them one of the most costly and difficult group of plants to treat or remove.

Olive fact: The Olive (*Olea europaea* and its sub-species) was an early introduction to Australia and is now naturalised widely throughout southern regions, especially South Australia. Its fruit are readily dispersed by birds and foxes. Between 1995 and 2005 over 7 million trees were planted and with expansion of popularity the potential for further dispersal into bushland has also increased. European olives are widely available for sale in nurseries. The only possible reduction in its spread depends on modern breeding techniques which could produce radically improved cultivars with sterile seeds as well as superior fruit. Unfortunately the incentive for research to achieve this lies almost certainly in the promise of higher oil yield rather than one of reduced weed potential. The African olive is currently the main species naturalised in NSW and, is still sold in nurseries. It has escaped from ornamental hedges in home gardens.

This section provides detailed information on priority trees of the Greater Sydney region. Other problematic trees are listed below with their common name and corresponding botanical name.

Common Name	Botanical Name
African tulip tree	*Spathodea campanulata*
Athel pine	*Tamarix spp.*
Cadaghi gum	*Corymbia torelliana*
Cecropia	*Cecropia spp.*
Coffee	*Coffea arabica*
Cootamundra wattle	*Acacia baileyana*
Ice cream bean	*Inga edulis*
Jacaranda	*Jacaranda mimosifolia*
Leucaena	*Leucaena leucocephala*
Loquat	*Eriobotrya japonica*
Mount Morgan wattle	*Acacia podalyriifolia*
Night scented jasmine	*Cestrum nocturnum*
Norfolk Island hibiscus	*Lagunaria patersonia*
Paper mulberry	*Broussonetia papyrifera*
Prickly acacia	*Acacia nilotica ssp. indica* (Prohibited Matter)
Princess tree	*Paulownia fortunei, P. tomentosa*
Pond apple	*Annona glabra* (Prohibited Matter)
Tagasaste	*Chamaecytisus palmensis*
Tung oil tree	*Vernicia fordii*
Willows	*Salix spp.*

Tree with fragrant whitish flowers.
Grows in waterways, disturbed areas, urban bushland and coastal areas.
Poisonous to people and animals.

Angel's trumpet

Brugmansia suaveolens
Brugmansia x candida

Habit Untidy, evergreen shrub or small tree to 4.5 m high, branching low from a short trunk.

Leaves Dull green, oval, velvety leaves with wavy margin are arranged alternately, but confined to the branch tips.

Flowers Large, white, pale violet, pale orange or peach, highly night scented, pendulous, trumpet-shaped flowers to 30 cm long. Summer.

Fruit Green, egg-shaped to narrowly oval berry, up to 20 cm long containing many seeds 8-12 cm across.

Roots Woody, branching and relatively shallow.

Dispersal Vegetation and seed spread by water, animals (foxes, rats and birds), humans, contaminated soil (earth moving equipment, car tyres etc) and garden refuse dumping.

Control Hand dig/pull juvenile plants. Various foliar spray methods (drill-injection; frilling; cut and paint).

Brugmansia x candida

Brugmansia x candida

Brugmansia x candida

Black locust

***Robinia pseudoacacia* and cultivars**

A hardy, spiny tree that prefers full sun and well drained soil. Found in waterways, roadsides, disturbed sites and urban bushland. Poisonous to people and livestock.

Habit Deciduous large shrub or small tree to 15 m, bearing many large rose-like prickles.

Leaves Compound 8-15 cm long, pinnate with 11-21 leaflets 2-5 cm long, 1-2.5 cm wide with entire margins.

Flowers Sweetly perfumed, white, pink or purple pea-like flowers borne in racemes 10-15 cm long. Spring.

Fruit Small brown glabrous pods 3-8 cm long, 10-15 mm wide with several hard black seeds.

Roots Strong root system capable of coppicing and suckering when disturbed or stressed.

Dispersal Seeds are spread by water, animals, humans, contaminated soil (e.g. earth moving equipment, car tyres) and garden refuse dumping.

Control Hand dig/pull juvenile plants. Various foliar spray methods also drill-injection; frilling; cut and paint. Difficult to control.

Broad leaf pepper tree

Schinus terebinthifolius

A fast growing tree with bright red berries. Shade tolerant and prefers waterlogged and poorly drained soils. Grows in coastal areas, waterways and wetlands. Poisonous to people and animals.

Habit Small tree up to 6-10 m tall and 4.5 m wide bearing a short trunk with multiple branches. Dioecious i.e. there are separate male and female trees.

Leaves Compound, pinnate with 3-9 leaflets each to 3-8 cm long, mid to dark green, Main stem red tinged, peppery aroma when crushed.

Flowers Inflorescence a panicle. Flowers small, 5 petals, cream to white in clusters at ends of branches. Intermittent Spring-Autumn.

Fruit Round drupe, green ripening to glossy red, about 0.5 cm across.

Roots Strong root system capable of coppicing and suckering.

Dispersal Seeds are spread by water, animals (foxes, rats and birds), humans, contaminated soil (earth moving equipment, car tyres etc) and garden refuse dumping.

Control Hand dig/pull juvenile plants. Various foliar spray methods also drill-injection; frilling; cut and paint. Difficult to control.

Camphor laurel

Cinnamomum camphora

Once a common park and paddock shade tree, Camphor laurels are now extensively naturalised in many areas of NSW.

Habit A large, hardy evergreen spreading tree 20-30 m in height. Grey-brown, textured bark, becoming fissured with age.

Leaves Leaves 5-11 cm long, ovate, glossy on upper surface; dull and chalky on lower surface. 3 main veins arise from petiole joint at base of leaf. Strong camphor smell when crushed.

Flowers Inflorescence a panicle. Flowers small, white, produced in clusters in Spring.

Fruit Glossy green spherical berry to 1cm wide, ripen to black in late Autumn. Each berry contains 1 seed.

Roots Strong root system capable of coppicing and suckering.

Dispersal Seeds are spread by water, animals (foxes, rats and birds), humans, contaminated soil (earth moving equipment, car tyres etc) and garden refuse dumping.

Control Hand dig/pull juvenile plants. Various foliar spray methods also drill-injection; frilling; cut and paint. Difficult to control.

