

Bushland Newsletter

WINTER 22



On the go with Emily

Copious rain in the past few months has left many people and gardens alike feeling sodden. Even those who are courageous enough to get out in the rain now and then are getting over it. Although it can be frustrating to be trapped inside (especially after the long periods of lockdown we've only just come through), when the sun does shine it's worth getting out and reminding ourselves how much life the rain brings. Find the time to take a walk in nature outside peak times and you may be amazed by the winter blooms of our native plants, or the chorus of frogs, bugs and birds making the most of the booming season. It may be a cliché but our continent is really a land of extremes, considering only three years ago we faced a catastrophic bushfire season while now it's hard to keep your feet dry. If you haven't already, get down to see Randwick Environment Park at record high water levels – it won't last forever!

Emily Strautins
Randwick City Council
Bushland Officer

WHAT'S ON



22 June – Welcome the Sun - Winter Solstice in Nature (Centennial Park run event)

Centennial Park invites you to welcome the first sunrise of the new year this winter solstice! Experience the healing and restorative effects of movement, mindfulness and nature connection in a two-hour nature connection program. This is an invitation to slow down, rest and reconnect. The facilitators will guide you through an immersive, sensory experience where you let

nature soak in through all your senses. Use mindfulness meditation, slow movement, natural awareness invitations and eco-art to reawaken innate and intuitive connection to the natural world, and to yourself. Give yourself the gift of two hours of mindful movement in nature, to reconnect, restore and recharge.

Bookings via:



Plastic-Free July

Join millions of people reducing their plastic waste. Plastic Free July® is a global movement that helps millions of people be part of the solution to plastic pollution – so we can have cleaner streets, oceans and beautiful communities. Will you be part of Plastic Free July by choosing to refuse single-use plastics? plasticfreejuly.org



The Bush Regenerator's Dictionary

Understanding the terminology used in the industry can take you quickly from sounding like a novice to an expert.

Endangered

A species or ecosystem designated by an authoritative body as being at high risk of becoming extinct, based on empirical evidence or strong trends in hard data. The International Union for the Conservation of Nature is the global authority and maintains the Red List, that contains over 26,000 species which are threatened with extinction. Within this list are various categories with specific parameters to describe the level of threat to a given species. These categories in order of severity include threatened, vulnerable, endangered, critically endangered, extinct in the wild etc. In Australia the state and federal governments each maintain their own lists Australian or Oceanic species and ecological communities which are grouped into similar categories.

Indigenous or endemic species

One known to originate in a specific location which has therefore evolved (over hundreds to thousands of years) to local conditions. For example, a species known to have occurred historically in the coastal environment of Sydney or the east coast of NSW would be considered indigenous to our city.

Mornos

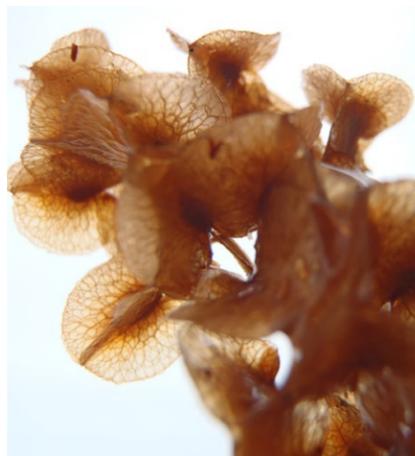
Colloquial name for a morning tea break.



Mornos is an important part of a good Bushcare session.

Native species

One which occurs in its country of origin. For example, a plant which is native to Australia may still become a weed if it is introduced into a new location where, without the natural ecosystem process to keep it in check, it can become dominant and threaten indigenous populations.



Both the seed and tuber are propagules of Turkey Rhubarb.

Noxious weed

A specific term referring to the most problematic weeds as denoted by the NSW Government within the (now superseded) "Noxious Weeds Act 1993". Since this legislation has been replaced with the Biosecurity Act 2015, the term and associated list of species is now known as "Priority Weeds". There are 115 of these Priority Weeds listed for the Randwick LGA (though not all actually occur here). To see the list visit: NSW WeedWise Priority weeds for Greater Sydney weeds.dpi.nsw.gov.au/WeedBiosecurities?Areald=110

The Federal Government has its own list of the worst weeds known as the "Weeds of National Significance". There are 32 of these, which have "been identified based on their invasiveness, potential for spread and environmental, social and economic impacts". Lists can be found via weeds.org.au.



Propagule

A vegetative structure that can become detached from a plant and give rise to a new plant, e.g. a seed, bud, tuber, sucker, or spore.

