

bushland news



Issue 112 **Summer** 2019-20 *Time of Birak and Bunuru in the Noongar calendar.*



Millennium Kids Green Lab

We exist for kids to
tackle the big issues



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.

Photo – Rae Fallon.

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Contacts

Urban Nature office

Julia Cullity 9442 0320
Grazyna Paczkowska 9442 0322
Email urban.nature@dbca.wa.gov.au

Parks and Wildlife Service

Parks and Wildlife Service, Swan Region Office
Cnr Australia II Drive and Hackett Drive, Crawley WA 6009
Locked Bag 104, Bentley Delivery Centre, WA 6983

This publication is available in alternative formats on request. Current and archived issues of *Bushland News* are available at pws.dbca.wa.gov.au/bushlandnews

Next issue

Autumn Bushland News

Autumn *Bushland News* contributions should be sent to [Urban Nature](#) by **11 March 2020**. *Bushland News* seeks original contributions. If your submission has been or may be published elsewhere please let us know. Compiled and edited by Julia Cullity.

Millennium Kids Green Lab

– We exist for kids to tackle the big issues *by Catrina Luz Aniere*

The 21st century needs problem solvers and innovators ready to meet the challenges of the future. At Millennium Kids we believe young people have the creative ideas and innovative thinking we need right now.

In 2018, Millennium Kids asked over 500 young people what they thought the big issues were. The result? Kids are anxious about climate change and know that our cities are heating up. They know about the urban heat island effect, and that native animals are facing extinction. They know that some Perth councils have only 10 per cent tree canopy and 60 per cent hard surfaces such as carpark and roads.

The kids want to talk to us about trees, bushland and canopy cover.

It seems our bushland is not seen as an asset by all. To some, risk outweighs benefit and opportunity. The bush is where spiders and snakes lurk, where trees drop branches, a place that should be out of bounds for children in our care. To others, bushland and open space is seen as an opportunity for freeways and more development and built landscape. Nature play is formalised and formulaic, confined within safe, but ever diminishing, boundaries.

Our precious places are now under a greater threat – climate change, biodiversity loss and apathy. Best practice programs are peppered with great educators, great examples of collaboration and the stakeholder approach, but are we winning?

Kids don't think so!



The Kids know what they want

They want a cool city of tree-lined streets. They want to know wildlife has a place, and that the bushland is truly protected. The Kids have got an action plan, that they have called [Green Lab](#). It's the ultimate outdoor classroom where the whole community can learn to love the role nature plays in our lives.

Above: Schools are already registering their interest with students from Coolbinia Primary School keen to get on board and share their knowledge of bushcare with the wider community. Photo – Rewi Lyall.

Cover photo: Jacob, Millennium Kids Youth Board member, wants people to monitor, protect and increase canopy in the Perth metro area. Photo – Rae Fallon.

Continued next page ...



Left: Millennium Kids visited Trillion Trees in Hazelmere and discovered the art of seed collection, propagation and tree planting techniques. Photo – Rae Fallon.

Big questions

Green Lab is designed by kids, with some help from key stakeholders, in response to some big questions the kids brought to the table.

- Can increasing our canopy cool our city?
- Why isn't Bush Forever, forever?
- What does that bird eat?
- Is this plant important?
- What was here before?
- Where will you be in 50 years?

These young people will lead a citizen science and action program that they have designed, to help you get to know your trees, and cool the city. Along with Traditional Owners, climate scientists, poets, artists, historians, community stakeholders and government, these kids will help us love our trees, increase tree canopy and strengthen the ecosystems that support us all. Using education, community planting and monitoring programs, kids will develop a network of Green Labs across the city, creating a cooler climate and habitat for native birds and animals. Some Councils jumped on board early and helped in the development of [the pilot project](#).

Protection through action

These kids have created their vision for the next 50 years and now, with the support of a three-year State NRM Community Stewardship Grant, Millennium Kids can start to put their ideas into action. Kids want these precious green places genuinely protected forever so that future generations can enjoy them.

Coolbinia Primary School, Weld Square Primary School and Banksia Park Primary School have already put their hands up to be part of the Green Lab initiative to support their ongoing work in their school bushland through a collaboration that will see schools share information through the development of an online portal.

Millennium Kids Inc, a not-for-profit, environmental youth organisation, empowers young people with a 'skills for life' approach so they can become leaders and change-agents in their communities today.

Contact

Millennium Kids

email info@millenniumkids.com.au



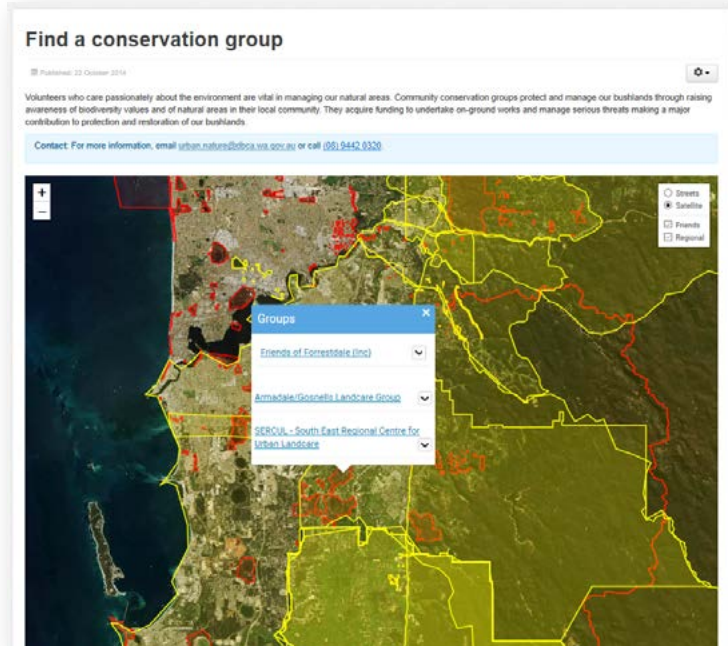
Kids are devastated to learn members of the public poison trees in parks and on the foreshore. They want the community to respect trees and care for them now and into the future. Photo – Rae Fallon.