Planted in eastern Australia in 1854 as a shade tree in school yards, playgrounds, cemeteries, parks and along roadways. Camphor laurel has naturalised from the Nowra region to north Queensland, in areas of high annual rainfall.

Naturalised in damp areas, particularly along banks of waterways, in SE Qld and to a lesser extent in NE NSW. A problematic weed in these areas. Commonly found on clay soils.

Chinese celtis

Celtis sinensis

Habit Deciduous tree to 15 m to 20 m high with smooth, silvery grey bark covered with lenticels (small corky spots).

Leaves Ovate; mature leaves 4-10 cm long, 2-4.5 cm wide, shiny, dark green and mostly hairless above, paler below with hairs on veins. Upper leaf edges only coarsely toothed, leaf bases asymmetrical.

Flowers Inflorescences of few tiny, flowers bearing 4 creamy petals, 4 purplish sepals and 4 stamens. Late Winter-early Spring.

Fruit Globe-shaped, succulent, 6-8 mm wide, on stalk 0.4-1 cm long, green aging to orange/red in Summer-Autumn.

Roots Strong tap root system capable of suckering.

Dispersal Seed mainly spread by water and animals, but may also be distributed by humans, contaminated soil (earth moving equipment, car tyres etc) and garden refuse dumping. Seeds rarely survive for more than 2 years.

Control Hand dig/pull juvenile plants. Various foliar spray methods also drill-injection; frilling; cut and paint. Difficult to control.

Chinese tallow tree / Chinese tallowood

Triadica sebifera

Still a popular park and Autumn foliage tree, Chinese tallowood's are naturalised in many areas of NSW. The milky sap in both the leaves and the berries is poisonous to animals.

Habit A hardy deciduous medium tree to 7 m in height. Grey-brown, textured bark, becoming fissured with age.

Leaves Diamond-shaped, abruptly pointed at the tip, simple, alternate and 5-8 cm long. In Autumn the leaves turn brilliant shades of scarlet, orange, yellow and maroon.

Flowers Yellowish green catkins on the branch tips produced in Spring.

Fruit 3-lobed capsule with 1 seed in each lobe. Seeds are covered with vegetable tallow, a white waxy coating.

Roots Strong tap root system capable of suckering.

Dispersal Seed spread by water, animals, humans, contaminated soil (earth moving equipment, car tyres etc) and garden refuse dumping.

Control Hand dig/pull juvenile plants. Various foliar spray methods also drill-injection; frilling; cut and paint. Difficult to control.

Commonly cultivated, becoming widely naturalised, especially in coastal districts along drains and streams.

Cockspur coral tree

Erythrina crista-galli

Habit Deciduous tree to 5-9 m taking on a gnarled appearance with age, bark is covered with large curved prickles.

Leaves Compound trifoliate leaves with prickles on stems.

Flowers Very large spikes 30-40 cm long of bright scarlet or coral-red pea-like, bird attracting flowers in Spring-Summer.

Fruit Long green pods age brown and open with a twist revealing large, hard, bean-like seeds.

Roots Substantial tap and lateral root system capable of invading plumbing pipes. Will sucker from root fragments left in ground. Branches should not be left on the ground as they can re-grow into new plants.

Dispersal Vegetation and seed spread by water, animals, humans, contaminated soil (earth moving equipment, car tyres etc) and garden refuse dumping.

Control Hand dig/pull juvenile plants. Various foliar spray methods also drill-injection; frilling; cut and paint. Very difficult to control.

Has the potential to invade natural areas such as hind-dunes, rainforests, wetlands creeks, and saltmarshes.

Coral tree

Erythrina x sykesii

Grows readily from fallen branches, and wood chips. Should not be used as mulch unless composted. Has the potential to invade natural areas such as hind-dunes, rainforests, wetlands, creeks, and saltmarshes.

Habit Deciduous tree 10-15 m high by 15-20 m wide with a dense rounded canopy, short stout trunk and ascending branches with smooth greenish bark, and rose-like thorns. Very brittle branches are shed when windy.

Leaves Compound; tri-foliolate; leaflets triangular to obovate, 7-20 cm long, 7-12 cm wide mid green.

Flowers Racemes usually 8-30 cm long and erect bearing up to 30-scarlet red pea-like flowers. Most of year but mainly Winter-Spring.

Fruit Nil.

Roots Substantial tap and lateral root system capable of invading plumbing pipes. Will sucker from root fragments left in ground. Branches should not be left on the ground as they can re-grow into new plants.

Dispersal Vegetation spread by water and humans via garden refuse dumping.

Control Hand dig/pull small plants. Various foliar spray methods also drill-injection; frilling; cut and paint. Very difficult to control.

Self sows and suckers freely and should not be used for landscaping or planting in areas near bushland in the eastern states.

Golden wreath wattle

Acacia saligna

Habit Erect or spreading tree or shrub 2-8 m high with weeping new growth. Life-span of only 10-20 years.

Leaves Simple, relatively narrow, 7-30 cm long and 2-20 mm wide green or bluish-green in colour, either straight or sickle-shaped.

Flowers Round, bright or golden yellow fluffy balls, borne in small clusters 9-12 mm across that are arranged into larger elongated compound clusters of 25-55 flowers, or rarely up to 75. July-September.

Fruit Pods are flat, long and narrow, straight to strongly curved, and slightly constricted between seeds, 5-14 cm long, 4-6 mm wide.

Roots Substantial tap and lateral root system capable of suckering.

Dispersal Seed spread by water, animals (ants and birds), humans, contaminated soil (earth moving equipment etc) and garden refuse dumping. The long-lived seeds can remain dormant in the soil for more than a decade.

Control Hand dig/pull juvenile plants. Drill-injection; frilling; cut and paint, basal bark, foliar spray.

Green cestrum

Cestrum parqui

Prized for its sweet night scented flowers; widely planted as a garden hedge in the 1800s. Poisonous to people and livestock. Should NOT be sold in the Greater Sydney region.

Habit Large woody evergreen shrub 3-4 m high.

