



Australian Government

Albany Weeds

A Monthly Guide



The Bushcarers Group in Albany is a community based volunteer group comprised of local residents and local and state government representatives. The group was formed in 1991 with the aim of raising awareness about threats impacting on the local bushland environment, and to actively participate in on-ground projects including weed control, seed collecting and revegetation programs. Meetings are held on the 4th Wednesday of each month (Feb to Nov) at the City of Albany North Road Offices. Contact: Bushcarers Group, PO Box 937 Albany 6330. Email: bushcarersgroup@gmail.com

January



Gazania **AGRICULTURAL WEED**
Gazania longiscapa Perennial. Flowers most of year, variable colours.
 Daisy family Spreads by rhizomes and wind-borne seeds.



Blackberry Nightshade **AGRICULTURAL WEED**
Solanum nigrum Perennial. Seeds are spread by birds and animals.
 Potato family



Fleabanes **AGRICULTURAL WEED**
 Daisy family Annuals. Seeds distributed by wind.
Conyza parva FLAX-LEAF FLEABANE (*Conyza bonariensis*) and TALL FLEABANE
 top-left inset (*Conyza sumatrensis*) are distinctly hairy and grey green colour.
Conyza parva is not hairy and a brighter green.



Blackberry **WEED OF NATIONAL SIGNIFICANCE**
Rubus species Includes all Blackberry and Loganberry species.
 Rose family



Kikuyu **AGRICULTURAL WEED**
Pennisetum clandestinum Perennial species widely promoted locally for pastures but is
 Grass family a threat to adjacent bushland as it spreads by runners both
 above and below ground.



Wavy Gladiolus **GARDEN THUG**
Gladiolus undulatus Annual. Re-grows from corms and seed.
 Iris family

Physically remove juvenile plants before they get established.

Kikuyu should be contained and not planted near waterways, wetlands or bush.

February



Maritime Pine

AGRICULTURAL WEED

Pinus pinaster Pine family
Perennial. Seeds are spread by falling cones, wind and birds. Seedlings of successive generations invade bushland and roadsides adjacent to parent plants.



Butterfly Bush

GARDEN THUG

Gaura lindheimeri
Willowherb family

Spreads to roadsides and bushland.



Yellow-flowered Stinkwort **REGIONAL PRIORITY WEED**

Dittrichia viscosa Daisy family
Perennial shrub to 1.5m, yellow daisy-like flowers, leaves feel 'sticky' and have a strong pungent smell, seed is spread by wind and water.



Pampas Grass

REGIONAL PRIORITY WEED

Cortaderia selloana Grass family
Large tussocky plant with long feathery flower plumes, soil disturbance encourages germination of seedlings. Seed is spread by wind and water.



Sea Spurge

AGRICULTURAL WEED

Euphorbia paralias Spurge family
Perennial. Extends from beach front to adjacent sandy areas.



Morning Glory

GARDEN THUG

Ipomoea indica Morning Glory family
Perennial vine invades neighbouring gardens and urban bushland areas.

Be especially alert with annuals and daisies in particular as they are prolific seeders and wind-borne seeds can arrive at any time.

March



Lantana **WEED OF NATIONAL SIGNIFICANCE**
Lantana camara
 Verbenaceae family
 Perennial. Serious weed of bushland and urban areas. Produces many hard seeds that are spread by birds.



Common Evening Primrose **AGRICULTURAL WEED**
Oenothera stricta
 Willowherb family
 Annual. Flowers each evening for most months of the year. Colour deepens as petals wilt the next morning. Elongated capsules contain many seeds.



Kangaroo Apple **REGIONAL PRIORITY WEED**
Solanum laciniatum
 Potato family
 Perennial shrub to 3m. Purple trumpet shaped flowers. Yellow egg shaped berries produced, spread by birds and mammals. Creates dense shade eliminating native understory species.



Scarlet Kunzea/White Kunzea (Tickbush) **GARDEN THUG**
Kunzea baxteri: WA native, but has been planted outside its natural range. Prolific seeder and will spread easily. Myrtle family.
Kunzea ambigua: naturally occurs in eastern Australia, often forming dense thickets. Prolific seeder, usually spreading along road verges. Myrtle family.