Urban Nature update *by Julia Cullity*

We are excited to relaunch our new look [Find a Conservation Group app](#). Use our interactive web-based app to search for conservation groups actively working to protect and manage bushland in your local area. Access information about volunteer groups and the work they do, then get in touch to get involved and make a difference. The map covers Perth and surrounds, and incorporates Lancelin through to Harvey and inland past the Perth Hills. With a little more than 200 groups on the app, I know we are missing many groups. Please [get in touch](#) to become part of the app or update me if any of your group's details have changed.



It's not hard to see the impact African lovegrass is having on disturbed bushlands, particularly roadsides and railways on the eastern side of the Swan Coastal Plain. Here Conservation Officer Anne Harris is sampling the vegetation at the beginning of our trial of a grass-selective herbicide for African lovegrass, before spraying. Photo – Julia Cullity.



[Find a conservation group](#) will help you get in touch with groups actively working to protect and manage bushland in your local area or area of interest. Contact [Urban Nature](#) to get your group on the map.

Urban Nature spent most of October weed mapping some 400ha of bushland at Hymus Swamp in Lowlands Nature Reserve and at Mogumber Nature Reserve. Mogumber Nature Reserve had minimal weed invasion and we also mapped the extent of the banksia woodland threatened ecological community. We need to return next year to survey some of the wetlands in heavier soils to determine whether they are also part of another threatened ecological community, Claypans of the Swan Coastal Plain. It was a different story at Hymus Swamp where arum lily has an extensive distribution along with some other key invasive weeds of banksia woodlands and wetlands such as perennial veld grass and cape tulip. Our work begins.

We have also participated in setting up a herbicide trial with staff from across the Department of Biodiversity, Conservation and Attractions (DBCA). The trial aims to assess the effectiveness of a grass-selective herbicide to control African lovegrass and whether there is any off-target damage to native vegetation. [African lovegrass](#) is a serious invader of bushlands in the Swan Coastal Plain particularly in heavier soils and disturbed areas. It has a widespread distribution on railway lines and road edges of the eastern side of the Swan Coastal Plain where it has impacted on populations of threatened flora and ecological communities. A selective herbicide for this species would greatly improve our ability to manage threatened and priority species and communities and regionally significant natural areas. It will be a few years before we have any results.

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Still on weeds, our Weedwatch last issue highlighted a new weed to WA, [pokeweed](#). A new infestation has been discovered in Pemberton in November. The 24 plants were found in varying stages of maturity and have been treated. It's not too late to identify so please continue to keep an eye out for pokeweed, particularly in your travels around the South West.

Urban Nature have begun involvement in a bushland reconnaissance survey project where we will be heading out to help assess the biodiversity values and management threats at little known sites across the conservation estate in our region. We started small with a newly purchased area at Farrington Road and Allendale Entrance, North Lake. This patch of banksia bushland is mostly in excellent condition with diverse flora and fauna habitat values. We will be hosting a weeding day next autumn for the local community to have a look and help with the management of this special patch of bush. Please call 9442 0420 or [email](#) if you want to get involved.

I'd like to wish you all a Merry Christmas, have a safe and happy time with family and friends over the festive season.

*Above: Detailed weed mapping of the distribution and cover of serious weeds in bushlands and wetlands is an important step in setting priorities for weed management in reserves. And if consistent records are kept over time, it can also measure the effectiveness of weed management. We collected a contrasting picture of weed invasion from two nature reserves this October. Mogumber Nature Reserve showed minimal weed invasion however Hymus Swamp had extensive distributions of serious environmental weeds. Here arum lily (*Zantedeschia aethiopica*) is invading into the banksia woodland threatened ecological community at Hymus Swamp in Lowlands Nature Reserve. Photo – Julia Cullity.*



We'd again like to thank Kimberlee Kucera who chose to finish her Science degree in Conservation and Wildlife Biology with a work placement shared between Urban Nature and the flora conservation officers of Perth Hills District. We had to say farewell to Kim in October, but she didn't go far. She has been employed by the department as a seasonal conservation employee based at Dwellingup. We'll see you up in the Hills, Kim. Photo – Renny Gosatti.

Drooping prickly pear *By Kylie Fletcher*

Drooping prickly pear (*Opuntia monacantha*) is a high priority weed for the Southern Biosecurity Group in the Ravensthorpe Shire, and one we've been lucky to get funding from the State NRM Office to address. The species, like other *Opuntia*, is a weed of national significance (WoNS) and is a declared species in Western Australia. All cacti are exotic to Australia and with 31 species of opuntiod cactus naturalised in Australia you may need an [identification guide](#) to tell them apart. This is particularly important when it comes to choosing a [control technique](#), especially for biological controls. Drooping prickly pear is a shrub growing up to 4m in height with yellow or orange-yellow flowers. The pads are glossy green in colour, anywhere between 10–30cm long, but not very thick. Spines usually grow 1–2 spines per areole (but increasing to 4–5 in older parts of the plant), 2–4cm long and range in colour from brown to off-white. Flowers are yellow with red stripes on the outermost tepals and the pear-shaped fruit is red up to 7cm long and spineless. The plant gets its name from its drooping appearance.



Above: Cochineal scale insects (Dactylopius ceylonicus) feeding off the pad of its host plant. The adult females remain fixed and immobile, the males are weak flyers that don't feed, with the greatest movement of the insect from the first instar nymphs or crawlers. Crawlers climb to the ends of the plants and are spread to new plants via the wind. Hence this biocontrol is most effective when the weeds are in a clump. The cobwebby fluff covers the outer body of the insect. The red underneath, noticeable at the base of the spines is due to adult females' carminic acid content. Cochineal insects from the genus Dactylopius were used historically as the main source of red dye carmine and this is one reason why opuntiod cacti were introduced to Australia. Photo – Southern Biosecurity Group.

Left: In Ravensthorpe drooping prickly pear is only found around the Oldfield River. Although this species can set viable seed in Australia, its main method of spread is vegetative. Flooding, as happened in 2017, is a major cause of spread as pads of the cacti get broken off and are swept further downstream to strike and create new plants. Photo – Nathan McQuoid.