Leaves Dull grey/green colour above paler below, alternate, narrow and lance-shaped, 2-7 cm long, usually 1-5 cm wide; the leaf stem (petiole) can be up to 1 cm long. Leaves have an unpleasant odour when crushed.

Flowers Loose terminal clusters of greenish to bright yellow, tubular flowers to 3 cm long with 5 lobes. Very sweetly night scented. Flowers most of year.

Fruit Green egg-shaped berry ripening to black, about 10-15 mm in length, seeds dark green or brown, 3–4 mm long.

Roots Substantial tap root that gives rise to many laterals. Suckering habit. Will re-shoot from any root stock left in ground.

Dispersal Seeds and roots spread by water, animals (mainly birds), humans, contaminated soil (earth moving equipment, car tyres etc) and garden refuse dumping.

Control Hand dig/pull juvenile plants. Cut and paint, scrape and paint or foliar spray.

Honey locust

Gleditsia triacanthos

Introduced as a fodder tree and cultivated as an ornamental. Found in dense thickets along watercourses on the Central and Mid North Coast, western slopes and tablelands of northern NSW and in SE Queensland.

Habit Spreading deciduous medium to large tree 15-25 m, bearing single or branched clusters of large thorns 2-10 cm long.

Leaves Compound, 15-20 cm long, usually bipinnate with 2-7 pairs of pinnae and 12-30 pinnules per pinnae; leaflets elliptic to ovate, 10-35 mm long, 5-12 mm wide, sparsely toothed.

Flowers Fragrant, brownish-yellow pubescent pea-like flowers borne in racemes 10-15 cm long in Spring as leaves develop or after leaves appear.

Fruit Pod slightly sickle-shaped, 15-40 cm long, 3-4 cm wide, dark brown not opening at maturity, containing 15-25 hard brown seeds.

Roots Strong root system capable of coppicing and suckering when disturbed or stressed.

Dispersal Seed spread by water, animals, humans, contaminated soil (earth moving equipment, car tyres etc) and garden refuse dumping.

Control Hand dig/pull juvenile plants. Various foliar spray methods also drill-injection; frilling; cut and paint. Difficult to control.

Olives

Olea europaea ssp. cuspidata – African Olive
Olea europaea ssp. europaea – European Olive

Medium sized trees that produce fruit attractive to birds and other animals, contributing to their spread. Weeds of warm, temperate or semi-arid areas. Tolerates a range of growing conditions.

Habit Much branched evergreen tree 5-15 m high with drooping branchlets. Thin greyish bark covered by protruding lenticels.

Leaves Simple, narrow, opposite, lance-shaped, 5-10 cm long and up to 2 cm wide with prominent midrib, dark green on upper surface; African Olive: yellowish-brown on lower surface, often with a hooked tip. European Olive: silvery-grey on lower surface, pointed tip.

Flowers Small white to cream or greenish tubular flowers forming in racemes at branch tips. Spring-Summer.

Fruit Small white to cream or greenish tubular flowers forming in racemes at branch tips. Spring-Summer.

Roots Substantial tap root that gives rise to many laterals. Will re-shoot from any root stock left in ground.

Dispersal Seed spread by water, animals (foxes, rats and birds), humans, contaminated soil (earth moving equipment, car tyres etc) and garden refuse dumping.

Control Hand dig/pull juvenile plants. Drill-injection; frilling; cut and paint, basal bark, foliar spray. Bag and dispose of all berries.

European olive
Stephen Johnson

African olive
John Hosking

Rhus tree

Toxicodendron succedaneum

A deciduous shrub or small tree with bright red leaves in Autumn. All parts of the plant are toxic and can cause severe dermatitis.

Habit Rhus is a small, deciduous tree 5-8 m tall with smooth grey bark.

Leaves The leaves are divided into 9-15 leaflets (mostly 11) arranged in pairs, forming a leaf frond 20-35 cm long. The leaflets are 4-10 cm long and 2-3 cm wide. They are bright green above and often greyish beneath because of a waxy bloom on the leaf surface. In Autumn they change to a brilliant red before they fall.

Flowers Small creamy-white to yellow flowers occur in large clusters (8-15 cm long) among the new leaves in Spring and early Summer.

Fruit The hard fruits are 5-11 mm in diameter, and pale brown with a papery skin.

Roots Develops extensive lateral roots which are also toxic.

Dispersal Scattered plants still occur in domestic gardens. Birds eat the fruit and spread the seed in their droppings, and many thousands of seedlings germinate in home gardens, public areas and urban bushland.

Control Hand dig/pull juvenile plants. Cut down older trees bag all seeds.

NSW DPI

NSW DPI

NSW DPI

Privet-large leaf

Ligustrum lucidum

Was widely cultivated as a hedge plant, now a widespread weed of coastal bushland and wasteland, especially along streams. Prefers warm, humid climates with reasonable soil moisture. Poisonous to people and livestock.

Habit Evergreen shrub or small tree to 12 m high.

Leaves Ovate to elliptic or narrow-ovate, 4-13 cm long, 3-5 cm wide, dark green above, paler below with entire margin.

Flowers Inflorescence is a dense, panicle 15-25 cm long. Flowers fragrant with 4 white petals, each 3-5 mm long; Spring-Summer.

Fruit Berry 6-8 mm long, purple-black and succulent when ripe. Seeds dark-brown, finely pitted, about 5 mm long. Autumn-Winter.

Roots Substantial tap and lateral root system capable of invading plumbing pipes.

Dispersal Seed spread by water, animals (mainly Currawongs), humans, contaminated soil (earth moving equipment, car tyres etc) and garden refuse dumping.

Control Hand dig/pull small plants. Various foliar spray methods also drill-injection; frilling; cut and paint. Relatively easy to control.

Privet-small leaf

Ligustrum sinense

Still cultivated as a hedge plant. Widely naturalised, especially along fence lines in cleared areas, wasteland, stream banks and margins of rainforest. Prefers warm, humid climates with reasonable soil moisture. Poisonous to people and livestock.

Habit Evergreen to semi-deciduous (in cooler areas) shrub to small tree 3-5 m high.

Leaves Elliptic to ovate, mostly 2-5 cm long, 1.5-2.5 cm wide.

