

# bushland news



Issue 123 **Spring** 2022 *Time of Djilba and Kambarang in the Noongar calendar.*

## Myrtle rust detected in Western Australia

Photo – Amy Priemus.



Department of Biodiversity,  
Conservation and Attractions



*Bushland News* is a quarterly newsletter of Urban Nature, a Department of Biodiversity, Conservation and Attractions Parks and Wildlife Service program to support community involvement in bushland conservation.

# Contents

<i>Myrtle rust detected in Western Australia</i>	3
<i>Urban Nature update</i>	4
<i>Fairy terns on Boundary Island</i>	5
<i>The world's largest plant is found underwater in Shark Bay</i>	6
<i>Developing Western Australia's restoration economy</i>	8
<i>Ben Brown named International Ranger of the Year</i>	9
<i>Mary Gray recognised in Queen's Birthday Honours List</i>	9
<i>Volunteering in nature</i>	10
<i>Off-label permit renewed for herbicide control of environmental weeds</i>	11

<i>Regional reports</i>	
<i>Native plants saved from destruction in Cockburn</i>	11
<i>New Poet-in-Residence Program at The Wetlands Centre Cockburn</i>	12
<i>Rehabilitating Roe 8 update</i>	13
<i>Building biodiversity into Baigup Wetlands' recovery</i>	14
<i>Restoring our river</i>	15
<i>Harnessing the Benefits of Volunteerism in Natural Areas workshop</i>	16
<i>Twelve reasons why weeding is really sexy</i>	17
<i>Feature – The right tool for the job: specialised weeding tool for bushcare</i>	18
<i>Group profile – School and community partnerships: building relationships to enhance wetland education</i>	20
<i>What's on</i>	23
<i>Resources</i>	29
<i>Funding opportunities</i>	30
<i>Look out for ... spoon-wing lacewings</i>	31

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## Next issue

### SummerBushland News

Summer *Bushland News* contributions should be sent to [Urban Nature](#) by **15 November 2022**. *Bushland News* seeks original contributions. If your submission has been or may be published elsewhere please let us know. Compiled and edited by Anna Wisolith.

# Myrtle rust detected in Western Australia

Myrtle rust (*Austropuccinia psidii*) was [recently detected](#) in Western Australia's far north-east Kimberley at a single site on a remote pastoral lease. It was found during targeted surveillance carried out in June by staff from the Department of Biodiversity, Conservation and Attractions (DBCA), the Department of Primary Industries and Regional Development (DPIRD) and the Forest Products Commission, in collaboration with the Queensland Department of Agriculture and Fisheries.

A highly invasive fungal disease, [myrtle rust](#) attacks new growth and young plants of the Myrtaceae family. This family includes iconic and ecologically important species which dominate many of our State's ecosystems such as peppermint and eucalyptus trees, Geraldton wax, paperbarks and bottlebrushes. First introduced to Australia in 2010, myrtle rust is now widespread along the east coast of Australia from southern New South Wales to far north Queensland and into the Northern Territory.

The fungal pathogen [had not been previously recorded in Western Australia](#) and there is the potential it may spread quickly and cause significant environmental damage. The disease is spread mostly by wind, but the spores can also be spread via infected plant material, contaminated equipment, vehicles, clothing and footwear. Signs of the disease include masses of bright yellow or orange-yellow spores on plant foliage, lesions on actively growing foliage, floral buds and young fruit, and buckled or twisted leaves.

*Cover photo: the spectacular orange-flowering tree Eucalyptus miniata is widespread across northern Australia. As is the case for most Australian Myrtaceae species which are naïve to myrtle rust, it is not yet known whether this species is susceptible to the disease and if so, to what degree it may be affected. Photo – Amy Priemus.*



*Signs of myrtle rust include masses of bright yellow or orange-yellow spores on plant foliage, lesions on actively growing foliage, floral buds and young fruit, and buckled or twisted leaves. Photo – Louise Shuey.*

DBCA's Kimberley Region and Ecosystem Health Branch are working with DPIRD to respond to this biosecurity incident, which includes further surveys to establish the extent of the outbreak.

In recent months, DBCA staff from the Western Australian Seed Centre have collected seed from a range of threatened and common Myrtaceae species as insurance against the potential impacts of myrtle rust. This seed will be placed into long-term storage for future plantings, preservation of genetic material, and research such as the selection for enhanced resistance to the disease.

While currently present only in a small part of the Kimberley, myrtle rust could be spread to other parts of the State by wind or people, with potentially devastating consequences for our Myrtaceae species.

## If you see signs of myrtle rust

- DO NOT touch suspect plants or collect samples. Avoid contamination of yourself and any equipment with the spores.
- Take photographs of the whole plant, affected area and lesions.
- Record the location of the infected plant(s) - GPS is ideal, but a detailed description of the location is also important.
- Record what you see (i.e. what the infection looks like, the extent of the infection, how many plants are infected). If you know the species of plant infected, record that as well.
- As soon as you can, report your observations using the [MyPestGuide Reporter app](#) or by contacting DPIRD's Pest and Disease information Service on 9368 3080 or by [email](#).

## Contact

### DPIRD Pest and Disease Information Service

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phone 9368 3080

## Urban Nature Update

By Julia Cullity

I'd like to welcome Litia Cameron Pearson and Lucy Mackay to the Urban Nature team this spring. Litia and Lucy are taking a full-time work placement with DBCA for second semester to complete their Conservation and Wildlife Biology degrees at Edith Cowan University. Their first tasks began with *Bushland News* – writing articles, compiling content and obtaining photographic permissions to get a well-rounded experience of publishing.

Litia and Lucy will also assist staff in Perth Hills and Swan Coastal districts taking part in fauna trapping and threatened and priority flora surveys and will be weed and vegetation condition mapping with Urban Nature at Bush Forever sites Greater Brixton Street Wetlands, Paganoni Swamp and Anstey-Keane Dampland. This is the fourth year that we have been part of a team hosting students and we hope they get a great feel for the Parks and Wildlife Service and get as much out of the experience as we do.



Meet Lucy and Litia, our new Conservation Interns. Here Lucy (left) is at Lupton Conservation Park monitoring a population of the threatened species Narrogin pea (*Pultenaea pauciflora*) and Litia is weed mapping at Paganoni Swamp. Their work with Urban Nature will give them insight into recognising and documenting biodiversity values and threatening processes, understanding bushland management techniques and supporting community involvement in bushland conservation. Photos – Marnie Mallie and Julia Cullity.



Above: In July, Conservation Employee Ben (left photo), and Julia visited Hymus Swamp in Lowlands Nature Reserve to assess how the bushland was recovering from a summer bushfire in early 2020 and monitor a population of threatened glossy hammer orchids (*Drakaea elastica*). We carefully applied a spot-spray of grass selective herbicides to manage perennial veldt grass, which although still at low densities probably due to kangaroo grazing, is known for its invasiveness in banksia woodland. Photo – Julia Cullity.

Urban Nature was out planting this winter along with community groups. We must give a special shout-out to Cat from SERCUL (top photo, in pink cap) who dug so many holes for us all with her auger. Julia gave it a go and can attest: it looks like hard work – because it is! Jane (centre photo) convenes the Friends of Jandakot Regional Park and concentrates on managing the banksia woodland and wetlands near Acourt Rd in Canning Vale. Jane is planting here but [get in touch](#) if woody weed control is your bag. This year the Friends of Paganoni Swamp got the assistance of Fortescue Metals Group (right photo) to assist in infill planting on some steep slopes close to the firebreak. Many corporate groups love the opportunity to volunteer for the environment and are a great help at planting time if you reach out. Photos – Grazyna Paczkowska and Julia Cullity.

# Fairy terns on Boundary Island By Geoff Barrett

In 2020, DBCA leased a portion of Boundary Island, south of Mandurah, to create a trial breeding site for fairy terns. A semi-permanent fence was constructed to exclude people and domestic dogs, weeds were removed, and an artificial shoreline was created using bags of shell grit donated by Cockburn Cement.

We are pleased to report that in the following 2021 season, six fairy tern pairs were attracted to the site by [WA Fairy Tern Network](#) volunteers using decoys and playback calls. Unfortunately, a late season low tide allowed a fox incursion, which disturbed the fledgling colony and only one nest was successful. However, it is promising that the fairy terns located the site and considered it suitable for breeding. The department is working with BirdLife Australia and the WA Fairy Tern Network to set up cameras and remove more weeds from the site in preparation for next spring.

The WA Fairy Tern Network, led by the Conservation Council of WA, reported at least [12 successful breeding colonies in 2021](#) between Leeman, north of Jurien Bay, and Cape Arid. Boundary Island, a dredge spoil island, is 6km west of Dawesville, where last year over 350 fairy tern pairs established a colony, accounting for half of the estimated 700 pairs that bred annually between Perth and Bunbury.

This is a big improvement on the 2020–21 season, when only two fairy tern colonies were successful in the Perth-Peel region.

The [Australian fairy tern](#) (*Sternula nereis nereis*) is State and federally [listed as threatened](#) and the migratory population occupying south-western Australia is likely to decline without active conservation intervention. A key threat to the species is the loss of nesting habitat due to coastal development, predators such as cats and foxes, and high spring tides. This was the driver for the Boundary Island initiative – to provide an alternative, safe breeding area for the terns.

We are thankful to the Department of Planning, Lands and Heritage for making the site available. Thanks also to BirdLife Australia for funding the fence construction, and to the dedicated WA Fairy Tern Network volunteers and DBCA staff who lugged fencing material and bags of shell grit, chipped away the dune onion weed and monitored the fairy tern activity.

## Contact

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Decoys were scattered among the shell grit to attract the breeding fairy terns.  
Photo – Geoff Barrett.



A baby fairy tern under mum's wing. The loss of nesting habitat is a key threat to the species and the Boundary Island initiative aims to provide a safe breeding area for fairy terns. Photo – Claire Greenwell.



# World's largest plant is found underwater in Shark Bay

*By Jane Edgeloe, Dr Elizabeth Sinclair  
and Dr Siegy Krauss*

*Posidonia seagrass meadow in Gathaagudu (Shark Bay).  
Photo – Rachel Austin.*

Seagrasses are marine flowering plants, meaning they produce flowers, fruit and seedlings. They also reproduce clonally through vegetative growth by horizontal rhizome extension. Globally distributed along coastlines and estuaries, seagrasses are important ecosystem engineers, modifying their abiotic environment in ways that also benefit other organisms and adjacent ecosystems by stabilising the sea floor, filtering sediments and nutrients, and reducing the speed of water flow in their canopies.

The [UNESCO World Heritage Area of Shark Bay](#) is home to 12 out of the 72 global seagrass species. Known to the Malgana people as 'Wirriya jalyanu nhurra' or 'seagrass mob', *Posidonia australis* appears as extensive meadows across Gathaagudu (Shark Bay). Here, the seagrass meadows provide habitat for fauna such as dugongs (wuthuga) and turtles (buyungurra) along the steep natural salinity gradient that increases almost two-fold from north to south.

Following a devastating marine heatwave in 2010–11, a total estimated area of 1,310km<sup>2</sup> of seagrass disappeared within Shark Bay, yet there have been [promising signs of recovery](#). We set out to investigate whether the *P. australis* meadows in Shark Bay will be able to persist under the increased frequency and severity of extreme climate events. We conducted a population genetic study to begin to answer this question, which required collecting shoot samples from ten meadows spread across the salinity gradient.

Using 18,000 genetic markers, we found shoots from [nine of the ten meadows were genetically identical](#), meaning a single plant (or clone) of *Posidonia* has expanded across 180km. We believe the clone originated from a single, colonising seed approximately 4,500 years ago – as old as the Egyptian pyramids and Stonehenge.

Our study revealed that this plant is [the largest known organism on earth](#). Its extent is equivalent to the distance between Perth

City and Bunbury! The plant has double the genome of its oceanic relatives (40 chromosomes rather than 20), making it a polyploid organism. Polyploids arise when diploid parent plants hybridise, and typically have greater vigour and hardiness than their diploid progenitors. We suggest this allowed the plant to colonise newly submerged habitats at Shark Bay following rising sea levels after the Last Glacial Maximum.

The giant clone appears to be highly resilient to its environment, experiencing a range of temperatures and salinities. Some meadows of this giant clone do produce flowers, but [fruits are rarely observed](#) meaning it may be sterile, with vegetative growth through rhizome extension largely responsible for its current distribution.

This research was supported with funding from the Australian Government's National Environmental Science Program and the Australian Research Council. Continuation of research into this hybrid plant will focus on untangling evolutionary processes that enable it to adapt to changing environments. This knowledge will benefit ecological restoration of degraded seagrass meadows, and aid in conserving the species for hopefully many generations to come.

## Acknowledgement of Country

Permission to conduct research on Gathaagudu, Malgana Land and Sea Country, was provided by the Malgana Aboriginal Corporation prior to making field collections. 'Wirriya jalyanu nhurra' comes from language shared by Malgana Elder Auntie Ada Fossa, *may she rest in peace*.