Eastern State Gum Trees **AGRICULTURAL WEED**
Eucalyptus robusta, saligna, cladocalyx, maculata. Myrtle family.
 Non-local Eucalyptus trees can spread into surrounding bushland and replace native tree species. Infestations can change fire behavior of local bushland areas.



Prickly Pear **DECLARED PLANT**
Opuntia stricta
 Cactus family
 Originally cultivated for its edible fruit which ripens in autumn. Spreads vegetatively and by birds dispersing the seeds.

Don't be taken in by attractive introduced plants - they are often formidable foes that can take over gardens, roadsides and bushland.

April



African Lovegrass

Eragrostis curvula Perennial. Invades bushland and roadsides, high fire risk when dry.
Grass family

REGIONAL PRIORITY WEED



Gorse

Ulex europaeus A woody shrub with dense spiny branches and phyllodes (modified leaves). Yellow pea shaped flowers with seed pods developing to release many long lived seeds.
Pea family

WEED OF NATIONAL SIGNIFICANCE



Coastal Yucca

Yucca aloifolia Perennial, inflorescence consists of many pendant flowers; Century Plant (insert) is a perennial succulent which spreads by suckers. Will grow if dumped in bushland areas.
Agave family

GARDEN THUG



Tagasaste

Chamaecytisus palmensis Tall shrub with white flowers; spreads by seed especially after disturbances such as fire. Olive Trees (inset) spread by birds into adjacent bushland and paddocks.
Pea family

AGRICULTURAL WEED



Myrtle-Leaved Milkwort

Polygala myrtifolia Perennial. Flowers prolifically. Seeds spread easily and rapidly.
Milkwort family

GARDEN THUG



Bracelet Honey Myrtle

Melaleuca armillaris A large perennial shrub, with white bottlebrush flowers. Native to eastern Australia and now a major environmental weed in WA.
Myrtle family

REGIONAL PRIORITY WEED

Avoid so-called 'hardy' plants unless you are willing and able to manage them as they often produce a multitude of new plants in a short time.

May



Norfolk Island Hibiscus

Lagunaria patersonia
Hibiscus family

Perennial pyramidal tree.
Highly irritant hairs are shed all around the plant.

GARDEN THUG



Fountain Grass

Pennisetum setaceum
Grass family

Seeds invade nearby bush.
Ensure you have the sterile form.

GARDEN THUG



Flinders Range Wattle

Acacia iteaphylla
Wattle family

Masses of flowers produce many seeds. Bark on all trunks is lime green.

REGIONAL PRIORITY WEED



Flatweed

Hypochaeris radicata
Daisy family

Annual. Sets many seeds in each daisy flower.
Flowers most of the year.

AGRICULTURAL WEED



Cotoneaster

Cotoneaster glaucophyllus
Rose family

A large shrub with leaves green on top, pale and felt like underneath. White flowers developing into masses of red berries which are spread by birds and water.

GARDEN THUG



Mirrorbush

Coprosma repens
Coffee family

A large shrub with succulent shiny leaves, white flowers develop into egg-shaped drupes which are spread by birds and water.

REGIONAL PRIORITY WEED

New plants that simply appear on your property as seedlings or from suckers are probably weeds, so find out what they are as soon as possible.

June



Spiny Rush

Juncus acutus
Rush family

REGIONAL PRIORITY WEED
Perennial. Spreads by seeds and rhizomes to dominate bushland along watercourses and moist saline areas.



Doublegee

Emex australis
Dock family

DECLARED PLANT
Winter annual. Flowers and fruits throughout the year. Originally introduced as a salad vegetable.



Rose Pelargonium

Pelargonium capitatum
Geranium family

AGRICULTURAL WEED
Perennial. Invades roadsides and bushland. Biological control agent is currently being sought.



Seaside Daisy

Erigeron karvinskianus
Daisy family

GARDEN THUG
A spreading perennial herb to about 50cm high. White to pink or red daisy flowers 1-2cm across. Seed is wind-spread. Plants will also spread vegetatively by rooting at the nodes, and dumped material may re-sprout.



Spear Thistle

Cirsium vulgare
Daisy family

AGRICULTURAL WEED
Biennial. Seeds are wind-dispersed (top inset). Stemless Thistle (lower inset) is a Declared Plant. Other thistles include: Sheep, Scotch and Variegated. All invade bushland, roadsides, paddocks and moist areas.