Flowers Inflorescence is a dense, panicle 5-10 cm long. Flowers fragrant with 4 white petals each 3-5 mm long with pink/purple pollen. Late Winter-Spring.

Fruit Berry ovoid 4-7 mm long, black and succulent when ripe; seeds 3-4 mm long.

Roots Substantial tap and lateral root system capable of invading plumbing pipes.

Dispersal Seed spread by water, animals (mainly Currawongs), humans, contaminated soil (earth moving equipment, car tyres etc) and garden refuse dumping.

Control Hand dig/pull small plants. Various foliar spray methods also drill-injection; frilling; cut and paint. Relatively easy to control.

Tree of heaven

Ailanthus altissima

A hardy plant with a deep root system which forms suckers and dense thickets. Found in gullies, old homesteads, woodlands. Prefers humid or sub-humid climates and moderate rainfall. Tolerates harsh conditions. Poisonous to people.

Habit Rapidly growing deciduous suckering shrub or tree to 15 m with pale grey bark.

Leaves 9-21 opposite pairs of strongly veined, ovate leaflets with a smaller leaf at the tip. Leaflets have a conspicuous gland that produces an unpleasant smell when crushed.

Flowers Male and female flowers appear in clusters on separate plants in Summer.

Fruit Seeds are covered in a flattened wing, green turning reddish.

Roots Deep tap roots, a maze of lateral roots.

Dispersal The seeds are mostly spread by wind and water. They can also be dispersed by birds, machinery, mowers, and in dumped garden waste. Colonies also spread laterally over time, via the root suckers.

Control Scrape and paint stems. Drill trunks of larger specimens.

NSW DPI

NSW DPI

Yellow bells

Tecoma stans

Popular because of its magnificent floral display. On the increase on roadsides and disturbed bushland. Easy to grow, and are often sold at local fetes or backyard traded.

Habit Evergreen many branched shrub or small tree 4-7 m high.

Leaves Compound leaves to 8-25 cm long, comprised of 5-13 leaflets. Leaflets are toothed and pointed, 2.5-10 cm long and 8-30 mm wide.

Flowers Large clusters of showy, bright yellow trumpet-shaped flowers in Spring-Summer. Formed at the branch tips and forks.

Fruit Green bean-like seed pods ageing brown, 10-22 cm long x 20 mm wide produced from Spring-Autumn, each containing numerous winged seeds.

Roots Substantial tap root that gives rise to many laterals.

Dispersal Seed spread by water, wind, humans, contaminated soil (earth moving equipment, car tyres etc) and garden refuse dumping.

Control Hand dig juvenile plants. Cut and paint or scrape and paint. Bag and dispose of all seed pods.

Aquatic Weeds

Aquatic or water weeds are plants that invade watercourses, dams and wetlands. These weeds are extremely detrimental to the aquatic environment, where they choke waterways, alter oxygen levels and reduce light penetration. This can prevent recreational activities, reduce water quality, displace natural vegetation and aquatic life (e.g. fish) and increase flooding and erosion.

Most water weeds originate from backyard fish ponds or home aquariums and have been released into the environment. They have been further spread by birds, boats and the deliberate seeding of waterways by black market plant traders; through accidental spread between farm dams via fish, yabbie and eel traps or as contaminants with backyard-traded water lilies.

Water weeds may be spread either by vegetation from plant fragments and/or by seed depending on the plant. Once established water weeds are difficult to eradicate and may require a combination of control methods including chemical and biological treatments as well as physical or mechanical removal. Water weed control is time-consuming, expensive work and usually requires many follow-up sessions.

The key to water weed control is early detection and to prevent their movement into uninfested waterways. If you think you might have any of the following water weeds, contact your Council's Weeds Officer for expert identification, advice and assistance.

This section provides detailed information on priority aquatic weeds of the Greater Sydney region. Other problematic aquatic weeds are listed below with their common name and corresponding botanical name.

Common Name	Botanical Name
Arrowhead	*Sagittaria calycina var. calycina*
Anchored water hyacinth	*Eichhornia azurea* (Prohibited Matter)
Bog moss	*Mayaca fluviatilis*
Cabomba	*Cabomba caroliniana*
East Indian hygrophila	*Hygrophila polysperma*
Elodea	*Elodea canadensis*
Eurasian water milfoil	*Myriophyllum spicatum* (Prohibited Matter)
Frogbit	*Limnobium laevigatum* (Prohibited Matter)
Horsetails	*Equisetum spp.*
Hydrilla	*Hydrilla verticillata* (Native)
Hydrocotyl	*Hydrocotyle ranunculoides* (Prohibited Matter)
Lagarosiphon	*Lagarosiphon major* (Prohibited Matter)
Olive hymenachne	*Hymenachne amplexicaulis*
Peruvian primrose	*Ludwigia peruviana*
Spongeplant	*Limnobium spongia* (Prohibited Matter)
Water caltrop	*Trapa natans* (Prohibited Matter)
Water lettuce	*Pistia stratiotes*
Water poppy	*Hydrocleys nymphoides*
Water soldier	*Stratiotes aloides* (Prohibited Matter)
Yellow burrhead	*Limnocharis flava* (Prohibited Matter)

This plant is often confused with other species of *Alternanthera* (Joy weeds), Water primrose (*Ludwigia spp.*), or Smartweeds (*Persicaria spp.*). Difficult to identify in dense vegetation and when not in flower. MUST NOT be sold in NSW.

Alligator weed

Alternanthera philoxeroides

Habit	Perennial with mostly hairless surface stems that root at the nodes stoloniferous and underground stems producing shoots and roots (rhizomatous). Can form dense mats in or out of water.
Leaves / Stems	Glossy green-lance shaped leaves arranged in opposite pairs on hollow stems. Terrestrial plants can have reddish stems.
Flowers	White, cylindrical to globe-shaped, papery, pom-pom-like heads on stalks to 9 cm long that arise from the leaf-stem junction. Summer.
Fruit	Viable seed not recorded in Australia.
Roots	Extensive underground rooting system to 1 m deep.
Dispersal	Vegetation spread by water, humans, animals (livestock), contaminated soil, earth moving machinery, boats and turf. Also spread by its misguided use as a culinary herb.
Control	Mechanical and manual removal, foliar spray. Contact your local Weeds Officer.