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Within the Shire of Ravensthorpe, it is only known from the river corridor of the Oldfield River, meaning that we have a great chance of being able to successfully eradicate this menace. We're not sure how it was introduced to the area. Impacts of prickly pear are many. The ability of this plant to form dense clusters means that it can outcompete native vegetation, take over agricultural land and even act as a harbour for other invasive species such as foxes and rabbits. The fruit of prickly pear can also harbour fruit fly, yet another reason for control. Birds can eat the fruit and spread the seeds around, although it appears in the Ravensthorpe area that the main method of spread is vegetative, with the 2017 floods spreading the plant further downstream.

A range of trials were established in the river system, using herbicide applications through stem injection, soaking of dowel prior to placement into the base of the cacti, basal barking and foliar spray. Stem injection using straight glyphosate has proved to be the most effective herbicide treatment. Treated material is left in place to decompose as it is too difficult to safely remove the larger plants.

A pad segment was also wrapped in black plastic as an experiment to see if it would be an option for control, however this hasn't been successful.

In July 2017, the biological control cochineal scale insect (*Dactylopius ceylonicus*) was granted permitted organism status in Western Australia. Release of the organism following a successful breeding program allowed placement onto live cacti plants in March 2018. The cochineal has been highly successful where there has been a clump of plants.

An [integrated control](#) program has been the most effective, using stem injecting, hand pulling and cochineal. The choice of the method mostly depends on the size of plant and the area that the plant occupies. Manual collection has resulted in more than 500kg of prickly pear being removed.

Contact

Southern Biosecurity Group

email sbg.execofficer@gmail.com

<https://southernbiosecuritygroup.org.au/>

Right: There are a number of Dactylopius species of cochineal insects all of which are very selective on the host cacti they feed on. These species all look similar to the naked eye, so it is important to use the correct cochineal species for each cacti species. These adult females are permanently attached to the plant with their mouth and feed by sucking sap. This leads to the eventual death of the plant. It's not known if the damage is caused by the feeding or if they are also injecting damaging toxins. Photo – Southern Biosecurity Group.



New kid on the (bush) block!

by Aileen Elliot and Alan Lymbery

This very modest looking nematode parasite has recently been discovered in the gastrointestinal tract of an echidna from Western Australia. It is not big on looks or size, reaching a total length of only 1.8mm. However, it is very special indeed as it has never been seen before and preliminary observations suggest that it is not only a new species, but may belong to an entirely new family. Researchers in the Parasitology Department at Murdoch University need your help in finding more specimens so that we can definitively identify and name this worm. We are currently seeking deceased echidna bodies to continue our morphological and genetic studies of this new parasite. If you encounter a freshly dead echidna, for instance roadkill, please place it in a plastic bag, note down the location in which it was found and ring Alan 0404 037 428 to organise a pickup. If you are near Perth and we can collect the animal the same day then it is best to keep it fresh and, if possible, cold. However, if you are some distance away and we are unable to collect the animal the same day, it can be kept in a freezer.

New species are not always photogenic. This nematode is not only a new species but may belong to an entirely new family. The only specimen was discovered in the gastrointestinal tract of a road-killed echidna from WA and Murdoch University is requesting people to retrieve and donate echidna carcasses so they can find more nematodes to study. Photo – Aileen Elliot.



Contact

Alan Lymbery
Murdoch University

email A.Lymbery@murdoch.edu.au
phone 0404 037 428

Have your say on policy and legislation

Share your views on bushland conservation by making a submission on proposed State and Federal Government legislation and policy.

New initiatives for Western Australia's native vegetation

The State Government is developing [four initiatives](#) to improve the consistency, transparency and quality of information which will enable better management of our State's native vegetation and is calling for public comment.

- A State native vegetation policy: to promote consistency and transparency in the objectives that apply to consideration of native vegetation across all Government processes.
- Better information: improved data and mapping systems to track native vegetation extent, condition and approvals.
- Better regulation: to improve efficiency and effectiveness of regulatory processes, as well as supporting compliance and enforcement activities.
- A bioregional approach: to explore approaches to setting regionally tailored objectives for native vegetation management.

[The Native Vegetation in Western Australia – Issues Paper](#) has been released for public consultation with submissions **closing 10 February 2020**.

State legislation

The State government is seeking public comment on [proposed amendments](#) to the *Environmental Protection Act 1986* and has released a [discussion paper](#) and an [Exposure draft Bill](#). The proposed amendments aim to improve regulatory efficiency and effectiveness and facilitate the implementation of the bilateral agreements under the Commonwealth *Environment Protection and Biodiversity Conservation Act 1999* to deliver better environmental protection and sustainable development outcomes. Submissions **close 28 Jan 2020**.

Federal legislation

The second [independent review](#) of the federal *Environmental Protection and Biodiversity Conservation Act 1999* has released a [discussion paper](#) which canvases potential areas of focus for the review and broad options for reform. The paper identifies some of the long-term pressures on Australia's environment and heritage, and known concerns with the operation of the legislation, especially with its regulatory processes. Submissions are **due 14 February 2020**.

National Shorebird Monitoring Program summer counts

by Plaxy Barratt

Every year, hundreds of dedicated volunteers conduct summer shorebird surveys at designated sites across the State, as part of BirdLife Australia's National Shorebird Monitoring Program (formerly known as Shorebirds 2020).

Migratory shorebirds undertake the longest known migration of any species, flying the length of the East Asian Australasian Flyway from Australian shores to the Arctic Circle to breed each year. Destruction and degradation of their wetland and intertidal habitats means migratory shorebirds have experienced population declines of up to 80 per cent over the last 30 years.

BirdLife Australia's Migratory Shorebirds Program aims at improving the protection of our shorebirds. The data gathered in the country's largest citizen science project is vital in helping to conserve shorebirds and their habitats in Australia and the Flyway.

The main annual summer counts are now upon us, so, to be shore, to be shore(!)...

- We'd like everyone to conduct their (primary) counts between 1 November – 28 February, so that they can be included in BirdLife Australia's National Shorebird Monitoring Program census.
- The ideal date to count is Wednesday 15 January, however being a weekday, this will not be possible for everyone.
- We're encouraging counters and count coordinators to conduct their counts during the month of January to align with the survey window for the Asian Waterbird Census to strengthen this flyway-wide dataset.



Interested in helping with shorebird monitoring?

