

bushland

NEWSLETTER

SPRING 2018



on the go with Dan

It's been a busy time over the past few months with the Spring Wildflower Walks, a field trip to the Australian Botanic Garden at Mount Annan and the Bushcare Christmas lunch. In this issue we focus on recent events, coastal plants, vertical gardens and a native bird that is spreading into Randwick. We wish everyone all the best over the upcoming festive period and would like to remind everyone that we take a break from all bushcare groups in January. Looking forward to another great year in 2019!

Dan

Randwick City Council Bushcare Officer



bushcare christmas lunch

Regular volunteers recently joined us for the annual Bushcare Christmas lunch held at Kensington Park Community Centre.

The Mayor, Kathy Neilson, was in attendance as guests enjoyed an impromptu singalong created by volunteers Therese, Mike and Jonathan as well as a workshop on bush tucker by Narelle Happ from the Sydney Wildflower Nursery at Heathcote.

This included sampling of Native Pepper Bush berries and leaves as well as Warrigal Greens and Macadamia nut pesto. Her presentation was certainly a hit with all present!

The Bushland team would like to thank all volunteers who have joined in the Bushcare program over the past 12 months.

2018 banksia sustainability awards

Recently I was lucky enough to attend the Banksia Sustainability Awards down in Melbourne. Celebrating their 30th year the awards are regarded as the most prestigious and longest running sustainability awards in Australia. This year also saw the awards align with the United Nations 17 Sustainable Development Goals to allow entrants the additional benefit of understanding how their work aligns with a global standard. This helps to demonstrate how each initiative is not working in isolation but contributing to the greater good on an international level.

Randwick City Council was a nominee in the government category for its environmental levy. Over the past 15 years the levy has been put to good use in restoration, sustainability improvements and conservation projects in the community. In a tough category the Lord Howe Island Board claimed the honour for their holistic approach to sustainability, which includes a tourist limit of 400 people at any one time, unique biodiversity safeguards and a world-class waste treatment system that diverts 86% of island waste from landfill. The Lord Howe Island Board also took out the esteemed Gold Banksia award which is presented to the overall winner across the 11 categories.

For more information about the awards visit <http://banksiafdn.com/>

Randwick residents can currently have their say on whether the Environmental Levy should continue for another 5 years. The consultation closes on 18 December. <https://www.yoursay.randwick.nsw.gov.au/>

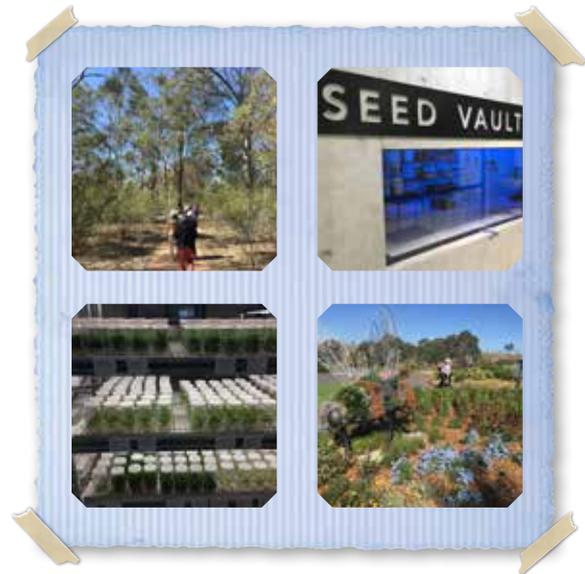


2018 Spring Wildflower Walks

Malabar Headland National Park provided beautiful scenery and wildflowers for our walkers this year with three walks conducted across two days. The first two walks were conducted on Saturday 25 August and followed the relatively new Western Escarpment Walking Track. The third walk occurred on Tuesday 28 August and completed the whole 5.5km loop encompassing both the Boora Point and Western Escarpment walking tracks. Our walks were led by former Randwick City Council Bushland team member Danny Hirschfeld with his extensive knowledge being well received by all participants.