## Contact

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Jane Edgeloe on SCUBA sampling *Posidonia* shoots from a deeper water meadow (approximately 4m deep) in Shark Bay. Photo – Rachel Austin.

# Developing Western Australia's restoration economy

By Renee Young

In August, Minister Plibersek released the [2021 State of the Environment report](#). It undeniably shows our environment is at risk and we need to act now to save our species and communities. Biodiversity loss and climate change mutually reinforce each other, and neither will be resolved unless tackled together.

Ecological restoration is key to jointly tackling the twin environmental challenges of reducing greenhouse gas emissions and reversing nature loss. As a large, sparsely populated, politically stable country, Australia – and particularly Western Australia, which occupies a third of Australia's landmass – is in a unique position to take advantage of major investment opportunities in the ecological restoration sector as the world pushes towards a nature positive and carbon neutral future. Despite its great potential for supporting the development of a more sustainable Western Australia, investment in ecological restoration has been constrained by a lack of definition and market analysis.

The [Western Australian Biodiversity Science Institute](#) is striving to remove those constraints by leading the production of a [State level framework for restoration investment](#).

In our latest report on the Western Australian Restoration Economy (WARE), due to be delivered in September 2022, we define the restoration economy as: "The market of businesses, investors, consumers, and government initiatives engaging in or driving the economic activity related to ecological restoration".

The WARE supply chain is comprised of 'buyers' and 'providers'. Buyers include businesses, organisations, and government agencies engaged in urban, agricultural, carbon and mining restoration projects. Providers deliver restoration services and include consultants, supply agents, and researchers. We surveyed 12.5% of the groups identified to have a role in the WARE, and respondents reported an expenditure of almost \$65 million in the 2020–21 financial year, restoring 35,000ha of land. Most sectors within the WARE are growing, with the strongest growth observed in carbon farming and restoration companies, but significant challenges face the restoration industry including policy, supply and labour shortages.

To support the growth of the industry we need to address three key actions:

- **Accelerate** - Increase delivery of quality ecological restoration at scale in Western Australia,

- **Expand** - Implement strategies and programs for capacity building in the WARE, and
- **Inform** - Build specialist knowledge and develop tools to close critical gaps.

A blueprint of initiatives to achieve a solid foundation for a robust and enduring WARE is provided in the report and covers a variety of topics: leadership, policy, regulation, research, data, digital tools and technology, material supply, financial investment, and education and training.

Western Australia is in a unique position of having vast areas where ecological restoration could be employed to stop and even reverse the impacts caused by decades of land degradation, species loss and climate change. A number of restoration works and compatible programs are already in the pipeline, however additional investment to build knowledge and capacity will be required to support the significant increase in operational scale needed to halt biodiversity loss.

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*Ecological restoration is key to jointly tackling the twin environmental challenges of reducing greenhouse gas emissions while simultaneously restoring nature loss.  
Photo – Bayden Smith.*



## Ben Brown named International Ranger of the Year

Parks and Wildlife Service Ranger Yuddiy (Ben) Brown has been awarded [International Ranger of the Year](#) by one of the world's leading conservation organisations.

Presented by the International Union for Conservation of Nature (IUCN) and the IUCN World Commission on Protected Areas, winners of the International Ranger Awards were announced on Wednesday night in Kigali, Rwanda, celebrating the remarkable work of rangers in protected areas around the world.

Ben works as a ranger in the newly named Pila Nature Reserve in the

Goldfields region, practising traditional and contemporary land management, from fauna and flora surveys, weed management, cultural burning and road repairs to rockhole cleaning to maintain water sources for native animals including the emu, bilby and kangaroo.

Joint Management Operations Officer Jim Piper nominated Ben for the award citing his dedication and contribution to both his role at DBCA and his Country.

A [short video](#) has been put together to celebrate Ben and his remarkable achievement.

Congratulations, Ben!



Ben Brown. Photo – DBCA.

## Mary Gray recognised in Queen's Birthday Honours List

By Margaret Owen, Colma Keating and Christine Richardson

*Edited reprint with thanks to UBC's [Facebook](#).*

We congratulate Mary Gray on being awarded a Medal of the Order of Australia in the Queen's Birthday 2022 Honours List, recognising her contribution to the [Urban Bushland Council](#) (UBC), the [Wildflower Society of Western Australia](#) and to conservation and the environment over many decades. This is very well deserved and fabulous news.

Mary has been active with the UBC even before UBC was born!

She was at that pivotal meeting called by Rachel Siewert and the [Conservation Council of Western Australia](#) in November 1992, where people from 40 urban bushcare groups came together concerned about destruction of our urban bushland. Four months later, 85 individuals met in Kings Park to formally launch the Urban Bushland Council.



Mary Gray.  
Photo – Kim Sarti.

Mary has been extremely active with the UBC and has been elected president or vice president for 23 years. Staggeringly, she has been on the committee for all but one of our 29 years!

She has been and continues to be tenacious in her advocacy for the protection of our bushlands and wetlands, and for species relying on those habitats.

A major focus of Mary's has been to have [Bush Forever](#), a world class plan for a comprehensive, adequate and representative reserve system, both fully implemented and adequately funded for management of those sites.

Our conservation work is not finished, but it is great to recognise our champions.

### Contact

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# Volunteering in nature By Lucy Mackay

## Search for positions with YVolunteer

[YVolunteer](#) is a new website for young people, by young people. It aims to support youth engagement in volunteering as a pathway to a job, a way to gain experience, develop new skills, and build social connection and mental health. Search their website to find [local volunteering roles](#) in environment and conservation, filtered specifically for young people aged 15–24. A wide variety of volunteer roles are available: face-to-face or online, ongoing positions to one-off opportunities, so you can work around other commitments. The website provides [advice on volunteering](#) with videos explaining types of volunteer roles available, how to find opportunities that best suit you, and volunteer rights and responsibilities. You can also hear inspirational [stories from other volunteers](#) and use the [CV builder](#) template. Volunteering is a great way to gain experience and confidence, interact with a diverse range of people, give back, help grow your resume, and much more.

## Flora Connections citizen science

Volunteers are needed to assist scientists in monitoring native plant species after the occurrence of extreme weather events right throughout Australia. Enjoy a bushwalk around your local area in search of native plants, and record and upload important information about the species you find on the [Flora Connections website](#). Submitted information is added to the [Atlas of Living Australia](#), a national biodiversity database. The valuable information collected by citizen scientists is a great support to researchers monitoring the recovery of plant species following bushfires and floods. Visit the website for a [step-by-step guide](#) on how to complete a Flora Connections survey.

## Volunteer with dolphins at Monkey Mia

Parks and Wildlife Service are searching for [volunteers](#) to support staff in managing their dolphin experience, along with the Monkey Mia Reserve and visitor centre. Help with dolphin data collection, dolphin feedings, wildlife interactions, beach clean-ups, as well as additional jobs with rangers. Volunteers are needed year round and can join for as little as four days or anywhere up to two weeks. Early mornings and short days mean that you can plan your next holiday around volunteering with plenty of free time. Book in advance by calling staff on 9948 1366 or contact them via [email](#).



*Volunteer Janet with Surprise the dolphin at feeding time. Enjoy an unforgettable experience at Monkey Mia supporting Parks and Wildlife staff with tasks such as dolphin feedings, data collection and beach clean-ups. Photo – DBCA.*

Please send us your regional report (400 words) and one or two photos by Tuesday 15 November 2022. Text may be edited in response to volume of submitted reports.

## Off-label permit renewed for herbicide control of environmental weeds *By Lucy Mackay*

The off-label permit to use selected herbicides for the control of environmental weeds ([permit number PER13333](#)) has recently been renewed and is in force until 31 March 2025. Possession of an off-label permit allows use of certain chemicals for specific applications not written on the label.

In Australia, any veterinary or agricultural chemical product sold must be registered by the Australian Pesticides and Veterinary Medicines Authority. Once the product has been registered, it can only legally be used as stated on the label, and an off-label permit must be acquired for other stipulated uses. In Western Australia, very few herbicides are registered specifically on the label for use in bushland.

The renewed permit is approved for use by all people controlling weeds in wetlands, forests, bushlands and non-crop areas, but is not for use in residential areas. The permit specifies the methods that must be followed for herbicide use, including the chemicals and dose rates that can be applied to environmental weeds.

Also useful for bushland management are off-label permits for the [control of \*Phytophthora\* in native vegetation](#) and [control of declared plants](#). There are also further limitations on the [herbicides that can be used in water catchment areas](#).

### Contact

#### Lucy Mackay

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## Native plants saved from destruction in Cockburn *By Michele Nugent*

Around 500 grass trees (*Xanthorrhoea preissii*) and 40 zamias (*Macrozamia riedlei*) have been relocated to bushland reserves within Beeliar Regional Park in the City of Cockburn. Endemic to the south-west of Western Australia, these well-known species are slow growing and only grow around 1.5–2cm each year.

The plants are many hundreds of years old and have been relocated to bushland areas at Yangebup Lake and Walliabup-Bibra Lake from a section of Wattleup undergoing development for housing and a primary school.

City of Cockburn Head of Sustainability and Environment Chris Beaton said the city's two-year transplantation project finished earlier this

year and was funded to the tune of \$50,000, which includes summer watering.

"The city strives to participate in relocation projects like this, to help prevent native plant species from being destroyed and to add to habitat values within the city's reserves in a financially responsible way," Mr Beaton said.

"We use these precious species to help restore degraded areas in local reserves where plant and animal habitats benefit from an increase in sources of food and shelter, and overall biodiversity.

"The city takes its environmental responsibility seriously, as we aim to be a leader in environmental management that sustainably enhances our local areas and resources."



Grass trees replanted at the Walliabup-Bibra Lake regeneration site.  
Photo – City of Cockburn.

### Contact

#### Sustainability and Environment team

City of Cockburn  
phone 9411 3444

# New Poet-in-Residence Program at The Wetlands Centre Cockburn *By Lakshmi Kanchi*



Lakshmi Kanchi (centre), Poet-in-Residence at The Wetlands Centre Cockburn, runs a poetry activity as part of the centre's new community initiative, the Poet-in-Residence Program. Photo – The Wetlands Centre Cockburn.

The [Poet-in-Residence Program](#) at The Wetlands Centre Cockburn is a new local initiative which aims to make poetry an accessible medium for the wider community to explore environmental, cultural, historical and other issues of significance.

Appointed as the current poet-in-residence, I look forward to running a full calendar of events, such as poetry readings, eco-poetry workshops, online campaigns, one-on-one interactions, an interactive installation, and compilation of a community-sourced anthology. I wrote the following poem 'Lakesong', based on the resplendent Bibra Lake, which I developed during a Wetland Sounds poetry walk and activity at the centre.

The program is delivered in partnership with the City of Cockburn and WA Poets Inc and made possible with generous funding from the Department of Local Government, Sport and Cultural Industries and Lotterywest.

If you are interested in creating your own poems and working with poetic material in a conducive environment, don't hesitate to get in touch with me. I will be available at [The Wetlands Centre Cockburn](#) every Thursday (9am to 4pm) to discuss poetry and writing for the environment.

## Contact

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## Lakesong *By Lakshmi Kanchi*

This lake is the sound  
of water receded,  
of water freckled on the surface  
of its fragmented mud ponds,  
of water running thin,  
carrying the cloudless sky  
in pockets of glass,  
their silvery softness.

This lake is the sound  
of the carapace-shaped boardwalk  
peeling at its mouth,  
of quaking bones of fish  
eaten by sun,  
of the shimmer of beating  
bird-wing mist  
like lace on playa lakebed.

This lake is the sound  
of breeze held like breath,  
of air sighing through rushes  
huddled along the very edge,  
of wind slowly unstringing  
cascading  
beads of pollen into  
fruiting catchments.

This lake is the sound  
heavy with depth and colour  
swooshing inside spaces,  
untouched, unfelt, unheard;  
touched, felt, heard;  
a pulsating hymn  
of birdsong, frogsong,  
undulating mudsoup lakesong.

*Photo – Rohit Kanchi.*

# Rehabilitating Roe 8 update

By Adam Peck

Winter planting for the [Rehabilitating Roe 8](#) project has finished for the year, with 44,000 seedlings in the ground. This brings the total over the last five years to just over 250,000 seedlings. June was dry, but rains arrived just when needed and a wet July has helped plant establishment. Members of the community planted 3,000 seedlings at two planting events. Attendance was good and work rate was so speedy that staff struggled to keep up! Additionally, 700 plants were installed by Perth Waldorf School. A rowdy, productive time was had by all.