In most cases, each designated "shorebird area" will have a nominated site coordinator, i.e. someone who schedules the surveys and coordinates a team of counters, especially at the larger sites. If you are keen on getting involved and helping with surveys, but don't know where to begin, email Plaxy Barratt (volunteer WA Shorebird Count Coordinator) at shorebirds.wa@birdlife.org.au who will put you in touch with the local survey coordinator(s) in your area.

A huge thanks to all the passionate and hard-working staff and volunteers doing excellent shorebird work across the State!

Migratory shorebirds undertake the longest known migration of any species, flying the length of the East Asian Australasian Flyway from Australian shores to the Arctic Circle to breed each year. Help count shorebirds, like this grey plover, to assist in their conservation. Photo – Georgina Steytler.

Contact

Plaxy Barratt

BirdLife Western Australia

email shorebirds.wa@birdlife.org.au

Overcoming urban fragmentation with ReWild Perth

by Sabian Wilde

Perth NRM and Birdlife Australia have joined forces to develop a new website to get Perth residents designing and creating wildlife gardens to encourage the return of native flora, fauna and important pollinators throughout the urban and peri-urban environment.

The ReWild Perth website will allow users to register their homes or a significant place for a ReWilding project. Users will then receive a localised, suggested 'action list' for native trees, plants and groundcover based on the dominant local soil type to help enhance the local ecosystem.

The project aims to educate and empower communities to actively participate in the 'rewilding' of Perth, a city within an internationally recognised biodiversity hotspot. By creating habitats friendly to native birds, insects and other animals, we can use private spaces to support larger goals such as 'green corridors', making suburbia a permeable environment for biodiversity. "We've been working with BirdLife Australia on this project for a while, and the goal is to create a website providing Perth residents the information they need for their specific location," says Luke McMillan, Perth NRM's Environment Project Manager. "We hope that our recommendations on garden design and plant choices will give people the information they need to overcome the 'where to start and how to start' questions people often stumble over.

There's overwhelming evidence people care about the environment – we just need to develop practical tools and let people put their care into action."

Once launched, the ReWild website will allow individuals and groups to see and measure their environmental impact on a project (home/park) or suburb-by-suburb level.

Before the launch, Perth NRM is looking for 'ReWild Pioneers' to help test the system, provide feedback and give their suburb a head start in the ratings. Please contact us to register your interest.

Contact

Sabian Wilde

Perth NRM

email rewild@perthnrm.com

Gardens can provide great habitat for native flora, fauna and important pollinators. ReWild Perth is encouraging Perth residents to design and create wildlife gardens for creatures such as the threatened Carnaby's cockatoo, here seen eating a banksia cone. Email rewild@perthnrm.com to help test the website before its official launch. Photo – Gary Tate.





Highly colourful, very noisy and quite conspicuous, rainbow lorikeets are a declared pest species in WA. They compete with our local birds for food and nesting sites and damage fruit crops. Assist Operation Rainbow Roost by [reporting](#) any rainbow lorikeet roosts that you know of and if you have time in February [volunteer](#) for a roost count to help estimate the population trend. Photo – Robyn Pickering.

Do you know where Rainbow Lorikeets congregate at sunset?

by Robyn Pickering

Operation Rainbow Roost is a BirdLife Western Australia project aimed at [finding roosting sites of the introduced rainbow lorikeet](#) (*Trichoglossus haematodus*) and is currently funded by Lotterywest. Rainbow lorikeets are a declared pest species in WA and are very common in Perth. Each February for the past three years, BirdLife Western Australia has coordinated citizen scientists to count rainbow lorikeets arriving at night roost sites across Perth. The counts help to estimate the overall population of the species in south-west WA and help us to understand the distribution of this pest species and how these change over time. This information is used to work out future management actions and assess their effectiveness.

Rainbow lorikeets roost together in tall trees each night when they are not breeding. The number of birds using roost sites peaks in summer after the main breeding season. Lorikeets arrive at the roost sites around sunset in noisy groups. They leave their roosts in the pre-dawn (prior to 5am during summer) and this means that early morning sightings are often distant to the roost site. Roost sites can be many kilometres from feeding sites that the lorikeets use during the day, so it is important to only report sites where you see lorikeets at sunset.

Contact

Robyn Pickering

BirdLife Western Australia

email rainbowroost@birdlife.org.au

phone 9383 7749

Ways you can help Operation Rainbow Roost:

- Contact us to report in any night-time roosts.
- Don't feed rainbow lorikeets.
- Cut back the dead leaves and stems on date or cotton palms to reduce rainbow lorikeet nesting opportunities.
- Never release a rainbow lorikeet from captivity.
- [Volunteer](#) to count a roost site in February 2020
- Attend a [January workshop](#) about the project and how to do a roost count

Bushfire enquiry

The Australian Government is seeking [public submissions](#) on the [terms of reference](#) for an inquiry into the efficacy of past and current vegetation and land management policy, practice and legislation and their effect on the intensity and frequency of bushfires and subsequent risk to property, life and the environment. Submissions are **due 28 February 2020**.



Please send us your regional report (200 words) and a photo by Wednesday 11 March 2020. Text may be edited in response to volume of submitted reports.

Citizen scientists are invited to build their skills in fauna survey and contribute to the understanding of the fauna values of the corridor in a series of workshops hosted by Rehabilitating Roe 8. In November at the first workshop participants were excited to see the tracks of a bobtail goanna. Photos – Joseph Meadham and Linda Metz.

Discovering fauna in the Roe 8 Corridor *by Joseph Meadham and Christine Allen*

On Tuesday 26 November, local volunteers donned their outdoor gear, grabbed their notepads and ID guides for a morning of learning fauna surveying techniques with Joseph Meadham from Greening Australia and Linda Metz from the City of Cockburn. This first workshop marked the start in a series of citizen science led fauna surveys, part of [Rehabilitating Roe 8](#), based in the corridor spanning 4.5km from Bibra Drive to west of Stock Road. Attendees were introduced to methods and equipment used to conduct a presence/absence fauna assessment, as well as other complimentary habitat assessments. Once confident with methods, attendees were taken to a site within the corridor, where they proceeded to set up motion sensor cameras, record

evidence of fauna scats, tracks and traces, as well as conduct habitat assessments.