One of Australia's worst aquatic weed threats. Adapted to growing on damp land, occasionally flooded land, in shallow water (rooted in the substrate), attached to the bank (in deep water) or free floating. Will survive for a few days in sea strength salinity and thrive in 10% sea strength (3,500 mg/l) saline water.

Hygrophilia

Hygrophila costata

Sold as an aquarium plant. Now a significant water weed in northern coastal NSW and SE Qld where it displaces most other species in shallow water and neighbouring damp soil. Should NOT be sold in the Greater Sydney region.

Habit Aquatic and semi-aquatic herb to 2 m high. Stems bluntly 4 angled and hairless to shortly hairy, often reddish.

Leaves Opposite, lanceolate to elliptic, 3.5-18 cm long, 0.5-5 cm wide, margins entire to undulate.

Flowers Inflorescence of 10 or more flowers in axillary whorls. White, about 5-10 mm long and 1.5-3 mm wide, petals joined in a 2-lipped tube, upper lip shortly 2-lobed and hooded, lower lip 3-lobed, with sepals joined below half way. Flowers all year.

Fruit Spindle-shaped capsule, 6-8 mm long, containing approximately 20 seeds. Seeds pale brown, round, flattened, about 0.3 mm wide.

Roots Dense fibrous mat, rooting at stem nodes.

Dispersal Seed and fragments spread by water, animals, humans, contaminated soil (earth moving equipment etc), deliberate planting for sale on the black market and pond or aquarium dumping.

Control Mechanical and manual removal, foliar spray. Contact your local Weeds Officer.

Kidney-leaf mud plantain is popular as an ornamental pond plant, and escaped plants have established to threaten local aquatic habitats. Should NOT be sold in the Greater Sydney region.

Kidney-leaf mud plantain

Heteranthera reniformis

Habit A sprawling annual or perennial plant, forming dense mats in open shallow water bodies, such as wetlands and creeks, threatening local freshwater aquatic habitats.

Leaves Kidney-shaped, bright green and glossy, up to 5 cm wide and arranged alternately along the stem. They are attached to a stalk 2-13 cm long and are either floating or emerging above the water. Leaves of seedlings are very narrow broadening with age.

Flowers Very small 3-6.5 mm; very short lived; with 6 white-to-pale blue petals; 2-8 flowers appear in spikes 1-9 cm long.

Fruit Capsules 0.5-0.9 mm long and contain 8-14 winged seeds.

Roots Forms dense fibrous / fleshy mats along the mud and on damp soil at the water's edge.

Dispersal Vegetation and seed spread by water, animals, contaminated earth moving equipment and humans. Vegetative parts will establish and are spread by dumping from ornamental ponds and aquariums into waterways.

Control Mechanical and manual controls, foliar spray. Contact your local Weeds Officer.

Charlie Mifsud

Sue Haywood

Longleaf willow primrose

Ludwigia longifolia

Introduced to Australia as a garden ornamental and first recorded as naturalised near Sydney in 1991. Capable of producing up to 2.5 million seeds per plant and 10 million seeds per square metre.

Habit Spring-Summer growing, woody, perennial, single stemmed or multi branched, erect, shrub ranging from 0.5-2.5 m tall. Red, narrow, angular stems with unusual wing-like characteristics.

Leaves Simple, dark green linear to lanceolate/oblanceolate, up to 15 cm long and 2.5 cm wide, reducing in size up the stem.

Flowers Solitary, 40-50 mm across with 4 yellow petals, prominently ribbed, found in the junction of leaves and stems. Summer-Winter.

Fruit Sharply 4 angled, oblong to narrow oblong 10-40 mm long, 4-8 mm wide. Unripe: green to red/green with prominent triangular sepals. Ripe: brown, papery and desiccated each containing around 7000 sawdust-like seeds.

Roots Stout taproot and dense lateral roots.

Dispersal Vegetation and seed spread by water, wind, animals, birds, humans, contaminated soil, earth moving machinery and garden refuse dumping.

Control Hand dig/pull juvenile plants and remove as stems readily grow from cuttings, scrape and paint, foliar spray. Contact your local Weeds Officer.

A serious weed that will choke and cover wetlands and lakes, excluding fish and invertebrates. In optimum conditions, it is capable of doubling its density in just a few days.

Salvinia

Salvinia molesta

Habit A perennial free floating fern that forms dense mats via multibranched, horizontal stems. Individual plants are 5-30 cm long and invade still or slow moving water bodies.

Leaves Fronds are produced in whorls of 3 at each branch node, 2 of which 'float' and 1 of which is submerged and acts as a 'root'. In new infestations, the fronds lie flat on the water and the upper surface is covered in papillae, but as infestation expands, the fronds become dense and folded.

Flowers Nil.

Fruit Does not produce fertile spores. Reproduces vegetatively.

Roots A modified frond, covered in fine brown filaments. This trails below each pair of aerial fronds.

Dispersal Vegetation spread by wind, water, boats and humans. The main method of spread is by human activities including deliberate and accidental spread via the aquarium and fish/eel trapping trade.

Control Mechanical and manual removal, foliar spray. Contact your local Weeds Officer.

The Salvinia weevil *(Cyrtobagous salviniae)* is a very successful biological control agent that can reduce the impact of Salvinia. Contact your local Weeds Officer for details. Adult weevils are approximately 2 mm in length. (pictured left).

Senegal tea plant

Gymnocoronis spilanthoides

Wanderer butterflies pollinate the flowers and are sometimes used to identify isolated infestations during the flowering period. Stems are hollow between the nodes, allowing the plant to float on water.

Habit Perennial plant growing in dense stands or as rounded bushes up to 1 m high, impacting on aquatic environments. Capable of growing over the water surface or in wet, boggy soils.

Leaves Shiny dark-green; elliptic to lanceolate or ovate, 4-20 cm long, 1.5-8 cm wide, margins irregularly toothed.

Flowers White; pom-pom like; 15-20 mm in diameter occur in groups at the ends of stems. Late Spring-early Autumn.