Despite booking out quickly the weather forecast scared a few participants away for the Saturday walks. As a result both walks got to enjoy a more intimate group size and have the walkway largely to themselves. Our afternoon walkers received a short but heavy downpour along the way! Participants enjoyed the expansive views of Maroubra and Malabar as we made our way across the escarpment. Particular highlights included the large flower spikes present on the *Xanthorrhoea resinosa* (Grass Tree), stunning *Philotheca buxifolia* (Box-leaf Wax Flower) and the hairy petals of *Leucopogon ericoides* (White Beard).

Whilst the wet weather held off on the Tuesday, it was quite windy along some of the more exposed sections around the headland. The group enjoyed the variety of native vegetation and ocean views as we passed Magic Point and Boora Point before making our way into Malabar, passing World War II defence sites along the way. Walkers were treated to a mixture of flowering natives including *Melaleuca armillaris* (Bracelet Honey Myrtle), *Dillwynia retorta* (Eggs and Bacon) and *Banksia ericifolia* (Heath-leaved Banksia).



Mount Annan Field Trip

On Tuesday 18 September a busload of our regular volunteers joined Bushland staff on a field trip south west to the Australian Botanic Garden at Mount Annan. In the morning volunteers strolled along the Stolen Generation Memorial walk passing *Bursaria spinulosa* (Sweet Bursaria) and *Eucalyptus tereticornis* (Forest Red Gum) along the way. Afterwards we joined a tour of the Australian PlantBank, where we learnt about current research and conservation projects, seed collection and storage and the process of tissue culture. The afternoon was spent having a picnic lunch before exploring the Big Ideas Garden, the Wattle Garden and the Connections Garden. It was a fantastic time of year to visit with a multitude of flowers on show. If you weren't lucky enough to join us I can highly recommend a visit!

Photo Captions

2018 Spring Wildflower Walks

Top right: Looking north towards Maroubra and beyond.

Bottom left: *Dillwynia retorta* (Eggs and Bacon) creeping out of a rock shelf.

Bottom right: *Philotheca buxifolia* (Box-leaf Wax Flower).

Mount Annan Field Trip

Top left: Walking among the Eucalypts and Sweet Bursaria.

Bottom left: Tissue culture in action.

Bottom right: The Connections Garden.



beach dune systems

Beach plants are often overlooked in our haste to enjoy the beach and the surf, but behind the sunbather there is a plant world that deserves wider appreciation and better understanding.

Plants play a vital role in the formation and stability of our sandy coasts. They create surface turbulence that reduces the capacity for wind to transport sand. Native shrubs and trees on the foredune also provide an aerodynamic cover that deflects salt-laden winds over dunes. This minimises dune blowouts and reduces sand drift, which can be costly to control.

A surprising array of plant communities, from beach grassland through to coastal rainforest, grows on the dunes of south-eastern Australia. Many hundreds of plant species, some of which are unique to the dune environment, grow in these communities. Unfortunately, much of the original dune vegetation along the east coast has been destroyed or disturbed by development.



the strandline zone

Strandline plants are dispersed via the sea and are found along beaches where high tides and storms deposit debris. These hardy pioneer plants grow precariously at the edge of the sea, either to be washed away by storms or, under stable conditions, to be crowded out by longer-lived plants.

Spinifex sericeus (Beach Spinifex) is the most successful native sand trapping plant along the east coast. It responds to accumulations of sand by the growth of long runners or stolons. Beach Spinifex consolidates sand because it has a rapidly growing root system covered with microscopic fungi. The filaments of these fungi may allow the uptake of nutrients otherwise unavailable to the plant. They may also stabilise sand by binding sand grains together. Beach Spinifex can also stand the extreme temperature conditions of the beach because its leaves are hairy and roll inwards during the hottest parts of the day. This reduces moisture loss from the side of the leaf with the most pores.