Understanding the presence of animals in environments, particularly at a rehabilitating site, is vitally important in documenting biodiversity and conservation values, but also greatly assists with developing management guidelines for restoration in WA. Being able to share skills used in the field, with such enthusiastic workshop attendees added to the great success of this kick-off workshop, and hopefully over the course of this series we will be able to collect some interesting data that can feed into the concurrent fauna survey being conducted across the entire 4.5km stretch for the Rehabilitating Roe 8 management plan. We aim to build skills and capacity

within the community while sharing knowledge and revealing more about this urban wild space.

The second workshop is planned for mid-January 2020, which will involve learning how to analyse and record the captured footage. Please [email](#) to get involved.

Contact

Joseph Meadham

Greening Australia

email jmeadham@greening.org.au

Plant Identification Workshop in York, WA by Kathy Boladeras

There's much more to a flower than meets the eye. This quickly became obvious during a workshop run by two members of the Eastern Suburbs Branch of the Wildflower Society of WA last month. Members of the York Branch of the Wildflower Society of WA and the River Conservation Society participated in a day-long, very intensive session covering plant classification, naming systems, plant anatomy and a study of some common Families.

Janet Atkins and Penny Hussey shared their extensive knowledge and experience of WA flora with the group. Our tools were a razor blade for slicing through the plant material and a small hand lens. That lens revealed an astounding degree of detail and complexity in the structure of flowers ranging from daisies to bottlebrushes.

Identifying a plant is a process of elimination, using observation of the flower components: the petals, sepals, stamens, anthers, ovary, and the leaves.

The Myrtaceae and Fabaceae families were chosen for the workshop due to their predominance in WA flora. Myrtaceae include eucalypts, *Melaleuca*, *Callistemon* and *Calothamnus* (one-sided bottlebrush). The myrtle family occurs in 132 genera and 5,950 species worldwide in temperate and tropical areas. They are distinctive for their oil content, and their flowers are usually symmetrical, otherwise known in botanical language as actinomorphic.

Fabaceae is the pea family, occurring around the world in temperate and tropical regions in 440 genera and 12,000 species. In Australia we have 1,200 species of which 650 are native to WA. They are distinguished by papilionaceous (like a butterfly) flowers with petals forming a standard, wing and keel, and which are part of an inflorescence, and the fruit is a pod.

Species found in the South West include *Hardenbergia* (e.g. happy wanderer), *Hovea* (e.g. devil's pins), *Kennedia* (e.g. running postman) and *Gastrolobium* (e.g. York poison).

As plant taxonomy developed, the list of descriptive terms grew to encompass the myriad distinguishing characteristics of plants: the flower components, leaf shapes and margins, position of the ovary, leaf surfaces and how leaves are attached to the stem.

Each participant in the workshop went home with a Botanical Field Guide by Dr Geoff Burrows and Stefan Mager. This will be a very handy reference tool for us all, and if anyone else is interested in obtaining a copy, they are available through Kerry at the [Wildflower Society of WA](#).

Contact

Kathy Boladeras

York River Conservation Society
phone 0437 455 994



Janet Atkins (pictured) and Penny Hussey from the Eastern Suburbs Branch of the Wildflower Society of WA shared their extensive knowledge and experience of WA flora at a plant identification workshop in York for local native plant enthusiasts. Photo – Kathy Boladeras.

Friends of Paganoni Swamp *by Leonie Stubbs*

Our group has had an enjoyable few months working at Paganoni Swamp Reserve. Our members primarily concentrate on weed control and these activities are improved through opportunities provided by grants. For example, Perth NRM through the Federal Government's Regional Landcare Program has enabled us to target the removal of foxes and cats, to fence our seedlings

planted out in June 2019 and at the same time increase our store of native seeds collected by specialised staff from DBCA together with our members.

Our hope is that there is an increase in quenda, phascogale and reptile numbers due to the reduction in feral animals and an improvement in seedling survival rates through the exclusion of herbivores (mainly

kangaroos) from our fenced areas. We have already witnessed the amazing improvement in the Upper Swamp both in the large fenced area as well as the area to the south where there has been a dramatic increase in *Melaleuca* seedlings, *Rhagodia*, annual daisies and *Gahnia trifida* and the overall ecological health of this particular patch. We hope we'll get the same results in the south-west corner which was fenced and planted out last June.

We also added to our store of knowledge by inviting the Wildflower Society of WA to re-survey five flora survey plots which were established in 2005 as part of the development of Paganoni Swamp Reserve's herbarium. A soil-borne disease, *Phytophthora cinnamomi* (dieback), has infested the eastern boundary since the plots were established so it was of great interest to see the changes as a result of the dieback. The survey sheets were taken back to the WA Herbarium together with specimens of any species new to the plots and these will be analysed by the Wildflower Society of WA, who will advise us of the results of the survey at a later date. One small aspect that we noted in the plot we surveyed was that there appeared to be a loss of shrubs but an increase in grasses and herbs.

We have a break over the hotter months and return to our weekly Monday meetings in Autumn 2020. Please get in touch if you are interested in joining us.

Contact

Leonie Stubbs

Friends of Paganoni Swamp
email fop@westnet.com.au
phone 0437 455 994



*Sedges are very palatable to kangaroos when they are young. Fencing protects them until they can establish and grow older and coarser. We have already witnessed the amazing improvement in the Upper Swamp when plants like these coast saw-sedges (*Gahnia trifida*) are growing vigorously in the planted and fenced restoration site. Photo – Leonie Stubbs.*



SNEC handweeding the cliffs at Bennion Street. It's a great place to volunteer and assist in the sustainable development of one of our favourite places, the coastline. Photo – Rae Kolb.

Sustainable development of the coastline *by Rae Kolb*

Stirling Natural Environment Coastcare Inc (SNEC) recently received the Environmental Action Award from the WA division of the United Nations Association of Australia. The awards were held as part of the celebration of community advancement of the values and work of the United Nations' [17 sustainable development goals](#).