Fruit Achene, yellow-brown, 5 mm in diameter, and ribbed.

Roots Fibrous, often forming at nodes along the stems.

Dispersal Vegetation and seed spread by wind, water, animals, contaminated earth moving equipment and humans. Vegetative parts will establish and are spread by dumping from ornamental ponds and aquariums into waterways.

Control Mechanical and manual removal, foliar spray. Contact your local Weeds Officer.

Rebecca Coventry

Graham Pritchard

Attractive but troublesome plant that has spread worldwide, obstructing waterways, reducing fish production, harbouring mosquitoes, and severely disrupting life in some communities along rivers and lakes. MUST NOT be sold in NSW

Water hyacinth

Eichhornia crassipes

Habit A free-floating fleshy perennial water weed to 65 cm tall that forms dense raft of vegetation across still or slow moving fresh water bodies.

Leaves Glossy, dark green waxy/fleshy, spoon-shaped leaves on swollen, bulbous stalks.

Flowers Showy clusters of pale blue/lavender short lived flowers on an upright spike, with a patch of yellow and purple on upper petals. Spring-Summer.

Fruit Ovate-oblong, ribbed to 1 mm long, released into water when flower is spent. May remain viable for up to 15-20 years.

Roots To 1 m long, feathery, black to purple, usually shorter if water is nutrient rich.

Dispersal Daughter plants are produced on stolons from mother plant. Vegetation and seed spread by wind, water, animals, contaminated earth moving equipment and humans. Vegetative parts will establish and are spread by dumping from ornamental ponds and aquariums into waterways.

Control Mechanical and manual removal, foliar spray. Contact your local Weeds Officer.

Bibliography & further reading

Weeds

Australian weed control handbook (10th ed). JM Parsons & RG Richardson (eds), Inkata Press, 1995.

Bush invaders of South-East Australia: a guide to the identification and control of environmental weeds found in South-East Australia. A. Muyt, RG & FJ Richardson Publishing, 2001.

Efficient weed management: protecting your investment in the land, D Bayley, NSW Agriculture, 2001.

Grasses of the North Coast of NSW (2nd ed). H Rose, C Rose & T Campbell, NSW Department of Industry and Investment, 2010.

Identifying the weeds around you, (2nd ed). EM Felfoldi, Inkata Press, 1993.

Jumping the garden fence: invasive garden plants in Australia and their environmental and agricultural impacts. RH Groves, R Boden & WM Lonsdale, CSIRO report prepared for WWF Australia, 2005.

Legumes and herbs of the North Coast of NSW. H Rose, C Rose & T Rose, NSW Department of Industry and Investment, 2009.

Noxious weeds of Australia (2nd ed). WT Parsons & EG Cuthbertson (eds.), CSIRO Publishing, 2001.

NSW Weed Control Handbook: a guide to weed control in non-crop, aquatic and bushland situations (7th ed). NSW DPI Invasive Plants & Animals Branch, 2018.

Waterplants in Australia: Australian Water Weeds. GR Sainty & SWL Jacobs, Sainty & Associates, 1992.

Weeds: an illustrated botanical guide to the Weeds of Australia. BA Auld & RW Medd, Inkata Press, 1992.

Weeds of the South-East: an identification guide for Australia. FJ Richardson, RG Richardson & RCH Shepherd, RG & FJ Richardson Publishing, 2016.

Native flora

Australian rainforest plants (vol 1-6). N & H Nicholson, Terania Rainforest Publishing, 2004.

Climbing plants in Australia: with emphasis on Australian native species. DL Jones & B Gray, Reed Books Pty Ltd, 1988.

Field guide to the native plants of Sydney. L Robinson, Kangaroo Press, 2003.

Flora of New South Wales (vol 1-4). G Harden (ed), NSW University Press, 1990–1993.

Wildflowers of the North Coast of NSW. B Kemp, Reed New Holland, 2004.

Cronin's key guide: Australian wildflowers. L Cronin, Allen & Unwiin, 2015.

Bush regeneration

Bringing back the bush: the Bradley method of bush regeneration. J Bradely with eds J Larking, A Lenning & J Walker, New Holland Publishers, 2002.

Bush regeneration: recovering Australian landscapes (2nd ed). RA Buchanan, NSW TAFE Student Learning Publications, 1991.

Bush regenerators' handbook (2nd ed). L Brodie, J Roxburgh & L Whiley, National Trust of Australia NSW, 1999.

Key websites

The following websites are full of information on weeds. Many were used as a point of reference for the compilation of this booklet.

Flora Online plantnet.rbgsyd.nsw.gov.au/floraonline.htm

Weeds Australia www.weeds.org.au

WeedWise weeds.dpi.nsw.gov.au

Australian Association of Bush Regenerators (AABR) www.aabr.org.au

Nursery & Garden Industry NSW & ACT www.ngina.com.au

Sydney Weeds Network www.sydneyweeds.org.au

Plant me instead

The following list has been devised to assist the land manager and home gardener with a selection of indigenous (local native) plants. These are but a few of a very wide range of plants suitable for the Greater Sydney region of NSW. Click on the plant name to view an online profile of the plant.

Vines & Scramblers

Australian wax plant *(Hoya australis)*

Beach bean *(Canavalia rosea)*

Climbing guinea flower *(Hibbertia scandens)*

Desmodium *(Desmodium rhytidophyllum)*

Dusky coral pea *(Kennedia rubicunda)*

Forest clematis *(Clematis glycinoides)*

Love creeper *(Glycine clandestina)*

Milk vine *(Marsdenia rostrata)*

Native passionfruit *(Passiflora herbertiana)*

Old man's beard *(Clematis aristata)*

Pearl vine *(Sarcopetalum harveyanum)*

Purple coral pea *(Hardenbergia violacea)*

Scrambling lily *(Geitonoplesium cymosum)*

Shining grape *(Tetrastigma nitens)*

Small supplejack *(Ripogonum fawcettianum)*

Snake vine *(Stephania japonica)*

Stiff jasmine *(Jasminum volubile)*

Sweet morinda *(Gynochthodes jasminoides)*

Water vine *(Cissus antarctica)*

Water vine (5 leaf) (*Cissus hypoglauca*)