Photo: Spinifex sericeus (Beach Spinifex) binding the sand together at South Maroubra Beach.



the foredune zone

A patchwork of grasses, herbs and shrubs cling to the windswept foredunes that face the Tasman Sea. Surveys of the foredunes have recorded a flora that is rich and diverse; more than 100 native species are found on the foredunes of south-eastern Australia. These foredune plants are essential to the stability of our sandy coasts, deflecting wind over the foredune, thus protecting the vulnerable dune soils and the plant communities beyond.

Trees are virtually absent from the foredune. Four native shrubs are the mainstays of the east coast foredunes; *Banksia integrifolia* (Coastal Banksia), *Acacia longifolia* var. *sophorae* (Coastal Wattle), *Leptospermum laevigatum* (Coastal Tea Tree) and *Leucopogon parviflorus* (Coastal Beard Heath).

Mat-forming plants are also prominent on the windward side of the foredune. Commonly encountered plants include *Carpobrotus glaucescens* (Pigface) and *Scaevola calendulacea* (Beach Fan Flower). Tufted herbs also commonly found include *Lomandra longifolia* (Mat Rush), *Dianella congesta* (Flax Lily) and *Pelargonium australe* (Native Geranium).



dune forests, woodlands and heaths

Just beyond the crest of the foredune, dense thickets of *Banksia* and *Tea Tree* often give way to taller woodlands and forests. In many places these sheltered locations can support rainforest plants, though true littoral rainforests are restricted in their distribution. Many areas of these rainforests have been destroyed, although those remaining are afforded some protection in New South Wales by a State Environmental Planning Policy.

Information gathered from Beach Plants of South Eastern Australia by Roger Carolin and Peter Clarke.

Let's Get Vertical



Vertical gardens are increasingly popular in urban areas and they are a great solution for anyone who wants a garden but doesn't have a large area or flat ground to do it. To start all you need is a wall and vertical gardens are perfect for verandahs, courtyards, patios, the side of a building and indoors. Vertical gardens can also be used to screen unattractive walls or as a striking feature and are helpful in cooling exposed walls.

With their rising popularity there is good range of ready-made systems or kits you can buy to create your own vertical garden or you can get creative and do it yourself.

The ready-made systems tend to be either pots or pouches that you fix to a grid structure. If you use pots you can get self-watering pots that have a water reservoir at the base, making it a lot easier to water, with less chance of the plants drying out between watering. You can also get irrigation kits specifically designed for vertical gardens and can attach a timer to a tap for automatic watering. The ready-made systems are available from hardware stores, nurseries and specialty stores online.

If you'd like to build a bespoke vertical garden you'll need:

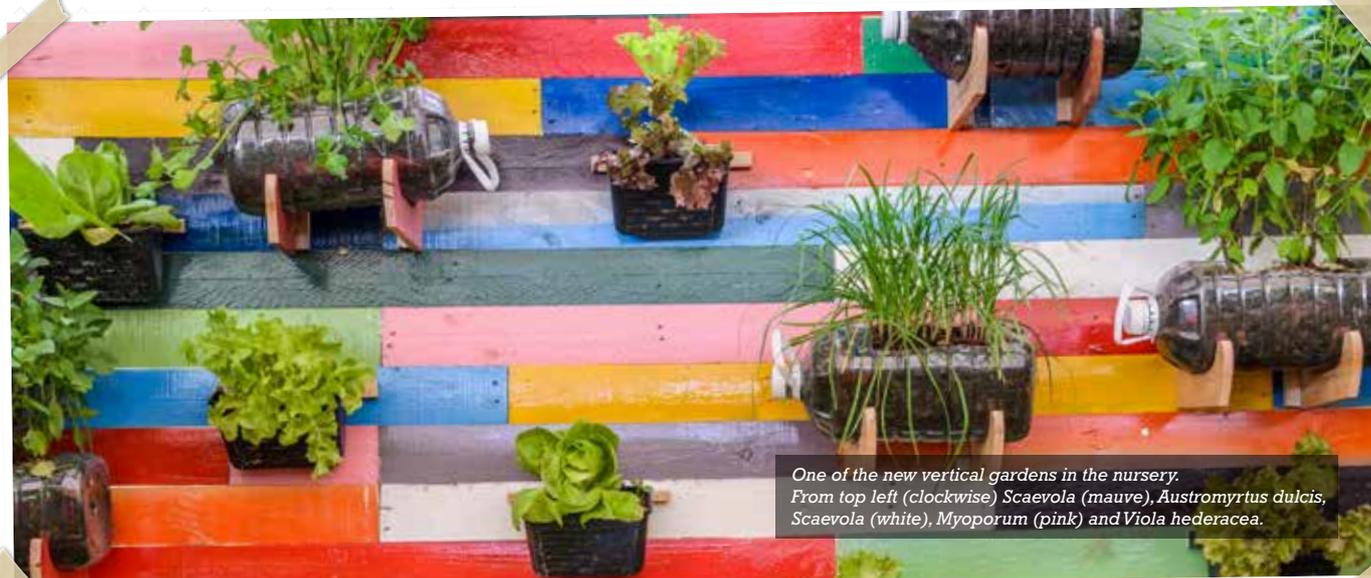
- A grid or frame
- Containers and plants
- Hooks, cable ties or wire to attach planted containers to the grid
- An irrigation system, unless you will be hand watering