SNEC is a group of community volunteers with a passion to conserve, protect and promote natural resource management within the City of Stirling's 6.8km strip of coastal reserves. An innovative baseline methodology has been established to measure the ecological, economic and social effectiveness of protecting and restoring the natural environment along the coastline,

with mentoring of others who are now adopting this approach. SNEC has worked with Dr Judy Fisher to both develop the baseline approach and provide advice during its ongoing implementation with the City of Stirling. This practical process enables budgets to be targeted efficiently with measurable outcomes that can be reviewed against the baseline and further reviews. SNEC's meticulous record keeping has been a vital complement to the City's management processes.

For more than 10 years SNEC has worked in collaborative partnership with City of Stirling, our coastal land manager, and has continued to benefit from support from the Perth NRM. It has gratefully appreciated on-ground support from Conservation

Volunteers Australia and many other community and educational volunteer groups. Over recent years most large project grants have been funded through Coastwest.

The secret to success is to use the process, carry out project goals and follow up with monitoring and maintenance.

Contact

Rae Kolb

SNEC

email stirlingnaturalenvironmentcoastcare@hotmail.com

phone 9447 5996



Excitement with the first flush of winter rains, the wet season triggers many ecological functions for our wetland including the nesting and hatching of waterbird chicks. As the water rises the wetland comes alive. As summer approaches, the water warms, and algae grows, our biggest concern is whether we will have botulism at the wetland – our young are nearly adults but cannot fly and are still dependent on their parents for survival.

Volunteers Cat and Graham practising using the equipment to retrieve sick or dead waterbirds at Mary Carroll Wetland. They were required to wear the orange vest so they stood out in the water. Working on a roster, a pair of volunteers checked the wetland every day for four months during the summer of 2018–2019. Sick birds were rescued and dead and dying birds retrieved to minimise the impact of botulism. Photo – Unice Robinson.

Continued next page ...

When our wetlands turn green

by Unice Robinson

a reflection on avian botulism at Mary Carroll Wetlands

[Avian botulism](#) is a paralytic disease caused by ingesting a toxin produced by the bacterium *Clostridium botulinum*. Illness is caused by the toxin, not the bacterium itself which is present and widespread as a dormant spore in soils, wetland sediments and the gills or intestinal tracts of live, healthy animals. The conditions for spores to germinate and produce toxin are a water body with low oxygen levels and high nutrients, conditions often found when water levels lower, temperatures rise and plants (such as algal blooms) or animals



Birds can recover from botulism if caught early and nursed back to health. Unice is holding a sick Pacific black duck. It could hold its head up but could not walk, swim or fly. It was released five days later, healthy after re-hydration. Photo – Graham Robinson.

are decaying. Birds either ingest the toxin directly or consume fish or invertebrates that contain the toxin. Maggots concentrate the toxin and if they are eaten from the carcass of an infected bird, this can produce an infection cycle.

This year rainfall was low and the warm weather started earlier, causing our wetland to dry much quicker. We expect little surface water by Christmas in the wetlands and fingers crossed, if the drying time is right, no deaths from botulism will occur.

In contrast, this time last year we had a lot of water and late rains. Increasing temperatures provided the perfect conditions for the botulism bacteria to thrive. The first dead bird was found in the first week of December 2018. This triggered me to go through the following steps to activate a plan for the summer:

1. Call out for volunteers through Facebook pages [AGLG](#), [Friends of Mary Carroll](#) and the [City of Gosnells](#).
2. Co-ordinate a training morning. This provides my volunteers with clear guidelines on keeping themselves safe, allows them to learn what and where to look for the birds, and how to remove them safely. This informal forum also allows me to gain an understanding of what my resources will be like over the holiday season.
3. Collaborate with our land manager, the City of Gosnells, to organise the supply of bags and gloves and agree on which days they will collect and dispose of the bird fatalities. A minimum of two days per week is usually required.
4. Compile a roster for 10 volunteers. We need two volunteers daily over summer, one wading and one land-based to act as spotter and bagger.



5. Collate botulism backpacks containing gloves, whistle, personal alarm, hand sanitiser, cool bag, phone and bags to collect deceased birds. A crab scoop net goes with the person wading in the water.

The Friends of Mary Carroll Wetland filled in when somebody could not make their shift which was fantastic as checks went on for four months.

Every year is slightly different and what a learning curve we have been on at Mary Carroll Wetland. Deaths from botulism need to be confirmed through formal testing. Reports were sent to the Department of Primary Industries and Regional Development (DPIRD) and tests on a subsample of birds in 2018 confirmed the deaths were caused by the botulism toxin. We were given an overwhelming amount of information on how to possibly prevent this occurring. As volunteers we felt out of our depth and have now reached out and passed the information on to the City of Gosnells.

Continued next page ...

Avian botulism is not a reportable disease, however mass bird mortalities (more than three) should be investigated for other diseases that also cause bird deaths. Contact the Wildlife Health Australia WA coordinators [to report mass bird deaths](#). Depending on the situation, carcasses may be collected and tested at the laboratory.

Last year's outbreak of botulism cost us over 300 birds – mainly Pacific black ducks and Eurasian coots, but all our waterbird population species recorded either sick or dead birds. Pacific black ducks were our species with highest numbers in the wetland other than Australian white ibis, and this year we had only five nesting pairs. We also found dead rats, sick turtles and one week, masses of dragonfly larvae. On further enquiry to the Insect group of WA, it was advised that dragonfly larvae were probably affected as well, which in turn could have affected our birds that ate them. This knowledge is wonderful, we are now owners of pool nets so should this happen again they will be removed from the water.

Infected carcasses cannot go into general waste, they must be incinerated to stop the spread of the toxin. We have found that there is a lack of awareness and operational process around this topic and hope this is something that is addressed in the future.

Sick birds were cared for by [Kanyana, Darling Range Wildlife Centre](#) and the [Friends of Mary Carroll Wetland](#). Because other wetlands experienced possible botulism outbreaks, wildlife hospitals were at full capacity but always took birds and attempted to save them. We noted that if birds could hold their head up, they had a greater chance of survival and often could be released after five days. Release to an unaffected area is crucial as birds can be reinfected even after recovery. For us as volunteers, releasing survivors into healthy wetlands was a highlight.

Our volunteers going out each morning for two hours was amazing, particularly since the peak time is during the holiday period: no sleep-ins for us. There was a great amount of sadness and frustration that all we could do most of the time was to collect dead birds and stress at the urgency of getting help when we found a sick waterbird that could survive.