Wombat berry *(Eustrephus latifolius*)

Wonga vine *(Pandorea pandorana)*

Grasses

Australian river grass *(Potamophila parviflora)*

Barb wire grass *(Cymbopogon refractus)*

Gymea lily *(Doryanthes excelsa)*

Kangaroo grass *(Themeda triandra)*

Mat Rush *(Lomandra hystrix)*

Narrow leaf palm lily *(Cordyline stricta)*

Saw sedge *(Gahnia spp.)*

Stout bamboo grass *(Austrostipa ramosissima)*

Tussock grass *(Poa labillardierei)*

Weeping grass *(Microlaena stipoides)*

Ferns & Orchids

Birds nest fern *(Asplenium australasicum)*

Bungwahl fern *(Telmatoblechnum indicum)*

Elkhorn *(Platycerium bifurcatum)*

Maiden hair fern *(Adiantum aethiopicum)*

Pink rock orchid *(Dendrobium kingianum)*

Rasp fern *(Doodia aspera)*

Rock lily *(Dendrobium speciosum)*

Rough maiden hair fern *(Adiantum hispidulum)*

Rough tree fern *(Cyathea australis)*

Soft tree fern *(Dicksonia antarctica)*

Staghorn *(Platycerium superbum)*

Ground Covers, Bulbous & Herbaceous Plants

Aneilema *(Aneilema acuminatum)*

Blue flax lily *(Dianella caerulea)*

Bush lily *(Tripladenia cunninghamii)*

Christmas bells *(Blandfordia nobilis)*

Common fringe lily *(Thysanotus tuberosus)*

Cunjevoi lily *(Alocasia brisbanensis)*

Cut-leafed daisy *(Brachyscome multifida)*

Everlasting daisy *(Coronidium elatum)*

Fan flower *(Scaevola calendulacea)*

Flannel flower *(Actinotus helianthi)*

Four-leaved peperomia *(Peperomia tetraphylla)*

Ivy-leaved violet *(Viola hederacea)*

Kidney weed *(Dichondra repens)*

Native bluebell *(Wahlenbergia gracilis)*

Pastel flower *(Pseuderanthemum variable)*

Purple flag lily *(Patersonia spp.)*

Sand pigface *(Carpobrotus glaucescens)*

Settlers flax *(Gymnostachys anceps)*

Spiny-headed mat rush *(Lomandra longifolia)*

Swamp lily *(Crinum pedunculatum)*

Tufted blue lily *(Thelionema caespitosum)*

Woolly frogmouth *(Philydrum lanuginosum)*

Shrubs & Small Trees

Australian indigo *(Indigofera australis)*

Boobialla *(Myoporum boninense spp. australe)*

Bleeding heart *(Homalanthus populifolius)*

Broad-leaf wedge pea *(Gompholobium latifolium)*

Coastal canthium *(Cyclophyllum longipetalum)*

Coffee bush *(Breynia oblongifolia)*

Coastal bearded heath *(Leucopogon parviflorus)*

Coastal rosemary *(Westringia fruticosa)*

Coastal wattle *(Acacia longifolia ssp. sophorae)*

Curracabah *(Acacia concurrens)*

Dog rose *(Bauera microphylla)*

Elderberry panax *(Polyscias sambucifolia)*

Hairy pittosporum *(Pittosporum revolutum)*

Hairpin banksia *(Banksia spinulosa)*

Heath banksia *(Banksia ericifolia)*

Lemon scented tea tree *(Leptospermum petersonii)*

Midgen berry *(Austromyrtus dulcis)*

Native fuchsia *(Correa reflexa)*

Native gardenia *(Atractocarpus benthamianus)*

Native rosella *(Hibiscus heterophyllus)*
Pink doughwood *(Melicope elleryana)*

Pink hibiscus *(Hibiscus splendens)*

Purple paperbark *(Melaleuca thymifolia)*

Rice flower *(Ozothamnus diosmifolius)*

Slender rice flower *(Pimelea linifolia)*

Shining burrawang *(Lepidozamia peroffskyana)*
White native fuchsia *(Correa alba)*
Willow-leaf hakea *(Hakea salicifolia)*

Larger Trees

Bangalow palm *(Archontophoenix cunninghamiana)*
Blackwood *(Acacia melanoxylon)*
Black she-oak *(Allocasuarina littoralis)*
Blueberry ash *(Elaeocarpus reticulatus)*
Blue lily pilly *(Syzygium oleosum)*
Broad-leaf paperbark *(Melaleuca quinquenervia)*
Brush cherry *(Syzygium australe)*
Brush box *(Lophostemon confertus)*
Cabbage tree palm *(Livistona australis)*
Celerywood *(Polyscias elegans)*
Cheese tree *(Glochidion ferdinandi)*
Christmas bush *(Ceratopetalum gummiferum)*
Coast banksia *(Banksia integrifolia)*
Flame tree *(Brachychiton acerifolia)*
Grey myrtle *(Backhousia myrtifolia)*
Hard quandong *(Elaeocarpus obovatus)*
Lily pilly *(Acmena smithii)*
Magenta lily pilly *(Syzygium paniculatum)*
Moreton Bay fig *(Ficus macrophylla)*
Native celtis *(Celtis paniculata)*
Native olive *(Olea paniculata)*
Native frangipani *(Hymenosporum flavum)*
Native guava *(Rhodomyrtus psidioides)*
Plum pine *(Podocarpus elatus)*
Port Jackson fig *(Ficus rubiginosa)*
Red ash *(Alphitonia excelsa)*
Red Cedar *(Toona ciliata)*
Red Forest Oak *(Allocasuarina torulosa)*
Sandpaper Fig *(Ficus fraseri)*
Saw Banksia *(Banksia serrata)*
Small-Leaf Fig *(Ficus obliqua)*
Tuckeroo *(Cupaniopsis anacardioides)*
Water Gum *(Tristaniopsis laurina)*
Weeping Bottlebrush *(Callistemon viminalis)*
Willow Bottlebrush *(Callistemon salignus)*
Weeping Lily Pilly *(Waterhousea floribunda)*