Provenance

Place of origin of seed or other plant propagation material. Choosing to use local provenance stock protects the genetic diversity which has evolved within that location.

Rare

A species or ecosystem which is seldom seen, but not because of a specified threat. Some species are naturally uncommon, either found in dense populations in highly restricted locations or widely distributed in low number. These species may be at greater risk of becoming threatened.

Locally Rare in Randwick City is defined as species with between one and three very small populations recorded since 1990.

Remnant

An area where the original (pre-1788) bushland still survives, or where some historic clearing has occurred, but vegetation has regenerated from the seedbank with minimal assistance. Remnants are invaluable as links to the past and hotspots for indigenous biodiversity much of which is irreplaceable.

Weed

A plant out of place. This could mean a rose bush is a weed in bushland, and a native a weed in a rose garden. Context is everything!

References for understanding Plant names

When it comes to learning plant names, common names can lead you astray. Yet scientific names can be complicated - after all it involves learning elements of another language. To help make sense of these the following references are fantastic:

Fearless Latin: A Gardener's Introduction to Botanical Nomenclature by Sara Mauritz

Botanical Field Guide by Stefan Mager

A Portable Latin for Gardeners: More than 1,500 Essential Plant Names and the Secrets They Contain by James Armitage.



From the Nursery

How to help your garden during the big wet?

Here in Randwick growing plants in our sandy soils and coastal conditions has always come with its challenges. We usually prepare our gardens to be able to stand strong against salty coastal winds, sandy, nutrient-deficient soils, humidity and drought.

What happens though when we experience increased rainfall for lengthy periods? How does it impact our plants and gardens and what can we do to minimise the damage caused?

As much as gardeners love the rain, too much of a good thing can be detrimental to plant health. Waterlogging can cause a plant to go into shock. The root tips start to rot and growth stops. Like all living things, plants need oxygen to survive and they take this from the soil through their roots, as well as from the air via their leaves. When plants are sitting in water for extended periods of time, the roots can essentially drown.

Waterlogging also allows harmful gases such as nitrous oxide, a particularly damaging greenhouse gas, to accumulate in the root zone.

Grass lawns can be more resilient but they, too, can be harmed by waterlogging. If a lawn is submerged for a brief period - a week, for example - it can usually recover. Any longer and you could see some permanent damage. Damp conditions also allow competitors such as algae, lichens, moss and liverworts to take hold in the lawn.

Symptoms of plants under water stress include:

- Yellowing or browning of leaves
- Leaf curling
- Leaf wilting
- Reduced size of new leaves
- Defoliation (all the leaves falling off)
- Branch dieback (usually starting with the tips)
- Fungal diseases such as black spot and powdery mildew
- Gradual plant decline and death



Yellowing or browning of leaves is an indicator of water stress.

So how can you prepare your garden?

- **Raised Beds:** One of the simplest and best ways to damp-proof your garden. If you are just starting a garden or have a bare patch, consider creating raised beds. This lifts the plant root zone and even allows you to install drainage. Even raising the beds a few centimetres above ground level will help to improve garden drainage.
- **Swales and Drainage:** If there is somewhere for surface water to go, swales are a terrific way to guide the water away, store it and use it when and where it is needed most. If you are creating a new garden or garden

bed, you can install subsurface drainage pipe. The most effective option is agricultural drainage pipe, often called 'ag-pipe', which is flexible and easy to install.

- **Hardscaping options:** Instead of using impermeable materials such as concrete for paths and driveways, consider using materials such as sand or gravel. These will allow more drainage, limiting runoff.
- **Consider a rain garden:** This is a specially designed garden bed that takes rainwater directly from the roof or any outdoor surface area that produces 'runoff' water. The garden is planted with species that can handle both wet and dry spells.
- **The impact of soil type:** Sandy, gritty soils drain much faster than heavy clay soils, which can easily become waterlogged. Long term, you can add compost to change the structure and improve heavy clay soils. Compost can raise the oxygen content of your soil and allow for faster drainage. Compost will also improve the structure of sandy soils that drain a little too well and so leech, or lose, nutrients during heavy rain.

What if you have an established garden?

- The first thing to do during extended wet weather is to rake some mulch away from the root zone of plants, allowing for evaporation, then make some holes to allow air in and for the water to fill and again evaporate.
- As much as possible, avoid walking in wet, muddy soil near your plants as this increases compaction.