Golden Aeonium

Aeonium arboreum
Stonecrop family

GARDEN THUG
Perennial that reproduces from plant parts and seeds. Seasonal foliage colour changes.

Learn to recognise juvenile weed plants before they get established – they are easy to pull out and can be discarded on the spot as they have no seeds.

July



Bridal Creeper

WEED OF NATIONAL SIGNIFICANCE

Asparagus asparagoides
Asparagus family

Perennial. Underground tuber biomass increases annually and persists when above-ground plant parts die. Berries are eaten by birds and animals distributing the seeds widely. Similar species include Climbing Asparagus (*A. scandens*), Ground Asparagus Fern (*A. aethiopicus*) and Bridal Veil (*A. declinatus*). Biological control agents Leaf Hopper and Leaf Rust Fungus (top left inset) have been dispersed locally.



Arum Lily

DECLARED PLANT

Zantedeschia aethiopica
Arum family

Distinctive white funnel shaped flowers in winter, seeds spread by birds and can produce suckers from underground storage tubers.



Soursob

Oxalis pes-caprae
Wood Sorrel family

GARDEN THUG

Re-grows annually from rhizomes or bulbs. Four o'clock, *O. purpurea* (lower inset) invades bushland when garden soil and pruning are dumped.



Castor Oil Plant

AGRICULTURAL WEED

Ricinus communis
Spurge family

Perennial. Young growth purplish red. Seeds are highly toxic and remain viable for decades.



Canary Creeper

GARDEN THUG

Senecio angulatus
Daisy family

Perennial. Semi-succulent shrub, regenerates from stem parts and seeds.



African Corn Flag

Chasmanthe floribunda
Iris family

GARDEN THUG

Perennial. Seeds are dispersed by birds. Inappropriate dumping of garden waste containing corms leads to new infestations.

Regularly check around shrubs and fences as they provide perches for birds to roost and deposit droppings containing seeds, eg. Bridal Creeper.

August



Sydney Golden Wattle **REGIONAL PRIORITY WEED**

Acacia longifolia
Wattle family
Perennial. Produces large numbers of seedlings each year. Fast growing and highly invasive along roadsides and bushland. Fire stimulates mass germination of seeds.



Onion Weed **AGRICULTURAL WEED**

Asphodelus fistulosus
Asphodel family
Perennial. Has odourless onion-like leaves and strong roots but no bulb. Dune Onion Weed (lower inset) is a garden escapee and thrives in sandy coastal areas, toxic to horses. Both species spread by seed.



Guildford Grass **AGRICULTURAL WEED**

Romulea rosea var australis
Iris family
Annual. Re-grows from corms and seed in capsules which are drawn underground at maturity.



English Ivy **GARDEN THUG**

Hedera helix
Ivy family
A climbing ornamental vine with dark green or variegated 3-5 lobed leaves. Clusters of flowers produce shiny, dark blue to purplish fruits which are spread by birds. The stems form many roots where they contact the ground.



Bulbous Weeds **GARDEN THUG**

Freesia, Sparaxis, Ixia
species. Iris family.
Annual geophytes which produce bulbs, corms and seeds. Invades bushland and granite outcrops.



Three Cornered Garlic **REGIONAL PRIORITY WEED**

Allium triquetrum
Onion family
Small herb with an annually renewed small, pale bulb. The 3-angled, strap like leaves may be up to 45 cm long and have a characteristic 'garlic' smell when crushed. Clusters of white drooping bell-like flowers with 6 petals, a serious weed which can out-compete native species.

Don't dump garden waste in vacant land, beach areas or adjacent bushland.

September



Eastern State Wattles

REGIONAL PRIORITY WEED

Acacia dealbata *Acacia decurrens*
Wattle family
Large trees with fine, feather-like foliage. Introduced from NSW for windbreaks and ornamental plantings but has invaded and monopolised adjacent road sides and bushland reserves.



Kangaroo Thorn

REGIONAL PRIORITY WEED

Acacia paradoxa
Wattle family
A large shrub to small tree with 'wavy' foliage with many sharp thorns on branches and stems. Ball shaped flowers in spring develop into seed pods, the seed being spread by birds and water. Germination stimulated by fire and disturbances.