Index

Acacia saligna 93
Agapanthus 43
Agapanthus spp. 43
Ailanthus altissima 100
Alligator weed 103
Alstroemeria psittacina 61
Alternanthera philoxeroides 103
Angel's trumpet 85
Anredera cordifolia 19
Araujia sericifera 22
Ardisia crenata 76
Aristea ecklonii 30
Arum lily 44
Arundo donax 67
Asparagus aethiopicus 51
Asparagus africanus 49
Asparagus asparagoides 45
Asparagus declinatus 46
Asparagus falcatus 53
Asparagus macowanii 52
Asparagus plumosus 48
Asparagus scandens 50
Asparagus virgatus 47
Balloon vine 10
Bamboo–rhizomatous 65
Bitou bush / Boneseed 73
Blackberry 27
Black-eyed Susan 11
Black locust 86
Blue periwinkle 29
Blue stars 30
Brazilian nightshade 12
Bridal creeper 45
Bridal veil asparagus 46
Broad leaf pepper tree 87
Broom asparagus / Asparagus fern 47
Brugmansia suaveolens *Brugmansia x candida* 85
Bryophyllum spp. 60
Butterfly flower / Clockweed 31
Caesalpinia decapetala 23
Camphor laurel 88
Canna indica *Canna x generalis* 54
Canna lily / Indian shot 54
Cape ivy 13
Cardiospermum grandiflorum 10
Cassia, Popcorn senna, Arsenic bush 74
Cat's claw creeper 14
Celtis sinensis 89
Cenchrus setaceus / Cenchrus purpurascens 66
Cestrum parqui 94
Chinese celtis 89
Chinese tallow tree / Chinese tallowood 90
Chlorophytum comosum 38
Chrysanthemoides monilifera ssp. rotundata *Chrysanthemoides monilifera ssp. monilifera* 73
Cinnamomum camphora 88
Climbing asparagus 49
Climbing asparagus fern 48
Cockspur coral tree 91
Colocasia esculenta 55
Coral berry 76
Coral tree 92

Cortaderia jubata (Pink pampas grass) 70
Cortaderia selloana (Pampas grass) 70
Cotoneaster 77
Cotoneaster spp. 77
Crocosmia x crocosmiiflora 59
Cytisus scoparius 83
Delairea odorata 13
Dietes bicolor
Dietes iridioides 41
Dolichandra unguis-cati 14
Duranta erecta cultivars 82
Ehrharta erecta 71
Eichhornia crassipes 109
Elephant ears / Taro 55
Erigeron karvinskianus 36
Erythrina crista-galli 91
Erythrina x sykesii 92
Firethorn 78
Fishbone fern 56
Formosa / Taiwan lily 57
Fountain grass / Swamp foxtail 66
Gazania 32
Gazania spp. 32
Giant reed 67
Ginger lily 58
Gleditsia triacanthos 95
Gloriosa superba 16
Glory / Flame lily 16
Golden wreath wattle 93
Green cestrum 94
Ground asparagus 51
Gymnocoronis spilanthoides 108
Hedychium gardnerianum 58
Heteranthera reniformis 105
Honey locust 95
Hygrophila costata 104
Hygrophilia 104
Impatiens / Busy Lizzy 33
Impatiens walleriana varieties 33
Indian hawthorn 79
Ipomoea indica I. cairica, I. alba, I. purpurea, I. quamoclit 20
Japanese honeysuckle 17
Kidney-leaf mud plantain 105
Kudzu 18
Lantana 80
Lantana camara (common)
Lantana montevidensis (spreading) 80
Ligustrum lucidum 98
Ligustrum sinense 99
Lilium formosanum 57
Lippia 34
Liriope / Lily turf 68
Liriope spp. especially *L. spicata* 68
Lomandra hystrix 39
Longleaf willow primrose 106
Lonicera japonica 17
Ludwigia longifolia 106
Madeira vine 19
Mexican feather grass 69
Mickey Mouse plant 81
Montbretia 59
Morning glory 20
Mother of millions 60
Moth vine 22
Mysore thorn 23
Nassella tenuissima 69
Nasturtium 35
Natal / German ivy 15
Nephrolepis cordifolia 56
Ochna serrulata 81
Oenothera lindheimeri
Oenothera curtiflora (formerly Gaura parviflora) 31
Olea europaea ssp. cuspidata– African Olive
Olea europaea ssp. europaea– European Olive 96
Olives 96
Pampas grass 70
Pampas lily of the valley 26
Panic veldtgrass 71
Parrot / Christmas lily 61
Passiflora edulis, P. subpeltata, P. tarminiana, P. caerulea
P. suberosa, P. foetida, P. miniata 24
Passion flower / Passion fruit 24
Phyla canescens 34
Phyllostachys spp. 65
Pigeon berry / Golden dewdrop 82
Pompom / Ming asparagus 52
Privet–large leaf 98
Privet–small leaf 99
Pueraria lobata 18
Pyracantha spp. 78
Rhaphiolepis indica 79
Rhus tree 97
Robinia pseudoacacia and cultivars 86
Rubus fruticosus spp. agg. 27
Salpichroa origanifolia 26
Salvinia 107
Salvinia molesta 107
Schinus terebinthifolius 87
Scotch broom 83
Seaside daisy 36
Senecio macroglossus 15
Senegal tea plant 108
Senna pendula var. glabrata
S. didymobotrya
S. septemtrionalis 74
Sicklethorn asparagus 53
Singapore daisy 37
Snakefeather 50
Solanum seaforthianum 12
Spanish bayonet 62
Sphagneticola trilobata 37
Spider / Ribbon plant 38
Spiny headed / Slender mat rush / River reed 39
Tecoma stans 101
Thunbergia alata 11
Toxicodendron succedaneum 97
Trad 40
Tradescantia fluminensis, T. zebrina, T. spathecea 40
Tree of heaven 100
Triadica sebifera 90
Tropaeolum majus 35
Vinca major 29
Water hyacinth 109
Watsonia 63
Watsonia meriana 'bulbillifera' 63
Wild iris 41
Yellow bells 101
Yucca aloifolia
Yucca spp. 62
Zantedeschia aethiopica 44

Notes