No tree guards were installed except for one site. This follows a soon to be published study conducted by Murdoch University researchers Associate Professor Rachel Standish and Dr Philip Ladd in 2021–22 looking into the effect of tree guards in the corridor. The study found cardboard guards had a negative impact on seedling survival. In young seedlings, no difference in survival was observed between plants with clear plastic guards and unguarded plants and there was a minimal benefit from plastic guards at eight months after planting. The take-home message is that the additional cost, effort and environmental impact of guards is probably not warranted.

Seven events took place in June and July, including a guided Noongar walk, Noongar weaving workshop and the Community Open Day. Over 70 people attended the Open Day,



*Rehabilitating Roe 8 community planting day at Forrest Road South on 25 June 2022. Photo – Christine Athanassiou.*

with stalls from 10 community groups. Highlights included the weed quiz, coffee van and insect hotel building. More events are planned, check our [website](#) for details.

At this time of year, weed control is the focus of on-ground works, particularly for perennial veldt grass and woody weeds which require removal before seed set. The [Cockburn Community Wildlife Corridor](#) group has been busy hand weeding. They are doing a great job in their 'patch', which avoids the need for chemical treatments. A weed not previously located in the corridor was recently discovered, [Podalyria sericea](#) (satin bush). This South African pea is a prolific seeder, so it has been removed and patches will be checked for recruits. Has anyone else found this plant on the Swan Coastal Plain?

Dr Eddie Van Etten of Edith Cowan University has taken on the scientific research role on the Rehabilitating Roe 8 Advisory Committee previously held by Rachel Standish. He is a well-published researcher with a focus on ecological restoration. The committee is thrilled to have Eddie on board and look forward to working with him.



*Rehabilitating Roe 8 Project Manager Adam Peck recently discovered a new weed for the Roe 8 corridor, satin bush (Podalyria sericea) – have you seen this weed on the Swan Coastal Plain? Photo – © [Thys Meintjes](#) CC BY-NC 4.0.*

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# Building biodiversity into Baigup Wetlands' recovery By Penny Lee

Restore, rehabilitate, revegetate, regenerate ... There are a lot of 're-' words in bushland care. We may dream of returning our favourite patch to its original state, but a sober look at a satellite map reminds us that there are no intact reference sites to guide us when caring for fragments of beeliar (river) floodplain in the inner metropolitan area. [Baigup Wetlands](#) on the border of Bayswater and Maylands is one such precious remnant.

Historically, this approximately 15ha reserve was heavily impacted by European land uses, including market gardening. A gas pipeline in 1986, with its associated causeway (now a



*The marri's beautiful flowers attract native bees and other insects, which in turn provide food for insectivorous birds. Cockatoos love the large, well-known honky nuts that develop after flowering. It is hoped that further planting of marri and other species at Baigup Wetlands will provide future food and shelter for fauna like the endangered Carnaby's cockatoo. Photo – Penny Lee.*

popular walkway and cycle path), dramatically disrupted tidal and seasonal flushing of the river flats and natural flows of fresh water into the reserve from the scarp along the northern perimeter. Two constructed lakes created in 2000–01 further modified the hydrology and ecosystem configuration.

And yet, Baigup almost stubbornly retains a few essential features of its original vegetation structure. These include increasingly rare expanses of the Threatened Ecological Community '[Subtropical and temperate coastal saltmarsh](#)', featuring sea rush (*Juncus kraussii*), expanding stands of healthy freshwater paperbark (*Melaleuca raphiophylla*), and clumps of swamp gum (*Eucalyptus rudis*). Concerted efforts by [Baigup Wetlands Interest Group](#), working together with the City of Bayswater since 2013, and from late 2016 with the Department of Planning, Lands, and Heritage (DPLH), have finally brought a huge weed problem under manageable control while ongoing revegetation is returning mixed native understorey to the site.

With the increasingly desperate need of Carnaby's cockatoos for food and shelter into the future, marri trees (*Corymbia calophylla*) have also been planted in several locations. In March 2022, Baigup Wetlands Interest Group members investigated how successful these plantings have been. We were surprised to find that around 180 trees and seedlings had survived the severe 2021–22 summer. The most successful were DPLH plantings on higher land near Garratt Road in 2017 and 2019. Some of the 2019 saplings were already flowering and setting fruit (the classic honky nuts). Other seedlings struggled and died in the most exposed spots, or lower down where the ground was waterlogged and/or saline.

Most excitingly, this year, five self-sown seedlings have been found beneath four marri planted 18 years ago.



*Excitingly, five self-sown seedlings were found this year beneath four marri trees planted 18 years ago at Baigup Wetlands. Photo – Penny Lee.*

We can never restore the full complexity of Baigup's original vegetation structure: methods for propagating some ground level species have not been found and essential microbiota have been decimated. But small successes bring hope that revegetation efforts can contribute to larger rehabilitation and biodiversity goals across the metro area. And perhaps begin to help our threatened cockatoos.

## Contact

**Penny Lee**

Baigup Wetlands Interest Group  
email [info@baigupwetlands.org](mailto:info@baigupwetlands.org)

### Restoring our river *By Helen Green*

The [River Conservation Society](#) (RCS) has completed another winter of revegetation planting on the Avon River and one of its tributaries in York.

RCS volunteers planted 2,000 native trees, shrubs and ground covers, extending our previous years' riparian plantings. Our goal is to restore this degraded zone along the Avon Walk Trail to repair and enhance the habitat for water birds, turtles and rakali that use this section of the river.

Our volunteers and children from the local daycare centre had a morning of fun in the dirt, planting 100 seedlings into an embankment to restore a safe environment for nesting rainbow bee-eaters.

Six Mile Brook west of York was chosen as a revegetation site, as two bushfires had severely damaged the native vegetation in the riparian zone of the brook. We planted 7,000 seedlings into an area fenced to exclude stock. The previous day's welcome heavy rain cleared for the planting day and forty volunteers enjoyed themselves in the mud. The event was made even more enjoyable by the delicious food provided by the landowner – fuel for the volunteers!

Since 2019, when the RCS commenced rehabilitation of the riparian zone along the Avon River in the York townsite, close to 20,000 seedlings have been planted. Despite floods, bushfire and weeds, there has been a high seedling survival rate. This area is now displaying mature shrubs, young trees and ground covers, the latter in particular helping to suppress the weeds. During the bushfire it was noted that the areas planted with saltbush species did not burn readily. It is the RCS's intention to incorporate as many of these fire wise plants as possible into future plantings.



In 2023, RCS volunteers will be planting more than 7,000 seedlings adjacent to the Avon River's Mile Pool. Turtles and rakali have been observed using this pool, one of the very few deep pools that hold water during the dry summer months in the Avon River in the Shire of York. The riparian zone of this pool is severely degraded and in desperate need of restoration.

This environmental restoration work has been made possible through the tireless work from our RCS volunteers, local school and daycare children and the York community. Much appreciated support has also come from the Shire of York, Wheatbelt NRM, the Noongar Boodjar Rangers and Activate Tree Planting.

*Planting day at Six Mile Brook, west of York. The River Conservation Society selected this site to revegetate after the native vegetation was severely damaged by two bushfires. Photo – River Conservation Society.*

### Contact

#### **Helen Green**

River Conservation Society Inc.

email [chair@riverconservationsociety.org](mailto:chair@riverconservationsociety.org)

## Harnessing the Benefits of Volunteerism in Natural Areas workshop *By Melanie Davies*

[WALGA](#), in partnership with [Perth NRM](#), hosted a workshop titled 'Harnessing the Benefits of Volunteerism in Natural Areas' on 20 May 2022, with over 50 local governments and partner organisations in attendance.

The workshop provided information on the legislative responsibilities of volunteer managers, case studies of local governments with successful support arrangements for volunteer groups, and insights from volunteers themselves.

A [comprehensive presentation](#) was delivered by the Local Government Insurance Scheme (LGIS) on updates contained within the new *Work Health and Safety Act 2020*. To meet their responsibilities under the Act, volunteer managers are required to provide volunteer inductions, training, and assessment and management of site risks as far as reasonably practicable.

Other key takeaways from the workshop were that:

- Volunteering fosters a sense of community and connection, individual empowerment and a feeling of working towards a common goal.
- Organisational support for volunteers, such as mentoring, supervision, expert advice, open communication, collaboration, and celebration of successes, is vital to retain and grow this resource.
- Volunteers bring a wealth of knowledge and ideas, help attract additional project partners and funding, and can increase community awareness and support for initiatives.
- Volunteers undertake valuable surveillance and ongoing maintenance in natural areas, such as

follow-up weeding, infill planting, and timely identification of any on-site issues.

- New volunteer groups can attract volunteers by being visible and consistent in their activities, encouraging stewardship of designated patches, and being savvy with social media and marketing.

During an interactive workshop session, attendees helped identify gaps where local government could use assistance to build their capacity and resources for managing volunteers. Main priorities were identified, including the need for:

- A best practice guideline/manual for local government and volunteers, covering legal and insurance requirements, Aboriginal engagement processes, strategic and operational planning, and communication avenues to engage with the community and new volunteers.
- Leadership and skills training for volunteers.
- Volunteer recognition and networking opportunities.
- Successful case studies on local government investment in volunteer coordinator positions, grant programs and financial support.

WALGA will continue to work with Perth NRM and partner environmental organisations to progress these priorities through funding opportunities.

Volunteers are passionate about protecting our local bushland areas, and this workshop helped local governments to understand where they can direct and support this valuable resource to achieve a range of benefits.



*A panel discussion explored the principles of successful volunteer management. Photo – WALGA.*



*City of Fremantle Councillor Adin Lang delivering his presentation, 'Garnering volunteer passion and navigating difficult circumstances'. Photo – WALGA.*

Links to the presentations provided at the workshop are available on WALGA's [website](#).

For further information, please contact [Melanie Davies](#), WALGA's Biodiversity and Sustainability Project Officer, or call 9213 2065.

### Contact

**Melanie Davies**

WALGA

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phone 9213 2065



# Twelve reasons why weeding is really sexy By James Mumme

Don't let me put you off growing and planting natives – that's very useful. But weeding is much more effective in promoting our threatened biodiversity and healing our souls because:

1. You're on a **winner** every time – every weed you pull out is 100% successful (unlike tree planting where 30% may fail).
2. Every weed pulled out **gives space, nutrients and water** to self-seeding natives to flourish.
3. Every dead weed returns the nutrients it stole to the soil.
4. Dead weeds can **shelter** our seedlings.
5. Weeding **costs far less** than the time, effort and money it takes to collect seeds, sow, grow, plant, water and tend to seedlings.
6. You never find someone has stolen or wrecked one of your weeds.
7. Weeding needs little preparation and can be done **anywhere, anywhen** and without tools.
8. Gentle sensitive **exercise** keeping those joints moving.
9. Weeding suits anyone's strength and ability, from gently scratching out tiny weedlings to showing off by digging out 4 metre monsters.
10. Weeding teaches us about how plants grow and adapt.
11. Helps us appreciate the abundant energy in nature.
12. Weeding is very **zen** - quiet, soothing, meditative, satisfying, giving insight into the progress of our lives!



*Friends of Point Peron comedians and all-round good sports Geoff and Joe strike a pose to show that weeding is sexy!  
Photo – James Mumme.*

If this list has you convinced, why not consider helping out your local [friends group](#) with their next weeding day? If you're in the Rockingham area, you can join the [Friends of Point Peron](#) in helping to restore (weeding included!) the precious remnant bushland of Cape Peron. The group meets every Sunday and Thursday.

## Contact

### **James Mumme**

Friends of Point Peron  
email [jgmumme@live.com.au](mailto:jgmumme@live.com.au)  
phone 0427 449 166

# The right tool for the job: specialised weeding tool for bushcare By Mike Norman

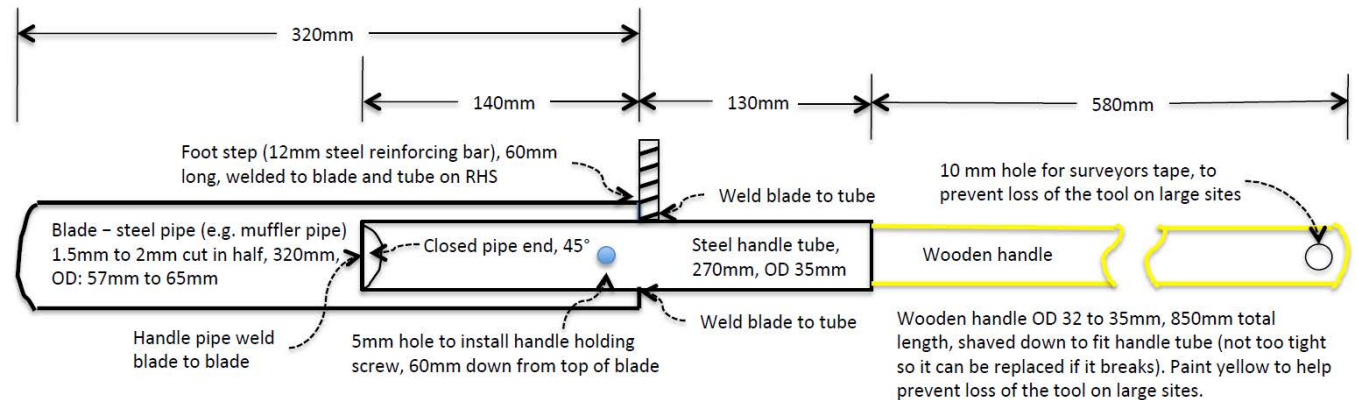
After seeing last issue's [Weedwatch on dune onion weed](#), Mike Norman kindly offered to share the details of his specially designed hand weeding tool that was given a [shout-out by Walter Kolb](#).