Wooden pallets are great for housing the plants or used as a frame to attach containers. Chicken wire is effective as a holding structure and reused plastic bottles make quirky containers.

When it comes to choosing plants there's a plethora of options. Generally, groundcovers, grasses, some climbers, succulents and smaller plants are best for vertical gardens. You can create an edible vertical garden using herbs and suitable fruit and vegies such as strawberries, tomatoes, baby spinach and lettuce.

There's a good range of native plants that will thrive in vertical gardens depending on the aspect. Here's a selection that are grown at the nursery. Please check with the nursery to confirm availability.

Photo: One of the new vertical gardens in the nursery. From top left (clockwise) Scaevola (mauve), Austromyrtus dulcis, Scaevola (white), Myoporum (pink) and Viola hederacea



One of the new vertical gardens in the nursery.
From top left (clockwise) *Scaevola* (mauve), *Austromyrtus dulcis*,
Scaevola (white), *Myoporum* (pink) and *Viola hederacea*.

Shady Location

***Viola hederacea* (Native Violet):** A low-growing groundcover with vibrant green kidney-shaped leaves. Delicate white and violet flowers held upright on slender stalks appear throughout the year.

***Asplenium bulbiferum* (Hen and Chicken Fern):** Fern up to 50cm high. Plantlets (the 'chickens') grow on the top surface of the fronds and can be removed and planted when large enough.

***Dichondra repens* (Kidney Grass):** A hardy groundcover with a dense habit and kidney-shaped light green leaves. Tiny cream star-shaped flowers appear from spring to early summer.

***Austromyrtus dulcis* (Midgen Berry):** A low, spreading shrub to 60cm high with a gently weeping habit and small dark green leaves with pink new growth. Cream flowers from spring to summer, followed by speckled cream fruit which are edible. Also grows in a sunny position.

***Hibbertia scandens* (Snake Vine):** An indigenous climber or taller groundcover with large glossy green leaves and bright yellow flowers in spring and summer. Also grows in a sunny and coastal position. Will cover a large area.

***Aphanopetalum resinosum* (Gum Vine):** Robust climber with glossy bright green leaves and cream flowers from late spring to early summer. Also grows in a sunny position. Will cover a large area.

Sunny Location

***Anigozanthos* 'Bush Pearl' (Pink Kangaroo Paw):** A clumping plant to 60cm high with showy pink flowers held on upright stems in spring and summer.

***Chrysocephalum apiculatum* (Yellow Buttons):** Attractive groundcover to 20cm high with masses of bright yellow button-like flowers in spring and summer.

***Scaevola aemula* (Fan Flower):** Beautiful groundcover to 40cm high with vibrant purple fan-shaped flowers for most of the year.

***Myoporum parvifolium* (Creeping Boobialla):** A carpet-like groundcover with white star-shaped flowers in spring and summer. Also grows in part-shade.