- Make sure plants are dry before pruning - stressed plants are susceptible to diseases, which spread easily in wet weather.
- Hold off feeding plants until the rain has truly passed as the next downpour will wash the fertiliser off the garden bed and into the nearest water body. Once you know the heavy rain has passed, add compost to the soil to replace nutrients and beneficial microorganisms potentially washed away by the heavy rain.

What about my pot plants?

Bacteria and fungus can flourish if pot plants get too wet so good housekeeping is a must.

- If your pots are full of water remove them from their saucers or ornamental containers and put them somewhere to drain.
- Move pot plants to a sheltered position until the heavy rain has passed.
- If the pot or container is too large or heavy to be moved and the plant is suffering, take the plant out of the container and sit it on newspaper or cardboard overnight to drain. Empty the pots and wash them in warm soapy water. Repot plants in fresh potting mix, pruning off any roots that have rotted.
- The potting mix in flooded containers will have lost most of its nutrients and will need a dose of fertiliser. Use a slow-release fertiliser - this will not overwhelm the plants as they start to recover.
- Add perlite to the potting mix when planting succulents and other drought-loving plants. Perlite is a natural substance made from a volcanic glass that is expanded by heating.



Toxic: Flowerpot Fungus (*Leucocoprinus birnbaumii*)

- Flowerpot Fungus (*Leucocoprinus birnbaumii*) can form in damp and humid conditions. While harmless to the plant, the fungus is toxic if consumed so if you have pets or small children it should be removed immediately. Remove with gloves and place in the bin or treat with a homemade fungicide. (See recipe below)

Native plants that can handle "wet feet" for short periods

- Knobby Club Rush (*Ficinia nodosa*)
- River Lily/Swamp Lily (*Crinum pedunculatum*)
- Native Violet (*Viola hederacea*)
- Necklace Fern (*Asplenium flabellifolium*)
- Swamp Goodenia (*Goodenia humilis*)
- Cunjevoi (*Alocasia brisbanensis*)
- Brahmi or Bacopa (*Bacopa monnieri*)
- Swamp Banksia (*Banksia robur*)
- Paperbarks (*Melaleuca spp*)
- Blueberry Ash (*Elaeocarpus reticulatus*)
- Tree ferns (*Cyathea australis* or *Dicksonia antarctica*)
- Lillipilly (*Syzygium* or *Acmena spp*)
- Swamp Everlasting Paper Daisy (*Xerochrysum palustre*)



Native Violet is a versatile plant for wetter areas.

Other options to consider

Rainwater tanks

Take advantage of the wet weather by installing a tank and harvesting rainwater, building a resource to keep gardens irrigated next summer. Water butts can be linked to gutters on homes, sheds, greenhouses and garages. You can even create your own small-scale rainwater collection tank for a courtyard or balcony.



Gutter brushes prevent the build-up of leaves and other debris while still allowing free water flow.

Clean drains

Clearing gutters of fallen leaves is an essential job that prevents gutters from overflowing during storms. If you are unable to reach your gutters it could be worth paying a professional to install a gutter guard or brush.



A DIY balcony rainwater tank can be a great idea for smaller spaces.

Homemade Flowerpot Fungus Spray

- 1L water
- 1 tsp baking soda*
- 1 tsp oil (preferably vegetable oil)
- 2 drops dishwashing liquid
- 1L container (for mixing)
- Empty spray bottle

Dissolve the baking soda in the water. Add the oil and a few drops of dishwashing liquid to help the solution to stick to the leaves. Stir the mixture then pour it into a clean spray bottle and apply to leaves. You may have to respray until you see the fungus is no longer regrowing.

**This spray is for short-term use as the baking soda contains sodium, which can build up in plants over time and become toxic.*

Kingdom of Fungi



© Machacekcz, Getty image

Fungi are fundamental parts of any healthy ecosystem. Neither a plant nor an animal, fungi are in a kingdom all their own which seems to sit strangely somewhere in between. Fungi cannot produce sugars the way that plants do, instead they feed on decaying material. Recycling organic material in this way make fungi indispensable to proper ecosystem function.

To demonstrate the importance of fungi, one can look to the establishment of pine plantations in Australia. Without the deliberate introduction of companion fungi, this industry would never have got off the ground. This is because pine trees have unusual chemical properties within their tissues which help them to

compete. Yet these same compounds prevented local species from being able to break down the fallen leaves and wood of these trees and without that recycling the trees would be quickly nutrient deficient.

Fungi are all around us, considered to be one of the most diverse groups of life on our planet. Some species have an extremely close relationships with specific plants (as in the example of the pine plantations), while others are generalists. Fungi inhabit all continents.