Initially the dune onion weed density on our 2.5km long coastal project site (being the coastal reserves of Sorrento and Marmion) was very high, almost a monoculture in parts. Joondalup Community Coast Care Forum have substantially reduced the occurrence of [dune onion weed](#) (*Trachyandra divaricata*) and many other weed species using our self-designed levering tool, to the point you now need to search for them. We are seeing if it is possible to entirely eliminate dune onion weed via a zero-tolerance weeding approach.

The levering tool consists of a blade made from steel pipe cut in half lengthways, welded to a smaller diameter steel tube which holds the wooden handle.



Former Joondalup Men's Shed President Bob Allen (left) and Mike Norman (right), with a batch of the half-pipe levering tools. Photo – Mike Norman.



A diagram of the half-pipe levering tool specially designed for manual weeding by Mike Norman from Joondalup Community Coast Care Forum. You can use this plan to get the tool made up, as you can't buy them at Bunnings! Image – Mike Norman.

A short length of steel reinforcing bar is welded to both the blade and the handle tube, which is used for pushing the tool into the ground by foot, although most volunteers don't need to use it. I call it a tool and not a spade as I mainly use it for levering out weeds rather than for digging, but we have used it for planting seedlings too. With these half-pipe levering tools, each weed can be removed in just a few seconds. We have found school kids love using the tool, in a race to see who can get out the most weeds!

On occasion, if we are running out of time in October prior to seed shed, we have snapped off and bagged the dune onion weed seed heads. Then over the early summer period, we lever the plants out and leave them to desiccate on the sand, and do the same for many other weed species if they do not have seed.

We use the same tool for removing mid-sized [sea spinach](#) (*Tetragonia decumbens*) and [pelargonium](#) (*Pelargonium capitatum*), plus [Cape tulip](#) (*Moraea flaccida*) and [gladiolus](#) (*Gladiolus caryophyllaceus*). We generally work on sandy soils, and the tool certainly works well in both sandy and loamy soils, though I am not sure how effective it would be in heavy clay soils.

The tools were constructed for us by the [Joondalup Men's Shed](#). We paid \$40 per tool for a batch made a couple of years ago, funded by a small grant. The Men's Shed made the tools' blades using discarded car muffler pipe.

Continued next page ...

The friends groups that I coordinate (Friends of Sorrento Beach and Marmion Foreshore and Friends of Porteous Park) have been using this tool with great effect since 2009, both along the coast and in banksia bushland. We don't ever go weeding without them. Other coast care groups in our area and our hand-picked weeding contractors use the tool too.

When weeding on the coast, we can very quickly remove all the smaller dune onion weed, sea spinach and pelargonium with this tool, as well as bulbous weeds such as Cape tulip. The tool is narrow enough to get to weeds growing within native plants, meaning we can use it to remove the many weeds hidden amongst the beach spinifex and other native species. We have also used them to dig under weedy [couch grass](#) (*Cynodon dactylon*) and follow the rhizomes as we gently pull them, eliminating quite a few patches after a couple of goes. The tool allows quite efficient manual removal with minimal soil disturbance – in fact, it seems to encourage natural regeneration!

Of course, for larger weeds like mature sea spinach and pelargonium, we use a full-size, straight-bladed spade, modified to have a narrower blade. For smaller weeds with shallower root systems such as [Geraldton carnation weed](#) (*Euphorbia terracina*), we just pull those out by hand (using gloves of course). It is a matter of the right tool for the job, especially if manual weeding is to be effective – which we have proved it is for most weed species!



*The specially designed half-pipe levering tool (left) and a spade that has had its blade narrowed (right). The narrow blades on these tools make for easier work and less soil disturbance when manually removing weeds such as dune onion weed, sea spinach, pelargonium, Cape tulip and gladiolus from sandy or loamy soils. The half-pipe levering tool is used for removing smaller or bulbous weeds, while the modified spade is used for larger weeds with more extensive root systems. Photo – Mike Norman.*



*Contractor Hazel Peffers engaged by Friends of Sorrento Beach and Marmion Foreshore digs up the last Cape tulip on the Marmion Coastal Reserve using the half-pipe levering tool. The Friends have now effectively eliminated Cape tulip and gladiolus from the whole site – proof of how successful manual weed removal can be with consistency and use of the right tools! Photo – Mike Norman.*

## Contact

### Mike Norman

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email [mike.norman@bigpond.com](mailto:mike.norman@bigpond.com)  
phone 0438 710 527

# School and community partnerships: building relationships to enhance wetland education

By Barbara Sing and Amanda Zele

They will be the future custodians of the Peel-Harvey Estuary, but our students at John Tonkin College in Mandurah are already helping to look after local ecosystems through a range of projects in their classrooms, schools and communities. These projects have been created through the development of longstanding relationships with not-for-profits, researchers and environmental groups who have a vested interest in the long-term protection of the estuary. By collaborating and meeting with the various environmental organisations in the catchment, more powerful outcomes and messages can be achieved to bolster the health and sustainability of the Peel-Harvey Estuary.



Teachers Barbara Sing (far left) and Kim Davies (far right) with John Tonkin College students hosting the Mandurah Dolphin Forum. Photo – John Tonkin College.

## Estuary Guardians

[Estuary Guardians](#) is a group established in 2015 by staff and students from John Tonkin College to encourage people to look after Mandurah's dolphins and marine environment. The group was launched at the inaugural Mandurah Dolphin Forum, a forum initiated and organised by passionate students who wanted to bring together organisations and researchers to inform the community about our local dolphin population. The forum is now a regular event still hosted by our students, fostering their skills in leadership, organisation, and grant writing.

Estuary Guardians has worked on a number of [projects](#), including the publication of Mandurah's first dolphin [FinBook](#) to help identify individual dolphins, created in partnership with the [Mandurah Dolphin Volunteer Rescue Group](#), Mandurah Cruises, and researcher Dr Krista Nicholson from Murdoch University. The group also worked on a project to install fishing line bins around hotspots in Mandurah, and now has 23 bins installed which it maintains with the help of volunteers under the statewide [Reel it in](#) campaign. Estuary Guardians has grown from being student driven, to a larger, community driven organisation which serves to connect the public, government, and local environmental groups in monitoring the Peel-Harvey estuary's dolphins and ecosystem as a whole.



Surf Science students working on growing algae to feed Artemia brine shrimp, which in turn will be used as fish feed to raise juvenile black bream as part of a project to boost their numbers in the Murray River. Photo – John Tonkin College.

## Black Bream Project

Black bream have been a key species for recreational fishing in the rivers of the Peel-Harvey Estuary for the Mandurah community. However, the population has faced decline over recent years and the reasons for this decline are unclear. Possible causes for the decline include unsuitable water quality during spawning, or the loss of adult females capable of breeding due to recurring fish kills over the past decade or so.

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Analysis of the bream fishery by Dr Alan Cottingham and his team from Murdoch University found the black bream were both old and appearing in very low numbers. This led to an ambitious plan hatched with the [Peel-Harvey Catchment Council](#) (PHCC) to involve students from John Tonkin College in the [Black Bream Project](#), a pilot program to raise juvenile bream for release into the Murray River as a way to support the ongoing survival and viability of the black bream fishery.

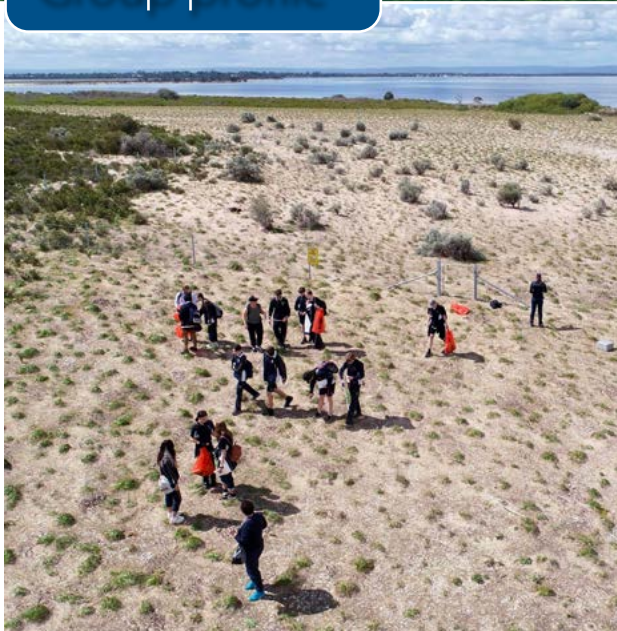
John Tonkin College transformed a classroom into an aquaculture laboratory designed by aquatic scientist Dr Ben Roennfeldt. Under the supervision of teachers Barbara Sing and Amanda Zele, students from the school's specialist [Surf Science program](#) helped construct the system where they grew algae and raised zooplankton (rotifers and *Artemia* brine shrimp) for fish feed.

Over the last three years, 10,000 juvenile black breams have been released into the Murray River. Students developed real world skills in practical experimental research in a school-based facility which required dedication, time commitment outside of the class, precision, perseverance, and adaption to the changing needs of the project. As student Sharlotte said, "It's nice to know I can do something to help the place that I love!"

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Releasing juvenile black bream in the Murray River. Back row (L-R): teacher Amanda Zele, Dr Steve Fisher (PHCC), Dr Ben Roennfeldt and Dr Alan Cottingham (Harry Butler Institute, Murdoch University). Front row (L-R): student Troy Woods, MP David Templeman, Professor Lyn Beazley, teacher Barbara Sing, and students Stuart Woods and Desigar Kanth. Photo – John Tonkin College.



Year 9 Bushranger Cadets cleaning litter and marine debris from the fairy tern sanctuary. Photo – Natalie Goddard.

## Shorebird conservation

Students have worked alongside the [WA Fairy Tern Network](#) to help raise awareness of the threats facing fairy terns. They have taken part in weed management, tree planting, litter collection and built shelters to protect the chicks in the Mandurah fairy tern sanctuaries.

Our relationship with PHCC has been integral to many opportunities. As part of PHCC’s Shorebird 2020 Count, Milly Formby, a Migratory Shorebird Program Officer with BirdLife Australia, visited our school and took the students on a birdwatching excursion. The school went on to partner with Milly Formby and her project [Wing Threads](#), where Milly is piloting a [microlight aircraft around Australia](#) and raising awareness about migratory shorebirds with school incursions and eLearning classroom resources.

Our students had the opportunity to become ‘experts’ on the [red-necked stint](#), a migratory shorebird weighing in at around 25g, or less than a Tim Tam biscuit. This developed their creative and communication skills, and students went on to create an education package around the ‘Tim Tam’ bird and its specialised adaptations, which they shared with local primary schools and global partners from India and Manila.

## Shellfish Gardening Program

Partnering with [The Nature Conservancy](#) and the [Bindjareb Indigenous Rangers](#), the [Shellfish Gardening Program](#) saw students grow mussels from juveniles to adults in specially designed baskets and collect data about mussel growth and other colonising marine life. The mussels grown by students and other local community members will be used to [seed trial mussel beds](#) in selected locations in the Peel-Harvey estuary, where over time, the reefs are expected to become vibrant ecosystems that will help improve water quality, biodiversity, and fish stocks in the estuary.

Bringing all these projects to fruition has been a massive commitment, requiring time outside class to volunteer, attend presentations and workshops, link the projects to the science curriculum and encourage buy-in from other staff members. Although it takes extra effort to organise and run these projects, they provide our students with valuable opportunities for experiential learning and involvement in real world science applications. Students are actively contributing to the quest for sustainability and partaking in these projects has raised their awareness about the fragility of our local ecosystem. Students are also creating resources, games, books and videos, presenting at forums, conferences, [Kids Teaching Kids](#) events, and primary schools – and so in turn are helping to spread awareness about the importance of nature conservation within their community and beyond.



Year 7s with Bindjareb Rangers at the Mussel Muster with The Nature Conservancy. Photo – Roz Draine.