Golden Wattle

REGIONAL PRIORITY WEED

Acacia pycnantha
Wattle family
Perennial. Produces large numbers of seedlings every year. Blackwood Wattle (*A. melanoxylon*, inset) can produce root suckers and will create dense infestations, replacing native vegetation.



Wild Turnip

Brassica tournefortii



Wild Radish

Raphanus raphanistrum



Cape Weed

AGRICULTURAL WEED

Arctotheca calendula
Daisy family
Annual.
Widespread weed of agricultural and urban areas.



Patersons Curse

DECLARED PLANT

Echium plantagineum
Borage family
Annual. Toxic to some stock, including honey bees. Biological control agents are now becoming available.

Plants introduced from other countries/states have no natural enemies here and quickly overwhelm the native vegetation which supports native fauna and insects.

October



Holly Leaved Daisy

REGIONAL PRIORITY WEED

Senecio glastifolius
Daisy family
Medium-lived perennial shrub with woody stems to 2m tall. Flowers consist of mauve to pink petals surrounding a central yellow floret. A garden escapee with wind borne seeds.



RR

Watsonia

REGIONAL PRIORITY WEED

Watsonia meriana
var bulbifera
Iris family
Perennial. Re-grows from corms below and bulbils above ground. Establishes a dense monoculture.



Tree Mallow

Malva arborea
Hibiscus family

GARDEN THUG

Biennial herb with bright pink or lilac, funnel-shaped flowers. Forms dense clumps which outcompetes native species. Spread by seed. Marsh Mallow (inset), annual herb which grows in coastal locations, affecting seabird breeding sites.



Annual Winter Grasses

AGRICULTURAL WEED

Annual Veldt Grass (*Ehrharta longiflora*), Hares Tail Grass (*Lagurus ovatus*), Wild Oats (*Avena fatua*). Competitive weeds in winter crops, invades bushland and creeklines. All produce large amounts of seed.



Bindy Eye (Jo Jo)

GARDEN THUG

Soliva sessilis
Daisy family
Small annual herb which forms a ground cover. Common weed of lawns and pastures. Prefers damp, shady positions.



One-Leaf Cape Tulip

Moraea flaccida
Iris family

DECLARED PLANT

Annual. Re-grows from corms and produces seeds.

Don't underestimate the power of photosynthesis of a single leaf – it generates the energy to make flowers, seeds, corms, eg. Cape Tulip and Guildford Grass.

November



Taylorina

Psoralea pinnata
Pea family

REGIONAL PRIORITY WEED

Tall shrub to 4m with clusters of purple pea flowers. Produces large amounts of seed. Soil disturbances and fire stimulates germination. Tends not to re-sprout if cut at ground level.



Dolichos Pea

Dipogon lignosus
Pea family

GARDEN THUG

Rampant perennial climber. Re-sprouts from rhizomes and produces seeds in pods.



Periwinkle

Vinca major
Dogbane family

GARDEN THUG

Spreading perennial herb with stems that root at nodes and sometimes at tips. Used as an ornamental plant or medicinal herb but now invading bushland, riparian and other moist habitats.



Red Valerian

Centranthus ruber
Valerian family

GARDEN THUG

Perennial, round bush to 0.7m tall with showy clusters of small, pink to red flowers, leaves are opposite and grey-green, a major weed of disturbed areas and granite outcrops.



Hop Bush

Dodonaea viscosa
Soapberry family

GARDEN THUG

Large shrub with distinctive winged fruits varying in colour from cream to red. Sub-species have been planted outside their natural range as windbreaks, easily spreads into bushland reserves.



Agapanthus

Agapanthus praecox
Amaryllis family

GARDEN THUG

A rhizomatous perennial herb with a large strap-like, dark green shiny leaves. The blue to purple or white flowers are clustered in a large globular flower head. Seed spread by birds, wind and water. Forms dense infestations, outcompeting native plants.

Almost all serious weeds in bushland are garden species. Be a responsible gardener and ensure your plants 'do not jump the garden fence.'

December



Victorian Tea Tree

Leptospermum laevigatum
Myrtle family

REGIONAL PRIORITY WEED

Large shrub or tree to 6m, blue-grey leaves and white, five-petal flowers. Prolific seeder, seeds spread by wind, soil disturbances and fire. A major weed which replaces native vegetation.