Please dry quickly our wetland, we look forward to watching you become abuzz every year, when you show off your vibrancy and biodiversity with the rains.

Contact

Unice Robinson

Friends of Mary Carroll Wetlands
email unicerobinson@gmail.com



Wildlife first aid

To increase survival of sick, injured or orphaned wildlife seek urgent help from an [experienced wildlife rehabilitator](#) or vet.

- Only attempt a rescue if it is safe for you and the animal to do so. Injured wildlife will be frightened and stressed and can be very dangerous.
- Contain the animal securely so it doesn't further injure itself or you.
- Use a towel or something similar to place over the animal and gently pick it up. Place in an appropriately sized, ventilated box.
- Keep WARM in the DARK in a QUIET place.
- Have as little contact as possible.
- DO NOT offer food or water.
- Check the pouch of any dead marsupial for a living joey.
- Wash your hands after handling wildlife.
- Record the location, time and condition of the animal.

SERCUL delivering and supporting urban landcare



by Amy Krupa

The South East Regional Centre for Urban Landcare (SERCUL) was formed in 2003 as an independent natural resource management group in Beckenham, Western Australia. SERCUL brings together the community, business and government to develop and implement projects that improve the health of our waterways and other ecosystems. This is achieved through an integrated approach to catchment management.

SERCUL, one of four Perth sub-regional landcare groups, operates within the metropolitan and peri-urban areas of the Swan-Canning Catchment over 13 Local Government areas. The area covered takes in most of the southern and eastern suburbs of Perth and includes Dyarguu (the Canning River), the Southern-Wungong River and parts of Derbarl Yerrigan (the Swan River).

SERCUL comprises an Executive Committee made up of community members and 26 staff that work under the following program areas:

- Environmental Education
- Community Capacity
- Landcare and Restoration
- Monitoring and Research

Administration and finance staff support all of these program areas and community groups from our region.



Participants at a saltmarsh vegetation rehabilitation workshop at Adenia Lagoon, Canning River Regional Park, hosted by SERCUL staff. Photo – SERCUL.

Over the last year SERCUL staff implemented over 25 individual projects in these program areas. The [Phosphorus Awareness Project](#) is our key environmental education project that engaged over 16,000 people in learning how to protect our waterways and reduce nutrients entering them. In community capacity we had 73 volunteers

participate in our [volunteer program](#) and supported [39 community groups](#) in a variety of ways. The [landcare and restoration](#) program area had 86 community and school on-ground restoration days with over 3,100 people contributing 17,351 hours or \$800,177 worth of volunteering.

Continued next page ...

They also helped to plant 155,524 seedlings. In the [monitoring and research](#) program area, 599 water quality samples were collected during 48 sampling events and saltmarsh mosquito management research was conducted.

The projects undertaken in these four program areas would not have been possible without financial and in-kind contributions from Commonwealth, State and local government agencies and funding programs and income generated by SERCUL's Environmental Services team.

[Environmental Services](#) is the business arm of SERCUL with contracts undertaken on a fee-for-service basis. The specific intent of this delivery model is to generate income to support community groups and capacity in our region. It is recognised that in an ever tightening and diminishing funding environment there is limited external financial support provided to this area. Environmental Services undertaken by SERCUL are in the areas of monitoring and research, environmental education and landcare and restoration, with most proceeds coming through contracts for weed control, bushland maintenance and revegetation for a wide range of clients.

SERCUL has recently changed its constitution and are seeking community groups from our [region](#) to become full members of SERCUL.



Community group members at SERCUL's annual volunteer celebration enjoying a bush tucker themed afternoon tea. Photo – SERCUL.

By becoming a member, community groups can take advantage of a range of support and services from SERCUL staff members including auspicing of grants, access to equipment, technical advice, financial management, bookkeeping, website hosting and public liability insurance. There will also be quarterly forums where community group members can come together to network and gain skills and knowledge about relevant topics. Individuals can become associate members but will not have voting rights at the AGM. Both [full and associate memberships](#) to SERCUL are free.



Congratulations to Dan Friesen, SERCUL's Community and Grants Manager who won the Austcover Young Landcare Leader Award at the 2019 Landcare Awards. Photo – Matt Jelonek.

Contact

Amy Krupa

SERCUL

email amykrupa@sercul.org.au


phone 9458 5664

web www.sercul.org.au


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

Recurrent activities


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


Saturdays 8am–9am

 **Guided walks** with Friends of **Koondoola**. Second Saturday of each month. Meet Gate 2, corner Koondoola and Burbridge Ave, Alexander Heights. 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


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 8am–10am

 **Bushcare activities** with Swan Estuary Reserves Action Group at **Alfred Cove** Nature Reserve. Fourth Saturday of each month. Contact: Cathie 9339 2439 oneillc@westnet.com.au


Saturdays 8.30am–10.30am

 **Bushcare activities** with Swan Estuary Reserves Action Group at **Pelican Point**, Crawley. First Saturday of each month. Contact: Cathie 9339 2439 oneillc@westnet.com.au


Saturdays 9am–11am

 **Bushcare activities** with the Friends of **Booragoon and Blue Gum Lakes**. First Saturday of each month. Meet at the boardwalk into Booragoon Lake on Aldridge Rd, Booragoon. Contact: Mary-Ann 0456 357 799 molly.olly1@bigpond.com


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


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

Saturdays and Tuesdays 9am–12 noon

 **Bushcare activities** with Friends of **Yellagonga** Regional Park. Nursery and project work each Saturday and Tuesday morning, regular workdays on the last Saturday of each month. Contact: friendsofyellagonga@bigpond.com

Saturdays, Sundays 9am–12 noon

 **Koala maintenance** at Yanchep National Park. Contact: Ciara 9303 7771.


Sundays 7am

 **Bushcare** every Sunday with Friends of **Point Peron**. Look for the signs Safety Bay Rd or Memorial Dr Rockingham. Bring your own gloves, water and dress for the bush. Contact: James 0455 157 547 jgmumme@live.com.au


Sundays 8am–10am

 **Bushcare activities** every Sunday with Friends of **Shenton Park** Bushland. Contact: Dani 0420 334 601 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


Sundays 9am–11am

 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

Sundays 9am–11am

 **Bushcare activities** with **Cottesloe** Coastcare. First Sunday of each month. Contact: Robyn 9384 7668, info@cottesloecoastcare.org website <http://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


Sundays 9am

 **Bushcare activities** with the Friends of **Samphire Cove** Nature Reserve, Halls Head. Last Sunday of each month. Contact: Barry 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 bibbulman@hotmail.com 0402 243 351

Sundays 1pm–4pm

 WA Gould League's **Herdsmen Lake** Wildlife Centre holds **family nature** days. First Sunday of each month. \$5/\$20 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

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.