## Contact


























**Barbara Sing**

John Tonkin College

email [barbarasing2007@gmail.com](mailto:barbarasing2007@gmail.com)

## Recurrent activities

**Opportunities for you to participate! Visitors always welcome but please confirm activities with contact person. Most activities are FREE!**

- 
**Saturdays 15 minutes before sunrise**  
**Research into bird populations** with the **Herdsmen Lake** Bird Banding Group. Contact: Bill 0438 910 252 [calidris@iinet.net.au](mailto:calidris@iinet.net.au)
- 
**Saturdays 8am–9am**  
**Guided walks** with Friends of **Koondoola**. Second Saturday of each month. Meet Gate 2, corner Koondoola Ave and Burbridge Ave, Koondoola. Contact: David 9448 9192
- 
**Saturdays 8am–9am**  
**Guided walks** with Friends of **Lake Gwelup** naturalist David Pike. Third Saturday of each month. Meet at Scout Hall Carpark (near the tennis courts), Huntriss Rd, Gwelup. Contact: [friendsoflakegwelup@gmail.com](mailto:friendsoflakegwelup@gmail.com)
- 
**Saturdays 8am–9am**  
**Guided walks** and meeting with Friends of **Landsdale**. First Saturday of each month. Meet at third gate Landsdale Rd, east of Landsdale Farm School, Darch. Contact: David 9448 9192
- 
**Saturdays 8am–9am**  
**Guided walks** with Friends of **Star Swamp**. Fourth Saturday of each month. Meet at the Henderson Environment Centre in Groat St, North Beach. Contact: Christine 0430 013 364
- 
**Saturdays 8am–9am**  
**Guided walks** with Friends of **Trigg** Bushland. Fifth Saturday of each month. Meet in St Mary's School carpark, off Elliot Rd Karrinyup. Contact: David 9448 9192
- 
**Saturdays 8:30am–10:30am**  
**Bushcare activities** with Swan Estuary Reserves Action Group at **Pelican Point**, Crawley. First Saturday of each month. Contact: Margaret 9330 1791 or [admin@swanestuaryreserves.org](mailto:admin@swanestuaryreserves.org)
- 
**Saturdays 8:30am–10:30am**  
**Bushcare activities** with Swan Estuary Reserves Action Group at **Alfred Cove** Nature Reserve. Fourth Saturday of each month. Contact: Margaret 9330 1791 or [admin@swanestuaryreserves.org](mailto:admin@swanestuaryreserves.org)
- 
**Saturdays 9am**  
**Bushcare activities** with Friends of **Brixton Street** Wetlands. Third Saturday of each month. Meet Alton St, Kenwick. Contact: Regina 9459 2964 [tjdrd@bigpond.net.au](mailto:tjdrd@bigpond.net.au)
- 
**Saturdays 9am–10:30am**  
**Fortnightly weeding** with Friends of **Warwick** Bushland. Meet Lloyd Drive, Warwick outside the Warwick Bowling Club. Contact: Stephanie Murphy [friendsofwarwick@gmail.com](mailto:friendsofwarwick@gmail.com)
- 
**Saturdays**  
**Bushcare activities** with Friends of **John Forrest** National Park. Equipment, instruction and morning tea provided. Starting times and tasks change according to the season. Contact: Jan 0409 299 861 [joejanking1@bigpond.com](mailto:joejanking1@bigpond.com)
- 
**Saturdays and Tuesdays 9am–11:30am**  
**Bushcare activities** with Friends of **Yellagonga** Regional Park. Nursery and project work each Saturday and Tuesday morning, regular workdays on the middle and last Saturday of each month from April to November. Contact: [friendsofyellagonga@bigpond.com](mailto:friendsofyellagonga@bigpond.com)
- 
**Saturdays, Sundays 9am–12 noon**  
**Koala maintenance** at **Yanchep** National Park. Contact: Ciara 9303 7771
- 
**Sundays 7am (summer) or 8am (winter)**  
**Bushcare** most Sundays with Friends of **Point Peron**. Look for the signs Point Peron Rd or Safety Bay Rd Rockingham. Bring your own gloves, water and dress for the bush. Contact: James 0427 229 166 [jgummme@live.com.au](mailto:jgummme@live.com.au).
- 
**Sundays 7am–9am (summer) or 8am–10am (winter)**  
**Friends of Lake Claremont busy bee** and morning tea, second Sunday of each month. Meet at the south end of Strickland St, Swanbourne. Gloves and tools provided. Contact: 0416 614 696 [www.friendsoflakeclaremont.org](http://www.friendsoflakeclaremont.org)
- 
**Sundays 8am–10am**  
**Bushcare activities** every Sunday with Friends of **Shenton Park** Bushland. Contact: Dani 0420 334 601 [bojel@iinet.net.au](mailto:bojel@iinet.net.au)
- 
**Sundays 8:30am**  
**Bushcare activities** with Friends of **Wireless Hill**. Second and fourth Sunday of each month. Meet at main carpark. Contact: Margaret 0402 105 649 [s3mmatthews@hotmail.com](mailto:s3mmatthews@hotmail.com)
- 
**Sundays 9am–11am**  
**Bushcare activities** with Cottesloe Coastcare. First Sunday of each month. Contact: Robyn 9384 7668 [info@cottesloecoastcare.org](mailto:info@cottesloecoastcare.org) [www.cottesloecoastcare.org](http://www.cottesloecoastcare.org)
- 
**Sundays 9am–12 noon**  
**Bushcare activities** with the Friends of the **Spectacles** (Kwinana). Third Sunday of each month. Contact: Lynda 0419 983 956 [fotsmail@gmail.com](mailto:fotsmail@gmail.com)
- 
**Sundays 9am**  
**Bushcare activities** with the Friends of **Samphire Cove** Nature Reserve, Halls Head. Last Sunday of each month. Contact: Barry [bjsdoongin@gmail.com](mailto:bjsdoongin@gmail.com) [Facebook](#)
- 
**Sundays 9:45am–12 noon**  
**Bushcare activities** with the Friends of **Piesse Brook**. Third Sunday of each month. Contact: Ken 9293 3159 or 0402 243 351 [bibbulman@hotmail.com](mailto:bibbulman@hotmail.com)
- 
**Sundays 10am–10:30m**  
**Sunday animal encounters** at WA Museum Boola Bardip. \$10 standard –\$8 junior. [Bookings](#)
- 
**Sundays 1pm–4pm**  
**WA Gould League's Herdsmen Lake** Discovery Centre holds **family nature days**. First Sunday of each month. \$10/\$30 family. Corner Selby St and Flynn St Wembley. Contact: 9387 6079 or [register](#)
- 
**Sundays**  
**Wilson Wetlands** Action Group undertakes regular **work mornings** throughout the year on Sunday mornings. Contact: 0407 135 412 [wilsonwetland@gmail.com](mailto:wilsonwetland@gmail.com)
- 
**Sundays 2pm & 3pm**  
**Aboriginal Cultural Experience** at Wangi Mia Meeting Place at Yanchep National Park. Adults \$16, children \$8. [Bookings](#)

### Activities Key



**Hands on** – bushland and wetland management activities.




**Walks and tours** – look, listen and enjoy guided walks and excursions




**Skills development activities** – talks, presentations, training courses and workshops.



**Meetings and events** – group meetings, expos, festivals and conferences.


 **Mondays 7am–8:30am (summer) or 8am–9:30am (winter)**  
Norma's Monday Morning **Weeding Group**. Friends of **Lake Claremont** weekly hand weeding. Learn basic weeding techniques and identification. Meet at south end of Strickland St. Contact: Norma 0413 282 515


 **Mondays 8am–10am**  
**Litter collection** with Swan Estuary Reserves Action Group at **Milyu** Nature Reserve, South Perth. Second Monday of each month. Contact: Margaret 9330 1791 or [admin@swanestuaryreserves.org](mailto:admin@swanestuaryreserves.org)

 **Mondays**  
**Plant learners' group** with **Eastern Hills Wildflower Society** meets twice a month in a self-learning environment to identify plants and expand knowledge. Contact: Pam [eastern.hills.branch@wildflowersocietywa.org.au](mailto:eastern.hills.branch@wildflowersocietywa.org.au)

 **Mondays**  
**Propagation group** with **Eastern Hills Wildflower Society** meets twice a month to share knowledge about propagating native plants. Contact: Sandy [eastern.hills.branch@wildflowersocietywa.org.au](mailto:eastern.hills.branch@wildflowersocietywa.org.au)


 **Mondays, Wednesdays, Fridays 9am–12 noon**  
**Bushcare activities** and wetlands walk trail maintenance with **Yanchep** National Park Volunteers. Contact: Ciara 9303 7771


 **Tuesdays 9:30am**  
Free **nature play** at **Piney Lakes** Environmental Education Centre. Alternate Tuesdays [Tales and Trails Storytime](#) for toddlers and the intergenerational [Buds n Blooms](#).

 **Tuesdays 7am–9am**  
**Tremendous Tuesdays Bushcare activities** with Swan Estuary Reserves Action Group at **Alfred Cove** Nature Reserve each Tuesday. Contact Margaret 9330 1791 or [admin@swanestuaryreserves.org](mailto:admin@swanestuaryreserves.org)

 **Tuesdays 9am–11am and Saturday**  
**Bushcare** with Friends of **Allen Park** every Tuesday and first Saturday of the month. Contact: Lesley 9384 7983 Judy 9383 1501, [foapbg@gmail.com](mailto:foapbg@gmail.com) or [Facebook](#)


 **Tuesdays and Thursdays, 8am–10am**  
**Coastcare activities** with **Stirling** Natural Environment CoastCare (SNEC). Contact: Sheldon 0488 190 651 Rae 0419 191 710 [website](#)

 **Tuesdays or Thursdays, 9:30am–11am**  
WA Gould League's **Herdsmen Lake** Discovery Centre holds a weekly **nature playgroup** for children 2–5 years. Sessions include storytelling, a guided nature walk, art activities and open-ended indoor play. [Tickets](#) \$20 per session or \$150 for a term pass.


 **Wednesdays**  
**Seed cleaning group** with **Eastern Hills Wildflower Society** meets fortnightly to prepare seeds for propagation. Contact: June [eastern.hills.branch@wildflowersocietywa.org.au](mailto:eastern.hills.branch@wildflowersocietywa.org.au)


 **Wednesdays 3:30pm–5pm**  
**Wildlife Wednesdays** is a weekly after-school nature club for children 5–14 years offering access to the centre and a range of self-guided activities. WA Gould League's **Herdsmen Lake** Discovery Centre. [Tickets](#) \$5 per person.


 **Thursdays 7:30am–9am**  
**Bushcare activities** with **Bicton** Environmental Action Group. Planting, weeding and foreshore clean-up. Various dates. Contact: Peter 0439 467 855 [pneesham1@hotmail.com](mailto:pneesham1@hotmail.com) [website](#)


 **Thursdays 7:30am–9:30am, some Saturdays 8:30am–12 noon**  
**Coastcare activities** with Friends of **Sorrento Beach** and **Marmion Foreshore** followed by morning tea. Contact: Mike 0438 710 527

 **Thursdays, Saturdays and Sundays 9am**  
**Morning walks** with Friends of **Bold Park** Bushland Volunteer Guides. Various dates. Contact: 9480 3996 [friendsbp@bqpa.wa.gov.au](mailto:friendsbp@bqpa.wa.gov.au) [website](#)


 **Thursdays (Term 3 & 4) 10am–11am**  
**Kaya Koolangka! Hello children!** program for children ages 2–5 to learn the Nyoongar names of native animals and our environment through stories, movement, and nature-based activities, with a different theme each week. [Tickets](#) \$15 per child (single session), adults free with an enrolled participant. WA Museum Boola Bardip.

 **Thursdays and Sundays 10am–12 noon**  
**Kanyana Wildlife Centre, Discovery Centre Tours**. Close encounters with native animals and interactive Discovery Centre. \$20 or less. Bookings essential. Contact: 9291 3900 [education@kanayanawildlife.org.au](mailto:education@kanayanawildlife.org.au) [website](#)


 **Thursdays and Fridays 9am–4pm**  
**Wetland, bushcare and nursery** activities with The Wetlands Centre, **Cockburn**. Contact: Danielle 9417 8460 [community@thewetlandscentre.org.au](mailto:community@thewetlandscentre.org.au)

 **Thursdays 3pm**  
**Bushcare** most Thursdays with Friends of **Point Peron**. Look for the signs Point Peron Rd or Safety Bay Rd Rockingham. Bring your own gloves, water and dress for the bush. Contact: James 0427 229 166 [jgmumme@live.com.au](mailto:jgmumme@live.com.au)

 **Thursdays 7:30pm**  
**Talks with Murdoch** Branch of the **Wildflower Society** to share passion and knowledge of nature. First Thursday each month. Cockburn Wetlands Education Centre. Contact: 0419 928 618 [murdoch.secretary@wildflowersocietywa.org.au](mailto:murdoch.secretary@wildflowersocietywa.org.au) [Facebook](#)

 **Fridays 8am–9am**  
**Bushcare activities** every Friday with **Byford** Enviro-Link. Contact: Colleen 9525 1146

 **Fridays 8am**  
**Bushcare activities** at **Piney Lakes**. Volunteers need a site induction. Contact: [jacklyn.kelly@melville.wa.gov.au](mailto:jacklyn.kelly@melville.wa.gov.au)

 **Fridays 10am–1pm, September & October**  
**Heart of the Park Walk** through the banksia woodlands of **Kings Park**, guided by Kings Park Volunteer Guides. Meet at the guided walks sign outside Aspects of Kings Park 10 minutes before the start of the walk. Walks are free, [booking required](#).