Fennel

Foeniculum vulgare
Carrot family

GARDEN THUG

Perennial herb. Separate male/female plants. The basal stems of the female are edible. Foliage stems and roots smell of licorice.



Pennyroyal

Mentha pulegium
Mint family

GARDEN THUG

A summer growing rhizomatous, perennial herb with a strong minty smell and dense, purple flower clusters. Spreads by seeds, stolons and stem fragments. Toxicity issues.



Buffalo Grass

Stenotaphrum secundatum
Grass family

GARDEN THUG

Perennial invasive grass that spreads by seed and above-ground runners to entirely dominate areas of bushland.



Willow

Salix species
Willow family

GARDEN THUG

Deciduous trees or shrubs from 5 to 30 m tall with single or multiple trunks usually along waterways or in wetlands. Male and female plants, spreads by seed and stem fragments. Hybridisation common.



Forget-me-nots

Tribulus terrestris
Twinleaf family

GARDEN THUG

A biennial or perennial herb, flowers bright blue with a yellow throat. Spring-summer flowering with the development of large amounts of seed enclosed in a seedcase that sticks to clothing, animals or machinery.

When selecting plants for your garden use local species which are similar to the introduced plants you find attractive.



Protecting Albany's bushland from the threat of weeds is everyone's responsibility.
 It takes dedication and a long term commitment. You can help, too. Join the Bushcarers Group and participate in events. You will make a positive contribution, meet new friends and learn about and connect with nature. So grab your gloves, hat and water and start tackling the weed menace so Albany and the South Coast Region can remain an amazing place to live and visit.

Category Definitions

WEED OF NATIONAL SIGNIFICANCE

20 weeds which are declared at a national level and regulated under the *Biosecurity and Agricultural Management Act 2010*. Propagation and supply of these plants is prohibited and control is the responsibility of the landholder. The Department of Agriculture & Food WA can enter the property and remove the plants at the expense of the landowner.

DECLARED PLANT

Weeds declared at a state or regional level legislated under the *Biosecurity and Agricultural Management Act 2010* – control and regulations same as above.

REGIONAL PRIORITY WEED

Weeds which have been identified as a priority by the Bushcarers Group.

AGRICULTURAL WEED

Originally introduced for agricultural purposes and have escaped to become an invasive weed. Need to be actively managed with generous buffers between plantings and any roadside areas of bushland.

GARDEN THUG

Plants that escape urban gardens to become serious environmental weeds are not considered weeds by many who are used to seeing them in garden situations. They do not seem out of place on road verges and in natural bushland. Over 80% of all weeds have originated from gardens.

Why do some weeds grow so quickly?

- Their leaves are simple water bags stuffed with chlorophyll.
- Most are annuals which have a single aim — to produce seeds.
- They seldom need to stiffen the leaves to withstand dry periods.
- They don't have to establish a deep root system to maintain the plant through summer.

What do weeds do?

Introduced plants usually have natural enemies and control agents in the country of origin, but these agents are not present where the plants are introduced.

Without those natural constraints, introduced species flourish at the expense of native flora.

For example:

- **Fennel** exudes substances from the roots that taint the soil, which native species cannot tolerate.
- **Spear Thistle** produces a dense basal rosette that blocks out sunlight for crop and pasture seedlings and vigorous roots that rob the nutrients and available soil moisture intended for agriculture.

Helpful references

- *Western Weeds: A Guide to the Weeds of Western Australia* (2nd edition 2007) B M J Hussey et al.
- *Southern Weeds and Their Control* (2nd edition 2008) John Moore and Judy Wheeler.
- *Bushland Weeds: A Practical Guide to Their Management* (2002) Kate Brown and Kris Brooks.
- *Managing Your Bushland* (2009) B M J Hussey and K J Wallace.
- City of Albany Environmental Weeds Strategy
- Shire of Denmark Weeds Strategy and Action Plan
- www.herbiguide.com.au
- www.weeds.gov.au (Weeds of National Significance)

Acknowledgements

This publication has been developed by the Bushcarers Group Inc. in Albany as part of their continuing public awareness program about the impact weeds are having on the environment in the South Coast region of WA. Members have volunteered their time, skills and knowledge in putting together this calendar, with funding that has been provided under the WA Government's State NRM, Community Action Grant program.