***Brachycome* 'Valencia' (Mauve Daisy):** Groundcover to 15cm high and 50cm wide with mauve daisy flowers in spring and summer.

***Lomandra* 'Tanika' (Tanika Mat Rush):** A hardy clumping grass to 80cm high with thin strappy leaves and yellow flower spikes in spring.

***Poa labillardieri* (Tussock Grass):** A tough grass to 80cm high with fine grey-green leaves and graceful flower spikes to 1m high in autumn.

***Pelargonium australe* (Native Geranium):** Indigenous groundcover to 50cm high, forming a rounded bush. It has circular leaves and clusters of small white and pink flowers from spring to late summer.

Exposed Coastal Location

***Carpobrotus glaucescens* (Pig Face):** A quick-growing and hardy groundcover with succulent leaves and large hot pink flowers in spring and summer.

***Themeda australis* 'Mingo' (Mingo Kangaroo Grass):** A hardy prostrate grass up to 20cm high with blue-grey foliage and rusty red-brown flowers in summer. Also grows in part-shade.

***Tetragonia tetragonioides* (Warrigal Greens):** A leafy groundcover with fleshy leaves and small yellow flowers in spring and summer. Also grows in part-shade. A bush tucker plant.

***Dianella congesta* (Flax Lily):** A clumping plant to 80cm high with purple flowers followed by edible purple berries. Also grows in part-shade.



what's on

bushcare

GROUP	LOCATION	DAY	TIME	DEC	JAN	FEB
Bundock Park	Car park on Donnellan Circuit, Clovelly	Friday	9.00am – 11.00am	14	-	8
Fred Hollows Reserve	Bligh Place entrance, Randwick	Wednesday	9.00am – 1.00pm	12	-	13
Gordons Bay	Access via UNSW Cliffbrook Campus Grounds, 45 Beach Street, Coogee	Sunday	9.00am – 1.00pm	9	14	11
Grant Reserve	Vehicular entry to Coogee Surf Life Saving Club	Wednesday	8.00am – 10.00am	19	-	20
Ladies Pool	McIvers Rock Baths, Grant Reserve, Coogee	Sunday and Thursday	8.00am – 10.00am	2 and 20	-	3 and 21
Lake Malabar	End of Manwaring Avenue, Maroubra	Wednesday	12.00pm – 3.00pm	19	-	20
Long Bay Foreshore	Corner of Howe Street and Bay Parade, Malabar	Saturday	9.00am – 1.00pm	1	-	2
Maroubra Dunes	South Maroubra SLSC car park	Thursday	9.00am – 1.00pm	6	-	7
Prince Henry	Alternate between opposite 2 Millard Drive & the corner of Jennifer and Harvey Street, Little Bay	Saturday	9:00am – 1:00pm	8	-	9
Randwick Environment Park	Corner of Dooligah Avenue and Burragulung Street, Randwick	Wednesday and Saturday	9.00am – 12 noon	5 and 15	-	6 and 16
Wylies Baths	At the picnic tables above Wylies Baths, Neptune Street, Coogee	Tuesday	9.30am – 11.30pm	11 only	-	12 and 26
* Little Bay Landcare	Between 119 and 121 Bilga Crescent, Malabar. Contact Kerry Gordon on (02) 9311 7647 for more information.	Thursday	9.00am – 1.00pm	13, 20, 27	11, 18, 25	8, 15, 22, 29
* Magic Point (Malabar Headland)	Contact Claire Bettington on (02) 9344 8589 for the meeting place.	Thursday	9.00am – 1.00pm	13, 20, 27	-	14, 21, 28
* Malabar Headland West	Contact Don Kerr on (02) 9311 2665 for the meeting place.	Sunday	9.00am – 1.00pm	2, 9, 16, 23, 30	-	3, 10, 17, 24

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

parkcare

GROUP	LOCATION	DAY	TIME	DEC	JAN	FEB
Alison Road	Corner of Alison Road and Beach Street, Coogee	Wednesday	8.00am – 10.00am	-	-	27
Clyde Street	Clyde Street Reserve, Randwick	Saturday	1.00pm – 3.00pm	15	-	16
Old Tramline	Dudley Street entrance, Randwick	Thursday	8.00am – 10.00am	13	-	14



student spotlight

Matthew Hall is a PhD candidate with the School of Life and Environmental Sciences at the University of Sydney.