Yet this fascinating kingdom is too often overlooked and remains poorly understood. Scientific research in this field is still in its infancy. Recent studies have revealed indications that fungi may be up to more than we

even begin to suspect, such as slime moulds which actively move towards their food or mycorrhizal enabling plant communication throughout forests.

Within Randwick City, despite many photographic records, only half a dozen or so species have been formally identified. To address this the Bushland team have commissioned a study across many of our bushland reserves, which fortunately has coincided with the very wet conditions. With lots of mushrooms poking above the surface, fungi are easier to identify, enabling us to begin building a more complete species list. This in turn will increase our understanding of the biodiversity and ecosystems functioning in Randwick City.



The above photos were taken by Bushcarer Felicity while working in Arthur Byrne Reserve this year.



Got a snap to share? We'd love to share your recent photos of native plants, animals, or you - getting out into nature. Please send your photos to bushcare@randwick.nsw.gov.au.

Joanne shared this image of the spectacular Xanthorrea, commonly known as 'grass trees', which are growing in her backyard. Specimens of this size are likely to be very old and would once have been a common sight around our area.

The slow growth of this genus of plants means they are vulnerable to disturbance and once removed may be gone forever. If left, however, these plants have been known to grow to 450 years old.

Such a charismatic species, it's no wonder the local Indigenous people of our region, the Gadigal, took their name from this plant. 'Gadi' means territory of the grass tree and 'gal' means people.



The Broad-tailed Gecko (*Phyllurus platurus*) grows up to 15cm in length, including its leaf-shaped tail. Its distinctive tail provides its other name of the Sydney or Southern Leaf-tailed Gecko. They have pointed scales all over their bodies. Their rocky appearance offers you a clue to where they live - they blend right into the rocks. This adaptable species can also be found hidden in small spaces in backyards, this one was found hiding in Kathy's shed.

Find out more at



Working bee calendar

BUSHCARE

GROUP	LOCATION	DAY	TIME	JUN	JUL	AUG
Clovelly Bay	Opposite 18 Eastbourne Ave, Clovelly	Friday	9am-11am	10	8	12
Dunningham Reserve	Adjacent 5-7 Major Street, Coogee	Thursday	9am-11am	23	28	25
Fred Hollows Reserve	Bligh Place entrance, Randwick	Wednesday	9am-12pm	8	13	10
Gordons Bay	Access via UNSW Cliffbrook Campus Grounds, 45 Beach St, Coogee	Sunday	9am-1pm	5	3	7
Grant Reserve	Coogee Surf Life Saving Club carpark (south of the beach)	Wednesday	8am-10am	15	20	17
Ladies Pool (Ladies Only)	At the entrance to the Ladies Pool, McIver's Rock Baths, Coogee	Thursday	9am-12pm	16	21	18
Malabar Foreshore	Opposite 9 Bay Parade, Malabar (near Malabar Ocean Pool)	Saturday	8am-12pm	4	2	7
Malabar Wetland	End of Manwaring Avenue, Maroubra	Wednesday	1pm-4pm	15	20	17
Maroubra Dunes	The South Maroubra SLSC car park	Thursday	9am-1pm	2	7	4
Prince Henry	Alternate between the corner of Jennifer and Harvey St or opposite 2 Millard Dr, Little Bay	Saturday	9am-12pm	11	9	13
Randwick Environment Park	Access via corner of Dooligah Avenue and Burragulung Street, Randwick. Works take place within fenced area on the far side of the oval.	Wednesday and Sunday	9am-12pm	1, 12	6, 10	3, 14
Wyllies Baths	At the picnic tables above Wylie's Baths, Neptune Street, Coogee	Tuesday	8am-12pm	28	26	23
Little Bay Landcare*	Access between 119 and 121 Bilga Crescent, Malabar. Contact Kerry Gordon on 0411 245 985.	Saturday	8am -12pm	4	2	7
Friends of Malabar Headland*	Contact Therese Weiss on 0403 532 655 or via malabarheadland@gmail.com for details.	Thursday	9am-1pm (earlier start and finish when hot)	9, 16, 23	14, 21, 28	12, 18, 25

* Denotes non-council-run groups. Please contact organisers directly.

PARKCARE

GROUP	LOCATION	DAY	TIME	JUN	JUL	AUG
Alison Road	Corner of Alison Road and Beach Street, Coogee	Wednesday	8am-10am	22	27	24
Clyde Street	Clyde Street Reserve, Randwick	Saturday	1pm-3pm	4	2	6
Old Tramline	The reserve between Dudley Street and Carrington Road, Randwick	Thursday	8am-12pm	9	14	11