The authors gratefully thank the Esperance Weeds Action Group and Rod Randall for allowing the use of photos, text and the design format for this calendar. Selected photos and text have been sourced from Herbiguide (John Moore), Florabase (DEC) and Members of the Bushcarers Group.

Management options for the weeds in this guide can be found at: Herbiguide, Florabase and the 'Albany's 12 most unwanted environmental weeds' brochure.

Retain this document for several years then when you have learnt your local weeds pass it on to a friend.

Weed Control Methods

Begin with the end in mind. A phrase coined by Steven Coveys book on the 7 Habits of Highly Effective People but equally applies to managing weeds, be they in your backyard or in any one of the beautiful and diverse natural areas here on the South Coast and hinterland region.

Before discussing the various techniques available to control weeds, it is important to learn about the life cycle of the species you want to control, it's strengths and weaknesses and when best to attempt to eradicate them.

Once you have correctly identified the weed, the next step is to research the following:

- When does it flower/develop fruit/develop seed?
- How long does the seed remain viable in the soil?
- How does the weed respond to being burnt?
- Which is the best control method to use, depending on the extent of the weed infestation you are dealing with?
- When is the best time to use each weed control method?

It is really important to consider the impact of the different control options on the other plants and animals within the vicinity of your weeds. Often a combination approach is more effective than just one technique and being able to adapt your approach to consider each specific location is vital to ongoing success. Ultimately, you want to be able to have minimal ongoing maintenance requirements, be it in your backyard or a local natural reserve or parkland. Spending time planning for the long term management of the weed and the resources required over numerous years, and even decades is worth the long term results that will be achieved.

Some of the most common types of weeds found in bushland (and gardens) are as follows;

GRASSES

These are characterised by their typical long narrow leaf structure. They fall into two categories – **annuals** (live for one growing season) or **perennials** (persist for a number of years). They spread by seed and /or vegetatively via what most people call runners (technically either tillers, stolons or rhizomes). Wind and water are the main paths for dispersal but often mowing at the wrong time is also responsible for inadvertent seed spread, and even worst is the dumping of lawn clippings in bushland or parklands. Also planned or unplanned fires can lead to introduced grasses colonising bushland, growing rapidly and out competing many native species

CORMS, BULBS AND TUBERS

These are plants that grow from either fleshy storage organs (corms), modified leaves (bulbs) or swollen underground stems or roots (tubers).

They have a defined growing season and then die down to become dormant in the soil until the next growing season. They can reproduce by both seed and vegetatively. Often these weeds invade bushland from illegal dumping of garden waste and then proliferate from seed dispersal. Many of these types of weeds are difficult to remove by hand due to their growth habit, with the resulting soil disturbance creating opportunities for other weeds to establish.

BROADLEAF HERBS

These can either be annuals or perennials. They are often the first weeds that colonise disturbed bushland. They proliferate by seed that is dispersed via wind, water or by animals. Seeds can often lay dormant in the soil until conditions are right, making ongoing management challenging. These sites need regular checking over a number of years to ensure their eradication.

TREES & SHRUBS

These are often referred to as woody weeds and are often long lived species with large amounts of seed being produced annually. Some have vigorous root systems which produce numerous suckers that grow into individual plants. Seeds are dispersed by wind, water and often animals. They out-compete native plants and often create impenetrable stands of vegetation that take considerable time and energy to get under control. They can also change how fire behaves in bushland and affect the habitat requirements of native fauna. There are four common methods of woody weed control and they are as follows;

1. Biological

This is primarily the realm of the relevant State Government agricultural agency but is worth a mention. This method involves using natural enemies of weed species to control the spread of individual plants or their fruits and seeds. An example is the introduction of a rust fungus (*Puccinia myrsiphylli*), leaf hopper (*Zygina* sp.) and leaf beetle (*Crioceris* sp.) for Bridal Creeper control which has been very effective on reducing the spread of this Weed of National Significance. Targeted use of animals to graze on large weed infestations on larger properties, combined with other management techniques is another example but requires good planning and long term commitment to be effective.

2. Chemical

This is the use of synthetic or plant-based herbicides to control and eventually eradicate weeds. Application methods range from spraying the leaves, wiping the leaves or cut stems with an applicator brush/sponge or injecting a chemical into predrilled holes in tree species to deliver the active ingredient to the internal nutrient transport system of the plant.