What have you studied in the past and how did that lead to Brush-turkeys?

I did a Bachelor of Science at the University of Sydney majoring in Biology and Environmental Studies. I was always interested in studying wildlife in cities, and my honours research involved looking at how restoration of Eastern Suburbs Banksia Scrub remnants affected invertebrate diversity. Following this I heard from colleagues at the university about the spread of Brush-turkeys in Sydney and Brisbane and I thought it would be fascinating to research how the species was surviving in and adapting to urban areas.

Can you tell us a bit about your PhD? Also, how far along are you?

The main aims of my PhD are to understand how Brush-turkeys are surviving in urban and suburban areas. This involves studying their changing distribution, their behaviour, habitat use, and ecological effects on the environment. I am just under a year and a half into my research.

What's correct, Bush turkey or Brush-turkey?

Brush-turkey is the official common name (including the hyphen) while bush turkey and scrub turkey are other colloquial names.



What makes them so successful in urban areas? And how far have they spread? And why?

They are omnivorous and hardy birds, which means they can take advantage of the resources on offer in the city. They are also non-migratory, which means they can settle into a habitat patch, without having to move later. However, some aspects of their biology would theoretically make it difficult to survive in cities. For example, the large Brush-turkey nest mounds require plenty of space, soil and leaf litter, which would be more difficult to find in the city than in forests. Also the chicks have to survive in this new environment without any parental care or support. But answering this question in more detail is a big part of my research. I want to understand how their behaviour has allowed them to survive in a hostile environment with plenty of potential threats, but with great opportunities. Preliminary data shows that these birds are unusually bold for their body size and can quickly habituate to human presence and disturbance. Hopefully I'll be able to answer this in more detail by the end of my PhD.

What are the main threats they face?

First and foremost, their main threat is habitat destruction. They are rainforest and woodland birds, but most of this habitat has been cleared and continues to be cleared throughout Australia. Another major threat is introduced species, especially cats. Previous research showed that most Brush-turkey chicks are often caught by predators, and that cats kill more than native predators. Until the 1970s the species was also hunted for food and sport. It is likely that a combination of these threats meant that Brush-turkeys were heading towards extinction until hunting native species was banned. While their population in suburban areas appears to be on the rise, their populations in natural areas aren't very well recorded, so we are unsure of total numbers.



What are the pros and cons of having them in a certain area?

First the cons: for many people, having a Brush-turkey in an area can be a real nuisance. They can tear a garden to shreds while looking for food or when trying to build a nest. Brush-turkey nests can weight up to 3 tonnes and can completely cover a small garden. As well as making a mess, they can sometimes be noisy as well if they walk on top of roofs or sheds. While not particularly aggressive compared to magpies or noisy miners, for example, Brush-turkeys, especially males, can be a bit territorial and protective of their nests and chase other native species or small pets.

Now the pros: for many people, seeing more native fauna in suburban areas is enjoyable and exciting, especially when many other species are becoming rare. Some people do enjoy feeding Brush-turkeys or just watching them. The chicks are also very cute, and many people have expressed delight at having the little fluffy birds running everywhere. People who have seen the chicks also tend to be more willing to deal with having a Brush-turkey nest around. Additionally, there is some anecdotal evidence that Brush-turkeys can benefit the local environment. Their turnover and movement of large amounts of leaf litter and soil is likely to have effects on nutrient cycling, soil structure, bush fire fuel loads, plant growth, and the diversity of other species. While this hasn't yet been studied for Brush-turkeys (it's a future part of my PhD), similar effects have been found with other digging species like Lyrebirds and Maleefowl.