 **Fridays and Sundays**  
**Bushcare** with Friends of **Mosman Park** Bushland every Friday and the second Sunday of each month. Site determined the week before. Contact: [mail@mosmanparkbushland.org](mailto:mail@mosmanparkbushland.org)

 **Fridays 7pm**  
**Talks** with **Eastern Hills** Branch of the **Wildflower Society**. Fourth Friday each month, Octagonal Hall, 52 McGlew Rd, Glen Forrest. \$2 entry, visitors welcome. [Facebook](#), [website](#) Contact: [eastern.hills.branch@wildflowersocietywa.org.au](mailto:eastern.hills.branch@wildflowersocietywa.org.au)

 **Fridays and Saturdays 7pm–9pm**  
First Friday and second Saturday every month, **Nocturnal Tours, Kanyana Wildlife** Centre. Meet nocturnal native wildlife and hear about endangered species breeding programs. \$20 or less. Bookings essential. Contact: 9291 3900 [education@kanyanawildlife.org.au](mailto:education@kanyanawildlife.org.au) [website](#)

 **Check calendar**  
**BirdLife** holds regular **talks** and **excursions** each month. [View](#) their calendar.

 **Check calendar**  
**Kings Park** holds regular guided **walks** and **events** throughout the year. [View](#) their calendar.










 **Check calendar**  
**WA Naturalists** hold regular **excursions, photo groups** and **campouts** each month. [View](#) their calendar for the activities of the four branches.










 **Check calendar**  
**Wildflower Society of WA** holds regular **talks**. [View](#) their calendar.

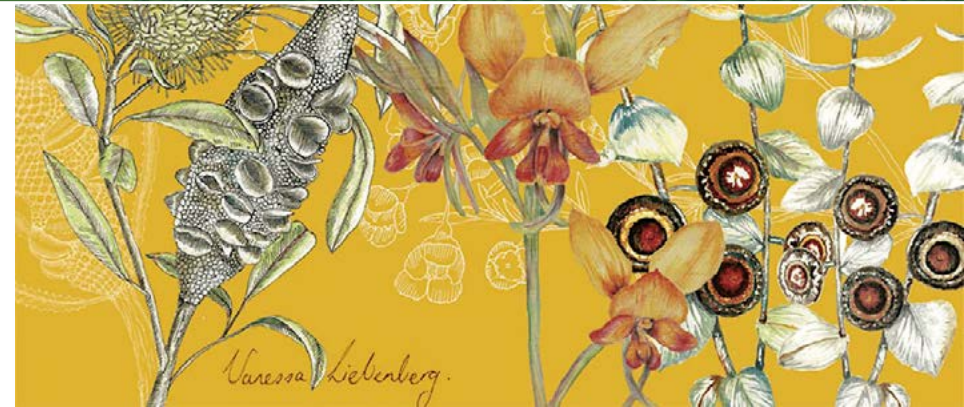


Please send us your December, January, February events by  
**Tuesday 15 November 2022.**







## September







-  **5, 12, 19 Mondays 4:30pm–5:30pm**  
**Bird Bingo!** Join in on a light stroll for some birding around **Altone Park** and the lake near Beechboro Public Library, and mark off birds you see or hear on your bingo card (bingo card and stamps provided). [Register](#).
-  **5 Monday 6pm–8pm**  
**Turtle information session** with the City of Belmont. Learn about snake necked turtles and how you can help monitor and protect them. Events Room, Belmont Hub. [Register](#).
-  **6 Tuesday 11am–12:30pm**  
Enjoy a **Bushland Floral Gems Guided Walk** through **Kings Park**. [Register](#).
-  **6 Tuesday 6:30pm–8pm**  
**Turtle information night** with the City of Stirling. Learn about snake necked turtles and how you can help monitor and protect them. [Register](#) to attend at Henderson Environmental Centre or via Zoom.
-  **7 Wednesday 8:55am–12:30pm**  
**Turtle Tracker training** Learn how to monitor and protect nesting snake necked turtles and join the Forrestdale Lake Turtle Tracker team. Bookings essential, navigate to [Revive our Wetlands – Western Australia](#).
-  **7 or 21 Wednesday 11am–12:30pm**  
**Banksias: Bold, Brash and Brilliant** Discover the diversity and significance of banksias on a guided walk through **Kings Park**. [Register](#).
-  **7 Wednesday 6pm–7:30pm**  
**A Plastic Ocean documentary screening** with guest speaker from the Sea Shepherd. Port Coogee Marina Administration, North Coogee. Donation on entry.
-  **8 Thursday 9am**  
**RUOK? planting day** and morning tea with SJ Landcare Gooralong Brook, Jarrahdale Rd, Jarrahdale. Contact 9526 0012.
-  **8 Thursday 6pm–7pm**  
**Turtle Trackers training session** Learn how to monitor and protect nesting snake necked turtles and become a volunteer Turtle Tracker with the City of Canning. Canning River Eco Education Centre. [Register](#).











-  **8 Thursday 6pm–8:30pm or 18 Sunday 10am–12:30pm**  
**Wildflowers in Watercolour** Join in floral painting classes with local Perth artist Ellie Biggs to celebrate Kings Park's September Wildflower Festival. All art supplies included. Gather on Hay, 1222 Hay St, West Perth. [Tickets](#) \$59.
-  **9 Friday 8am–12 noon**  
**Aboriginal Cultural Awareness and Understanding Workshop** facilitated by Mr Danny Ford OAM, a Noongar man and senior traditional custodian of Whadjuk Country. 235 St Georges Tce, Perth. [Tickets](#) \$80–98.
-  **9, 16, 23 Fridays 11am–12 noon**  
**Djilba Art Classes** Learn to paint in a traditional Aboriginal dot painting style with Whadjuk artist Julianne Wade as she talks about seasons, symbols and tools, language and Indigenous local knowledge. Walyalup Aboriginal Cultural Centre, Fremantle. [Tickets](#) \$20.
-  **9, 16, 23, 30 Fridays 6pm–7:30pm**  
**Nocturnal Woylie Walk**, Woodland Reserve, Whiteman Park. [Bookings](#) \$20 or less.
-  **10 Saturday 8am–10am**  
**Breakfast with the birds** Join the City of Kwinana's bushcare officer for a morning bird walk and breakfast at Lyon Road Reserve, **Wandi**. [Register](#).
-  **10 Saturday 9am–11:30am**  
**Birds and Citizen Science workshop** Join Rochelle Steven and Tegan Douglas from BirdLife Australia for birdwatching tips and tricks – both experienced and beginner birdwatchers welcome. Kings Park Education. [Register](#).
-  **10 Saturday 9am–12 noon**  
**Planting** with Friends of **Astley Street River Park** and [Armadale Gosnells Landcare Group](#).
-  **10 September 9:30am–11:30am**  
**Wildflower Walk** at **Lightning Swamp Bushland** in Noranda – an A Class nature reserve, home to a great diversity of flora species. [Register](#).
-  **10 September 9:30am–11:30am**  
**Noongar Culture and Language Workshop** Join local Noongar language teacher Carol Foley for a hands-on learning experience. This month's session explores sea creatures. Maylands Public Library. [Register](#).








Learn to create beautiful nature-inspired artwork with artist Vanessa Liebenberg in a free mixed media workshop for teens. Image – Vanessa Liebenberg.

-  **10 Saturday 12:30pm–3pm**  
**Nature in mixed media for teens**, a [free art workshop](#) with Vanessa Liebenberg suitable for ages 12–19. All materials provided. Wanneroo Library and Cultural Centre.
-  **10 Saturday 1pm–2:30pm**  
**Noongar uses of native plants** Learn about the Noongar uses of native plants found at **Baigup Wetlands** with Belinda Cox from Djirily Dreaming. [Register](#).
-  **11 Sunday 9am–11am**  
**Wildflower ramble** in **Armadale** Settlers' Common east, a section of jarrah-marri forest in the foothills of the Darling Range. Wheelchair accessible. [Wildflower Society of WA](#).
-  **13 Tuesday 11am–12:30pm**  
**Auslan botanical walk**. Discover the treasures of the WA Botanic Garden with a volunteer Kings Park Guide and an Auslan signer. Places are limited, [bookings essential](#) (note preference given to Auslan users on this walk).
-  **13 Tuesday 5:30pm–8pm**  
**Biodiversity Awareness and Actions in Early Years Settings** This workshop for early years educators will teach hands-on ways to embed biodiversity awareness in day-to-day activities. [Registrations essential](#), cost \$5–\$20.
-  **14 Wednesday 6pm–7:30pm**  
**A day in the life of the WA Wildlife Centre** Learn about the work being undertaken to preserve our biodiversity for the future and find out how you can make a local impact. Port Coogee Marina Administration, North Coogee. Gold coin donation entry. [Register](#).

-  **15 Thursday 8:25am–2pm**  
**Community clean-up** Join a clean-up of the park and beach at **Woodman Point**. Bookings essential, navigate to [#SeatoSource – Western Australia](#).
-  **16 Friday 8:30am–6:30pm**  
**Environmental Practitioner's Forum** *Sharing experiences in environmental practice.* Leederville Function Centre. [Registration](#) \$250, students and not-for-profits \$100.
-  **16 Friday 4pm–8pm**  
**Threatened Species Evening & Art Exhibition** South Coast NRM announce winners of their art competition with an exhibition of artworks and presentations on threatened species and communities from south coast ecologists. Retravisation Stadium, Centennial Park, Albany. Free entry, [registration required](#).
-  **17 Saturday 9:30am–11:30am**  
**Beach clean-up at Scarborough** for World Cleanup Day. Gloves and bags will be provided, make sure to [register](#) for this event.
-  **17 Saturday 10:30am**  
**Annual General Meeting** of the **Friends of the Western Swamp Tortoise** at Perth Zoo will include a behind the scenes tour of the captive breeding facility for members and friends. Contact Chair Jan Bant 0408 024 800.
-  **18 Sunday 8:30am–11am**  
**Beach Discovery Day** Join Perth NRM and the City of Cockburn for a family-friendly beachcombing and clean-up day. Drop in, or join in the full morning of activities including talks on seabird rescue, reducing waste, and sustainable living, plus stalls, prizes and morning tea. Ngarkal Beach, **North Coogee**. [Free event](#).
-  **18 Sunday 9am–10:30am**  
**Spring Flora Walk: Bold Park** Join volunteer guides from the Friends of Bold Park to explore the array of wildflowers in the bush. [Register](#).
-  **18 Sunday 9am–12 noon**  
**Planting at Burslem Bridge** Canning River, Thornlie with [Armadale Gosnells Landcare Group](#).
-  **18 Sunday 10am–12 noon**  
**Wildflower walk** at **Cottonwood Bushland Reserve** presented by the [Urban Bushland Council](#).
-  **18 Sunday 11:30am–12:15pm**  
**Quantum Words Perth – Backyard Bugs and Birds** writers' festival event for kids with First Nations author and illustrator Helen Milroy, as she demonstrates birdsong to be heard, and examples of insects to be found in our backyards. WA Museum Boola Bardip. [Register](#).

-  **18 Sunday 3pm–3:45pm**  
**Quantum Words Perth – Our Family and Other Animals** writers' festival event with zoologist Danielle Clode, psychiatrist and children's author Helen Milroy and writer Jennifer Mills about why connection with other animals is so important to us. State Library of Western Australia. [Tickets](#) \$6.36.
-  **19 Monday 10am–11:30am**  
**Wildflower Walk – Collie** Spring wildflower walk guided by local enthusiast Alison. [Tickets](#) \$38.01.
-  **19 Monday 10:30am–12:30pm**  
**Thinking Green: watercolour native flowers** Learn to paint native flowers using watercolour techniques with Miriam Gardiner. All equipment and materials provided. Midland Public Library. Spaces are limited, [bookings essential](#).
-  **21 Wednesday 6pm–7:30pm**  
**Seabird Rescue** [stories and screening](#). Hear from Seabird Rescue volunteers about the different species found on our coastline, the threats they face and how you can get involved. Popcorn and light supper provided. Port Coogee Marina Administration, North Coogee. Entry by donation.
-  **24 Saturday 10:30am–12 noon**  
**Nature know-how: Make a native bee hotel** Learn about native bees with Dr Kit Prendergast and make a bee hotel to take home. Ellenbrook Community Library. Free to [register](#).
-  **24 Saturday 6pm–8:30pm**  
**Nightstalk:** Explore **Belgravia Dampland** at night with local wildlife expert Joe Tonga, who will bring gadgets to help spot night creatures. Spring is a great time to see frogs in this area. [Register](#).
-  **25 Sunday 9am**  
**Surprise walk** guided by the Jarrahdale Heritage Society. [Registrations](#) at Bruno Gianatti Hall, Munro St, **Jarrahdale** from 8:30am for a 9am start. Adults \$7.50, kids \$2.50 (+ booking fee).
-  **25 Sunday 11am–12:30pm**  
**Flora for Fauna – Planting for Habitats** Learn how to attract and support insects, birds and other native fauna in your home garden. Kings Park Education. [Tickets](#) \$31.68.
-  **29 Thursday 10am–11am**  
**Fire Ecology Walk** guided by Dr Ben Miller. Discover the role that fire plays in Australian landscapes while exploring a research site in the bushland of **Kings Park**. [Tickets](#) \$31.68.
-  **30 Friday 6:15pm–7:30pm**  
**Kids Nature Club Night Walk** See and hear nature come to life after dark at **Lake Gwelup Reserve**. Best suited for kids 5+. [Tickets](#) \$15 children (plus booking fee), adults free.