All chemicals should be used with caution and according to the manufacturer's label, which will outline the correct mixing rates and the protective equipment necessary. Chemicals can be broadly divided into five groups based on their 'mode of action':

- Broad spectrum – kills a wide range of plants
- Selective – designed to only target a small range of similar species (like grasses or broadleaf herbs)
- Knock down/ Contact – immediate effect on the parts of the plant this chemical comes into contact with
- Systemic / Non-residual – the active ingredient is metabolised fully by the plant, killing it
- Residual – the active ingredients stay in the soil for a period of time, killing any seed bank or vegetative growth from treated weeds.

It is important to understand how and when to apply chemicals so as to achieve the best results. Often you will need to hire a fully trained and accredited contractor in chemical application, as many products are restricted from use by the general public due to the health risks associated with their handling and use.

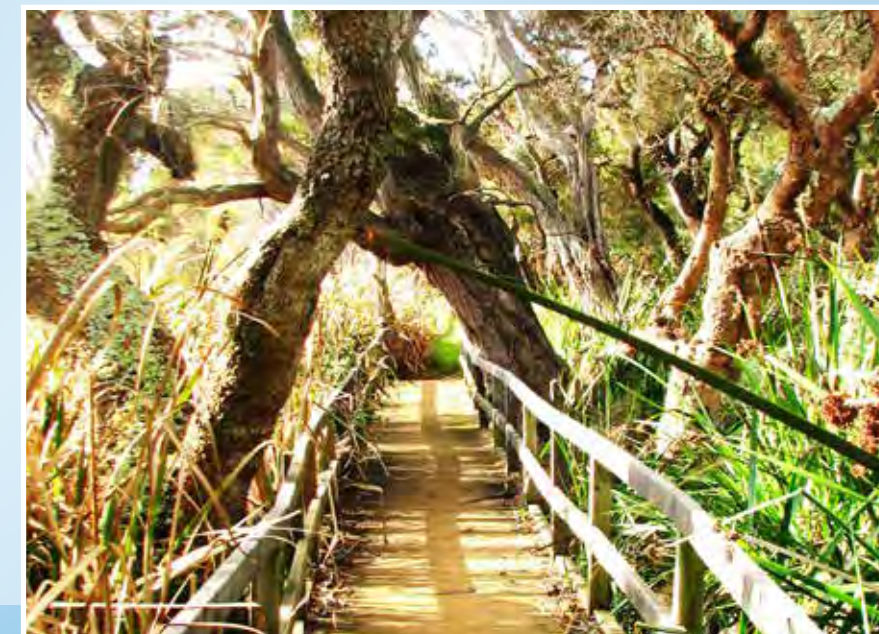
3. Manual

This method is all about removing weeds by hand pulling seedlings, using a hand saw, loppers, mattock or spade for larger plants and for trees using chainsaws and even machinery for slashing or in-situ mulching. Ring barking larger trees is also another manual method that can be effective for some woody weeds however follow up is important, as some species can re-shoot from the stump or root system.

The use of weed matting and mulching also fall into this category as they provide physical barriers to prevent weed seed set, to smother grass runners and underground bulbs and can make future weed removal easier. Typically, off target damage is reduced however this method can be time and labour intensive and often requires an ongoing commitment to regularly return to the infestation site. Aiming to reduce soil disturbance will help reduce possible secondary weed infestations.

4. Preventative

Sounds obvious but an ounce of prevention is better than a pound of cure. Think about the plants you are using in your garden or around your property and their impacts both within your fence line and beyond. The main reason we have weeds is because of poor plant choices. Exotic species that have no natural predators, competitors or diseases to stop their spread can quickly establish in our region. For every weed there will be a native plant alternative. If you are going to choose a species that has the potential to become a weed, look at varieties that don't self-propagate. If in doubt find out, ask your local nursery or research online or read through one of the books referenced in this calendar. The region's bushland and parklands will appreciate your efforts.



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LAKE SEPPINGS

Biodiversity Urban Corridors Project (Stage 1). May 2018 prior to project commencement



LAKE SEPPINGS

Site preparation August 2018. Grass sprayed out and covered with 300mm coarse sand.



LAKE SEPPINGS

March 2020. Over 22,000 seedlings of local provenance species planted out over successive planting days by the Albany community.