What would your advice be to someone living with a Brush-turkey?

There are several things people can do to reduce the impact of Brush-turkeys:

- If you see a male start to build a nest, clear it within the first few days. If you leave it any longer he will keep coming back. It is also illegal to clear a nest once it contains eggs.
- Protect vulnerable plants and garden beds with netting, chicken wire or pallets.
- Cover exposed garden beds with pebbles and rocks to deter Brush-turkeys from scratching around.
- Don't leave pet food or birdseed outside, otherwise it will attract them.
- Spraying Brush-turkeys with a hose is a non-harmful way of deterring them.
- Mirrors can sometimes trick Brush-turkey males into thinking they've seen a competitor. This might make them move on.
- They are not really a danger to humans, but like most animals they can cause injury if you try to touch or interfere with them. Don't try to catch Brush-turkeys. It is illegal, and should be left to experts.

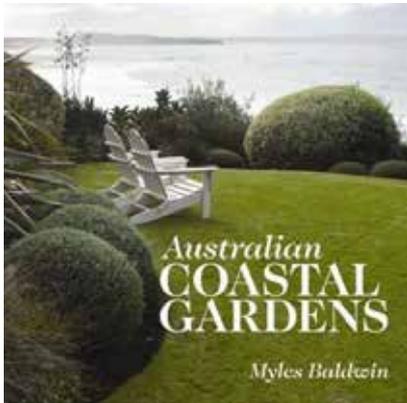
Have you had any funny Brush-turkey encounters?

Plenty. Most involve being outwitted by the birds while trying to catch them. For example, I was patiently waiting for a particular Brush-turkey to walk into a trap I had set, only to not notice another one walk up behind me and steal all the food I was using as bait. There was also the time a Brush-turkey got loose in my car and started defecating everywhere. It took weeks to get all the smell out!

What would you like to do once you finish your PhD?

I'd love to keep researching how native species adapt to a changing environment and further human impacts, or working to manage native species and promote coexistence between humans and wildlife.





Book Review

Australian Coastal Gardens by Myles Baldwin

The coastal gardens of Australia are as varied as the geography of this vast continent. Join Myles Baldwin as he travels around the country, from the gentle landscape of Victoria's Mornington Peninsula and the sheer cliffs of Sydney's Dover Heights to an old copper mining town in South Australia and beyond. On his journey he finds a diverse range of gardens, some created by professionals, others by enthusiastic amateurs, but all entirely appropriate to their location and often difficult conditions. Also included is an extensive plant guide, compiled by Baldwin based on his many years' experience of working on the coast and his conversations with horticulturists, which will guide you through the practicalities of gardening by the sea. The text is accompanied by stunning photography by Sue Stubbs.

Review from www.murdochbooks.com.au



Brush-Turkeys Spotteron Phone App

As populations increase, Brush-turkeys are raising the ire of many homeowners as the birds forage and construct nest mounds in suburban gardens. The returned Brush-turkey populations in urban areas need to be better understood, especially as calls for their management increase. This project aims to engage keen bird-watchers and the general public to report sightings of Brush-turkeys. Their whereabouts, behaviours, communal roosts and nest mounds are all of interest to researchers at the University of Sydney, Taronga Conservation Society and the Royal Botanic Garden Sydney.

The data collected will help scientists understand Brush-turkey distribution, behaviour, movements, reproduction and habitat use in suburban areas and how these differ from birds in their natural habitat.

FrogID Phone App

Ready to discover which frogs live around you and help the Australian Museum count our frog population?

FrogID is a national citizen science project that is helping us learn more about what is happening to Australia's frogs. All around the country, people are recording frog calls with nothing more than a smartphone.

How it works:

1. Download the FrogID app
2. Create an account
3. Record the frog calls you hear in the field and submit them to Australia's first national frog count
4. Check back later to find your frog calls identified by the Australian Museum

Already a frog expert?

Begin or join a group and become an audio DNA expert by helping to validate frog recordings submitted by other participants from the field.

For more information head to www.frogid.net.au