## October







-  **1–2 Saturday–Sunday**  
**Walpole Wilderness BioBlitz 2022** a citizen science event to record as many species as possible in the tingle forest during one weekend. [Register](#).
-  **1 Saturday 10am–12 noon**  
**Creepline restoration field walk** Learn how to plan, implement and manage a creepline restoration project with the Shire of Mundaring and landcare expert Mick Davis. **Woodbridge Creek Reserve**, Greenmount. [Register](#) early for this free event, as numbers are limited.
-  **1 Saturday 10am–12 noon or 2pm–4pm**  
**Avon River Walk** with the River Conservation Society's John Crook and Ballardong Noongar woman Dr Marion Kickett. Learn about the ecological and cultural significance of the beautiful Avon River and surrounds. Includes Q&A and light refreshments. Mile Pool, York. Free event, [registration required](#).
-  **1 Saturday 10am–2pm**  
**Muddy Hands Festival** encourages children and families to enjoy playing outdoors and being among nature. It aims to engage children's curiosity with hands-on learning to gain a greater understanding on how to coexist with local flora, fauna, and the natural environment. This [free event](#) features mud pits, sporting activities and workshops, food trucks and more. Aimed at children aged 3–15, though all are welcome. Kent Street Weir, Wilson.
-  **2 Sunday 11am–12:30pm**  
**Rich Bushland Resources Guided Walk** in **Kings Park** takes you through banksia woodland to learn how plants provided traditional Aboriginal people and early European settlers essential resources. [Register](#).
















Avon River. Photo – River Conservation Society.







*Blue leschenaultia on the Bibbulmun Track.*  
Photo – Pelusey Photography.

-  **3 Monday 6:15pm–7:30pm**  
**Kids Nature Club Night Walk** See and hear nature come to life after dark at **Lake Gwelup Reserve**. Best suited for kids 5+. [Tickets](#) \$15 children (plus booking fee), adults free.
-  **4 Tuesday 10:30am–12 noon**  
**Nature know-how: Outrageous animals in your backyard** Join Cathy Levett to explore nature outdoors, discover animal interactions, and learn how human actions impact biodiversity. For kids 9–12. Old Midland Courthouse. [Bookings](#) required.
-  **5 Wednesday 1:30pm–3pm**  
**Nature know-how: Discover crazy critters** Come on a nature treasure hunt and create a poster for the Backyard Biodiversity Environmental Art Project competition. Best suited for kids 5–8, parent/guardian supervision required. Guildford Town Hall. [Bookings](#).
-  **5 Wednesday 9am–5pm**  
**WALGA Aboriginal Engagement and Reconciliation Forum** is a day of learning and celebration of the positive work occurring between local governments and their Aboriginal communities. Optus Stadium, Burswood. [Registrations](#) \$140–160.
-  **6 Thursday or 7 Friday 10:30am–11:30am**  
**Nature know-how: Wally's Way Home book reading and drawing** Learn about the western swamp tortoise and create art based on this endangered local species. For kids 3+. Register for **6 October** at [Ballajura Public Library](#) or **7 October** at [Ellenbrook Community Library](#).
-  **8 Saturday 12 noon–4pm**  
**The Forest Festival** A family oriented folk-style [event](#) presented by Nature Reserves Preservation Group aimed at celebrating the importance of our forests. Enjoy music, culture and family activities in a market setting nestled in the forest surrounding the Kalamunda Community Centre at Jorgensen Park.

-  **9 Sunday 8:30am–1:30pm**  
**Bibbulmun Blossoms** Learn about the many wildflowers in bloom on a guided walk (8km) near **Kalamunda** this spring. A copy of [Wildflowers of the Northern Bibbulmun Track and Jarrah Forests](#) is included. A good level of fitness is required. [Tickets](#) \$65.
-  **9 Sunday 9am**  
**Discover Jarrahdale walk** guided by the Jarrahdale Heritage Society to celebrate their 150th anniversary. [Registrations](#) at Bruno Gianatti Hall, Munro St Jarrahdale from 8:30am for a 9am start. Adults \$7.50, children \$2.50 (plus booking fee).
-  **9 Sunday 3:30pm–6:45pm**  
**Dr Dolittle goes bush** a walk for kids aged 5–12 on the **Bibbulmun Track** to meet and greet with native creatures from Kanyana Wildlife Rehabilitation Centre. [Bookings](#) \$20 adults, \$40 children. All kids to be accompanied by an adult.
-  **9 Sunday 6:30pm–7:45pm**  
**Kids Nature Club Night Walk** See and hear nature come to life after dark at **Lake Gwelup Reserve**. Best suited for kids 5+. [Tickets](#) \$15 children (plus booking fee), adults free.
-  **11 Tuesday 10am–12 noon**  
**Attracting and retaining young volunteers** free online workshop with Volunteering WA. [Register](#).
-  **15 Saturday 12 noon–1pm**  
**Nature know-how: Practical weed control** Learn about local weeds and how to manage them on bushland properties. Gidgegannup Mens Shed. [Free to register](#).
-  **16 Sunday 8am–2:30pm**  
**Bibbulmun Birds** Encounter the birds of the jarrah forest on a 16km walk in the **Darling Range** section of the Bibbulmun Track with BirdLife WA amateur ornithologist Viv Read. Includes bush book [Common Birds of the South-West Forests](#). [Tickets](#) \$50.
-  **16 Sunday 1pm–3pm**  
**Pull a pellie or pluck a gladdie** Help the [Friends of Warwick Bushland](#) remove priority weeds from **Warwick** Conservation Reserve. Enjoy homemade biscuits and cakes by the Friends.
-  **21 Friday 8:30am–3:45pm**  
**SERCUL's Kayaking on the Canning** Experience the Canning River and its flood plain by kayak and on foot. Explore the local biodiversity, learn about the fresh and saltwater ecosystems, the Noongar connections to this landscape, and key environmental issues. Canning River Eco Education Centre, cnr Kent St and Queens Park Rd, Wilson. Cost \$99. Contact Natasha Bowden [natashabowden@sercul.org.au](mailto:natashabowden@sercul.org.au) or phone 9458 5664.

-  **22 Saturday 10:30am–11:30am**  
**History of a River** a talk by Richard Offen on the history of the Swan and Canning rivers. Gosnells Knowledge Centre, Lyal Richardson Hall. [Register](#).
-  **23 Sunday 9am–12 noon**  
**Planting at Jacqueline Drive**, Thornlie with [Armadae Gosnells Landcare Group](#).
-  **26 Wednesday 8:25am–11:30am**  
**Community clean-up** Help clean up marine debris at **Minim Cove**, Mosman Park. Bookings essential, navigate to [#SeatoSource – Western Australia](#).
-  **26 Wednesday 4:30pm–7pm**  
**Peel Harvey Estuary Forum** Hear from the Department of Water and Environmental Regulation, Peel Harvey Catchment Council and community members who are protecting the estuary and its ecological, cultural and economic values. [Save the date](#).

## November

-  **5 Saturday 8:30am–3:30pm**  
**Kalyakoorl Kadadjiny Cultural Intelligence Training** An interactive workshop designed to build bridges and break down barriers and misunderstanding surrounding cultural differences between Aboriginal and non-Aboriginal Australians. Harvey Recreation and Cultural Centre. [Tickets](#) \$10.
-  **6 Sunday 8am–11 am**  
**Guided wildflower ramble** in **Harrisdale Swamp**. Meet at Carey College car park, Wright Rd, Harrisdale. [Wildflower Society of WA](#).
-  **16 Wednesday 8am–12 noon**  
**Aboriginal Cultural Awareness Workshop** facilitated by Mr Danny Ford OAM, a Noongar man and senior traditional custodian of Whadjuk Country. 235 St Georges Tce, Perth. [Tickets](#) \$80–98.
-  **26 Saturday 5pm–10pm**  
**Star Trek** Adult's night walk along the Darling Range section of the **Bibbulmun Track**, a relaxed 8.6km return walk through mixed jarrah forest. Develop your night vision and enjoy the stars from a large rocky outcrop without the city's light pollution. BYO supper and beverages. [Bookings](#) \$40.

## Highlights

### Open now – 9 October

**Great Western Woodlands [spring bird surveys](#) 16–23 September** along the Transline survey area south of Kalgoorlie and **17–26 October** at Fraser Range Station and Dundas Reserve. For more information or to register your interest, [email](#) BirdLife.

### September – October

**Bloom Festival** events include exhibitions, workshops, Noongar culture events, heritage trails, guided tours and hikes through the Stirling Ranges. Visit the [website](#) to check out the full program.

### September – October

**Chattering Spring Festival** covers a variety of activities from wildflower shows to gardening workshops. Visit the [website](#) for more information.

### September – November

Check out the WA Parks Foundation **Spring into Parks** [calendar](#) to discover a range of activities happening in parks around the State.

### 2–23 September

**The Island Arks Symposium** Phillip Island, Victoria. Visit the [website](#) for more details as they are released.

### 10–16 September

**Australian Native Plants Society Biennial Conference** [Australian Flora - Past Present Future](#). Kiama, NSW. [Tickets](#) \$80–600.

### 12–24 September

**Ravensthorpe Wildflower Show** celebrates its 40th year showcasing the abundance of floral diversity in the region. [Tickets](#) \$7 adults, children free.

### 16–30 September

**Everlasting Kings Park Festival** is back to celebrate the extraordinary diversity and beauty of Western Australia's famous wildflowers! Check out the variety of activities on offer at their [website](#).

### 20–22 September

**WA State NRM & Coastal Conference** [Building Resilience Through Innovation](#) Mandurah. [Registrations](#) \$165–825.

### 20–24 September

**Esperance Wildflower Festival** features Noongar ranger presentations, environmental displays and workshops. Visit the [website](#) for more information.

### 23–25 September

**Flora and fauna monitoring** at Yunderup field station with the WA Naturalists open to members and visitors. [RSVP](#) various prices.

### 25–29 September

**Australasian Weeds Conference** [A weed odyssey: innovation for the future](#) Adelaide Oval, SA.

### 27–30 September

**The Australian Mammal Society Conference** [Hybrid conference](#), some talks available to stream online via Zoom. DoubleTree by Hilton Northbridge and the Western Australian Museum Boola Bardip, Perth. [Registrations](#) \$30–600.

### 3–5 October

**Albany Sandplains & Wetlands Forum** Albany Entertainment Centre, with a half-day field trip on 3 October to Ballogup (Lake Pleasant View) and Ten Mile Swamp. [Tickets](#) \$160 whole event pass, \$75 single day summit, \$25 half-day field trip.

### 7–30 October

**Nature's Collective** a multi-sensory [exhibition](#) by artists Wendy Bellis and Debbie Banks, inspired by the ocean, wetlands and eucalypt forest. Zig Zag Gallery, Perth Hills Visitor Centre, Kalamunda.

### 8–9 October

**Wetlands Weekender 2022** [Stay tuned](#) for more details.

### 17–23 October

Be a part of BirdLife Australia's **Aussie Backyard Bird Count** by spending [20 minutes counting the birds](#) in your backyard, local park or school.

### 18–19 October

**Connecting People, Connecting Nature Conference** Queensland Multicultural Centre, QLD. [Tickets](#) \$150–450.

### 26–28 October

**Environment Institute of Australia and New Zealand (EIANZ) Annual Conference** [Shaping the future of the environment profession](#) Townsville, QLD and online. [Registrations](#) \$650 livestream, \$1,500 full conference package.

### 29–30 October

**The Australasian Shorebird Virtual Conference** [Save the date](#).

### 31 October – 4 November

**National NRM Knowledge Conference** Margaret River, WA. Visit the [website](#) for more details as they are released.

### 12–20 November

**Australian Pollinator Week** Get involved in [community events](#) near you.

### 20 November – 18 December, 9am–4pm weekdays, 10am–4pm weekends

**Riparia** a dual [exhibition](#) of works by artists Una and Russell Bell. Zig Zag Gallery located in Perth Hills Visitor Centre, Kalamunda.

### 27–30 November

**International River Symposium** [Journey to Resilience: Communities, Climate & Biodiversity](#) Vienna, Austria and online. [Registration](#) €70–500.

### 28 November – 2 December

**Conference of the Ecological Society of Australia** [Reconnecting with nature, reconnecting with each other](#) Wollongong, NSW. [Registration](#) \$255–1,095 or less with early bird discounts until 16 September.

### 30 November – 8 December

**Danjoo Koorliny Festival** [a week of activities](#) to celebrate Aboriginal cultures, arts and ways of caring for everything around us with a strong focus on caring for the environment.

### 6–8 December

**Australasian Wildlife Management Society Annual Conference** Three-day [conference](#) **6–8 December** with pre- and post-conference field trips on 5 and 9 December. Napier, New Zealand. [Registration](#) \$550–690 or less with early bird discounts until 15 October.

### 7–19 December

[Part two](#) of the **2020 UN Biodiversity Conference (COP-15)** in Montreal, Canada, will see the adoption of the post-2020 global biodiversity framework. All sessions at COP-15 will be [streamed live](#).

### Year round

Join **Parks and Wildlife Service's Know Your Patch**, *Nearer to Nature* and *River Guardians* for their hands-on nature-based school holiday program for kids and families. With locations across the Perth metro area and a variety of different themes, there is something for everyone to enjoy. Head to the [website](#) for more information or to book.

### Various dates

**Zippy's Bush Kindy Kings Park** connects pre-school nature lovers to structured activities in bushland at Rio Tinto Naturescape Kings Park. Enjoy an [eight-week program](#) of 45-minute sessions each term as early learners explore nature and gain a deeper understanding of the world around them. \$96 per term.

## New publications

### Native vegetation policy for Western Australia

A [whole-of-government policy](#) for Western Australian government agencies. The policy seeks to contribute to a net gain in native vegetation, conserving biodiversity, fixing carbon and building the restoration economy. It establishes policy settings at a Statewide and regional level for application by all agencies, practices for consistent and transparent decision making, information and systems for accessible and reliable data. The [Implementation roadmap](#) sets out the actions the State government will take over the next four years to achieve the policy outcomes and how it will report on the actions and their outcomes.



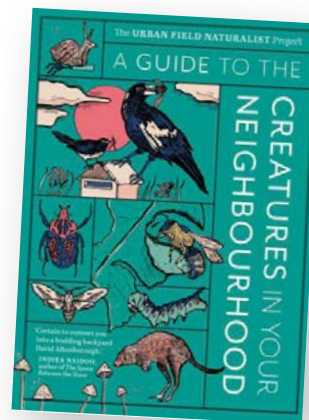
### Noongar Boodja Waangkan: Noongar First Words

Boundry, Jayden, Tyrown Waigana. *Fremantle Press*, 2022. \$24.99. Written in Noongar and English, this fully illustrated [children's book](#) of first Noongar words includes family, plants, animals, emotions, colours, numbers and more, with an audio pronunciation guide available [online](#).

**A Shorebird Flying Adventure** Kerin, Jackie, Milly Formby. *CSIRO Publishing*, 2022. \$24.99. Follow the amazing journeys of Australia's migratory shorebirds in this [children's book](#). You'll meet the birds who travel phenomenal distances every year and explore their precious wetland habitats and breeding grounds. Learn fascinating facts about their diet and tips to tell one species from another.

### A Guide to the Creatures in Your Neighbourhood

Sadokierski, Zoë, Andrew Burrell, Dieter Hochuli, John Martin, Thom van Dooren. *Murdoch Books*, 2022. \$32.99. Tune in to the richness and diversity in your local environment with this [guide](#) that has interactive projects, nature writing and sketching activities to help people notice and appreciate wildlife in urban environments.



**Australia's Environment in 2021** is an annual [report](#) produced by the Australian National University and TERN summarising a large number of observations on the trajectory of our natural resources and ecosystems. On the [website](#) you will find a national summary report, as well as report cards for different types of administrative and geographical regions including [Western Australia](#).

**Sense of Place (Third Edition)** Seddon, George. *UWA Publishing*, 2021. \$49.99. Containing detailed information on the landforms, climate, drainage geology, wetlands, offshore islands and flora of the Swan Coastal Plain, this [book](#) considers the dynamic between human land use and the natural environment.



### The Compact Australian Bird Guide

Davies, Jeff, Peter Menkhorst, Danny Rogers, Rohan Clarke, Peter Marsack, Kim Franklin. *CSIRO Publishing*, 2022. \$34.99. A compact quick [identification guide](#) to all 700 bird species regularly occurring in Australia. Includes up-to-date species descriptions, distribution maps, illustrations and quick guide comparison pages for major groups.

### A Thousand Cuts – Mining in the Northern Jarrah Forests

Three peak environment and forest conservation groups, WA Forest Alliance, Wilderness Society and Conservation Council of WA, have published [this report](#) on the impacts of bauxite mining in the Northern Jarrah Forests. The report provides both an overview and high level of detail on the region and the threat posed by proposed mining expansions.

**Hollowed Out? A story of tree-hollows, habitat loss and how nest-boxes can help wildlife in south-western Australia** Cherriman, Simon. Self-published, 2022. \$45. This book is the culmination of more than two decades of study and photography of tree-hollows, and the wild animals of Noongar Country (south-western Australia) that depend on them. It contains several interwoven stories and information on how to build, install, monitor and maintain durable, pest-resistant nest-boxes that cater for a suite of backyard wildlife. Available to purchase at [some Perth locations](#), or [online](#) (\$60 including postage and handling).

**Bold Park Management Plan 2022–27** The new five-year management plan has been [released](#). The vision for Bold Park is to be identified as a world-class urban wilderness, to be enjoyed, studied and managed with the community, for the benefit of all.

**Swoop** Godwin, Nicole, Susannah Crispe. *CSIRO Publishing*, 2022. \$24.99. The magpie has one job, one desire, one purpose: KEEP THE EGGS SAFE. Always on alert for danger, will Magpie's determination be enough when rock-carrying intruders arrive? Why do magpies swoop and why do we have such a fascination with them? Discover more about these clever songbirds through this [children's book](#).



## App



**Threatened Australians** is a web-based [app](#) where you can learn which threatened animal and plant species are found in your local area and what you can do to help.

## Website watch

**Explore** is a new [podcast](#) from the Australian Museum that takes you behind the scenes of expeditions, exhibitions and the lab. Available on Spotify, Apple Podcasts, the Australian Museum website or your favourite streaming app.

**Get bird-killing SGARs out of your local community** Use BirdLife Australia's [email tool](#) to encourage your local council to phase out bird-killing second-generation anticoagulant rodenticides (SGARs) which are poisoning native wildlife like owls, eagles, magpies and quolls.

### UN Decade of Ecosystem Restoration 2021–2030

[website](#) aspires to unite the world behind a common goal of preventing, halting and reversing the degradation of ecosystems on every continent and in every ocean. Join in on a free eight-week Massive Open Online Course [Ecosystem Restoration 2022](#) (19 September – 20 November) and learn to develop a step-by-step ecosystem restoration plan and apply effective restoration solutions.



### WA Wetlands Conference

[Video recordings](#) of presentations from the [February 2022 conference](#) are now available, on themes of *Leadership, Reconciliation, Sustainability and Partnerships*.

**EcoAssets** collates data from three national research infrastructures: the Atlas of Living Australia, Integrated Marine Observing System, and Australia's Terrestrial Ecosystem Research Network. This [website](#) will enhance reporting efforts and support improved environmental decision-making by making it simpler and faster to obtain integrated data.

**Purves Environmental Fund** up to \$50,000 for projects addressing the focus areas of habitat destruction, capacity building of key NGOs and climate change adaptation. [Applications open year round.](#)

Peel Harvey Catchment Council's **Fencing and Revegetation of Foreshore Areas** [funds](#) landholders in the [Healthy Estuaries WA footprint](#) to fence streamlines on their properties to exclude stock with revegetation. **Open grant round.**

**NACC Biodiversity Community Grants** up to \$5,000 for projects that conserve malleefowl and black-flanked rock-wallaby in the Northern Agricultural Region. [Applications](#) assessed on a **first in first served basis**. Contact Jarna Kendle on 0477 177 164 or [email](#) to discuss eligibility.

Wheatbelt NRM's **Where the Wild Things Are** grants provide funding of up to \$15,000 to support protection of the eucalypt woodlands of the Western Australian Wheatbelt. [Applications close 31 December.](#)

**2022 Healthy Bushland Support** loan of cage traps or funding to assist with baiting to control cats, foxes and rabbits in the Avon River Basin. [Applications close 31 December.](#)

**Mary Bremner Bequest Strategic Grants Program** of the Wildflower Society of WA for projects focused on WA flora. [Applications open year round.](#)

**Aurizon Community Giving Fund** is offering grants of up to \$20,000 for initiatives promoting environmental enhancement in the communities through which they operate (Perth, Geraldton, Kalgoorlie, Esperance and the south-west). Examples of supported projects include land rehabilitation and revegetation programs, clean-up and education days, and local conservation projects. [Applications open September.](#)

**IGA Community Chest** raises funds to support local communities, charities and other worthwhile causes. [Applications open year round.](#)

**The Cola-Cola Foundation** gives back 1% of its operating income to enhance the sustainability of local communities worldwide. Empowering women, protecting the environment and enhancing communities are priority areas. [Applications open year round.](#)

**The Indigenous Land and Sea Corporation's Our Country Our Future** [program](#) funds land acquisition or management projects that deliver benefits to Indigenous Australians. This includes on-ground activities to maintain or improve the condition of Country (land, water, biodiversity, and cultural heritage). **Open on an ongoing basis.**

**Wettenhall Environmental Trust** small environmental grants scheme funds research and education projects on flora and fauna conservation. [Applications open 1 October.](#)

**Lotterywest Grassroots Community-Led Grants** are available for proposals big or small that work towards sustainable ecosystems including restoration, care for natural heritage, protection of endangered species, and reduction of the community's impact on the environment. [Applications open year round.](#)

**Local government community grants** These local governments provide small grants to their communities which may fund environmental groups' management and restoration projects. Eligibility varies. [Armadale opens 5 September](#), [Armadale Habitat Links open year round](#) for rural residents, [Broome open year round](#), [Canning Enriching closes 4 October](#), [Canning Equipment closes 13 September](#), [Cambridge open year round](#), [Cockburn Community closes 30 September](#), [Cockburn Landowner Biodiversity closes 31 October](#), [Fremantle closes 30 September](#), [Gosnells closes 9 September](#), [Kwinana closes 21 September](#), [Melville open year round](#), [South Perth open year round](#), [Subiaco closes 30 September](#), [Swan closes 31 October](#), [Wanneroo opens October.](#)

# spoon-wing lacewings

By Liesel Morgan



Photo – Jean and Fred Hort.

Spoon-wing lacewings are [striking](#) and found in several parts of Western Australia, but it's no surprise if you have never noticed one before. These insects emerge in their winged adult form for just a few weeks in spring and early summer, whilst the majority of their life is spent in juvenile stages underground. Their appearance as adults for such a short time is likely the reason why one species was [not sighted for over 100 years!](#)

*Chasmoptera* is the only spoon-wing lacewing genus in Australia and is endemic to Western Australia. It is [known by three species](#), *Chasmoptera hutti*, *C. superba* and *C. mathewsi*, though recent research at the WA Museum has suggested there are [at least double the species](#) for this genus based on hugely variable spoon-wing shapes and genetic differences.

Found close to the coastline from Shark Bay down to Harvey and inland as far east as Bullfinch, *Chasmoptera* inhabit flat areas that have white, silicon-rich sand near swamps, lakes and salt lakes. They are thought to be either pollen or nectar feeders as adults, emerging to coincide with flowering vegetation, and have been observed on *Banksia* and *Darwinia* shrubs among other associated flora.

You will have most luck spotting *Chasmoptera* in late October and early November. Look for short and fluttery flight between knee-high shrubs. When resting, *Chasmoptera* tend to flick or pulse their hindwings, making them easier to spot.

The spoon or ribbon-like dilations on the hindwings vary in size, shape, and patterning of light and dark depending on species and sex. For example, [male \*C. hutti\* have broader spoons than females](#) (pictured here is a female), whilst those of *C. superba* tend to be narrow for both sexes. Perhaps used for mating, warding off predators or camouflage, entomologists worldwide are still undecided on the purpose of the spoons for these charismatic beauties.

Good luck spotting this unique part of Western Australia's remarkable biodiversity!