Recurrent activities ... *continued*


Mondays 7am–8am

 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: 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: Cathie 93392439 oneillc@westnet.com.au

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


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


Mondays, Wednesdays, Fridays 9am–12 noon

 **Bushcare activities** and wetlands walk trail maintenance with **Yanchep** National Park Volunteers. Contact: Ciara 9303 7771

Tuesdays 7am–9am

 **Bushcare activities** with Swan Estuary Reserves Action Group at **Alfred Cove** Nature Reserve each Tuesday. Contact: Margaret 9330 1791

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 or [facebook](https://www.facebook.com/foapbg)


Tuesdays and Thursdays, 8am–10am

 **Coastcare activities** with **Stirling** Natural Environment CoastCare (SNEC) resume 28 January 2020. Contact: Sheldon 0488 190 651 Rae 0419 191 710 [website](http://www.stirlingcoastcare.org.au)


Wednesdays

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


Wednesdays and Saturdays 7.30am–9.30am

 **Bushcare activities** with Bicton Environmental Action Group. Planting, weeding and foreshore clean-up. Various dates. Contact: Peter 0439 467 855 pneesham1@hotmail.com [website](http://www.bictonenvironmental.org.au)


Thursdays 7.30am–9.30am and 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 8am–9am

 **Bushcare activities** every Thursday with **Byford** Enviro-Link. Contact: Kristy 9526 0199


Thursdays, Saturdays and Sundays 9am

 **Morning walks** with Friends of **Bold Park** Bushland Volunteer Guides. Various dates. Contact: 9480 3996 friendsbp@bgsa.wa.gov.au [website](http://www.bgsa.wa.gov.au)


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 info@kanyanawildlife.org.au [website](http://www.kanyanawildlife.org.au)

Thursdays and Fridays 9am–4pm

 **Wetland, Bushcare** and **nursery** activities with The **Wetlands** Centre, **Cockburn**. Contact: Denise 0412 081 540 community@thewetlandscentre.org.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: Christine 0468 676 933 murdoch.branch@wildflowersociety.org.au [Facebook](https://www.facebook.com/murdoch.branch@wildflowersociety.org.au)

Fridays 8am

 **Bushcare activities** at **Piney Lakes**. Volunteers need a site induction. Contact: Jacklyn.kelly@melville.wa.gov.au


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


Fridays 7.30pm

 **Talks** with **Eastern Hills** Branch of the **Wildflower Society**. Fourth Friday each month, Octagonal Hall, 52 McGlewd Rd, Glen Forrest. \$2 entry, visitors welcome. Contact: eastern.hills.branch@wildflowersocietywa.org.au, [Facebook](https://www.facebook.com/eastern.hills.branch@wildflowersocietywa.org.au) [website](http://www.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 info@kanyanawildlife.org.au [website](http://www.kanyanawildlife.org.au)

Check calendar

 **BirdLife** holds regular talks and excursions each month. [View](http://www.birdlife.org.au) their calendar.

Check calendar

 **WA Naturalists** hold regular **excursions**, **photo groups** and **campouts** each month. [View](http://www.wanaturalists.org.au) their calendar for the activities of the four branches.

Check calendar

 **Wildflower Society** of WA holds regular talks. [View](http://www.wildflowersociety.org.au) their calendar.

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.

January


2 Thursday & 5 Sunday 7.30am

 **Birdwalk, Salter Point** with BirdLife WA. Meet at Curtin University Boat Shed, Elderfield Rd, Waterford for a 2km guided walk. [BirdLife](#).

9 Thursday 5pm–6pm

 **Operation Rainbow Roost** workshop on how to do a rainbow lorikeet roost count, **Joondalup Library**, 102 Boas St, Joondalup. Contact rainbowroost@birdlife.org.au


14 Tuesday 8.45am

 **Birdwalk, Penguin Island** with BirdLife WA. Meet at Mersey Point jetty for the 9am ferry. [BirdLife](#).


16 Thursday 5pm–6pm

 **Operation Rainbow Roost** workshop on how to do a rainbow lorikeet roost count, Medina Hall, 7 Pace Rd, Medina. Contact: rainbowroost@birdlife.org.au.


19 Sunday 7.30am

 **Birdwalk, Lake Joondalup** with BirdLife WA. Meet at Neil Hawkins Park in the car park at the end of Boas Ave, Joondalup. [BirdLife](#).

22 Wednesday

 **Registrations open** for the Great Cocky Count. See Highlights.

26 Sunday 7.30am

 **Birdwalk, Garvey Park** with BirdLife WA. Meet at car park near the rowing club, Fauntleroy Ave, Ascot. [BirdLife](#).


Please [send us](#) your January, February, March events by **Wednesday 11 March 2020**.

Registration/contact details


Birdlife WA All walks are free, no need to book. Call 9383 7749 Monday–Friday 9.30am–12.30pm.

February


8 Saturday 6.30pm–8.30pm

 **Bat Night Stalk** at the **Roe 8 corridor**. A night-time adventure seeking bats and other nocturnal night life. Free event, BYO torch. Email lmetz@cockburn.wa.gov.au to register your interest.


13 Thursday 7.30am

 **Birdwalk, Baigup Wetlands** with BirdLife WA. Meet at car park near the rowing club, Milne St, Bayswater. [BirdLife](#).

15 Saturday 7.30am

 **Birdwalk, Woodman Point** with BirdLife WA. Meet at end car park Woodman Point View, Coogee. [BirdLife](#).


22 Saturday 9am

 **Birdwalk, Yanchep National Park** with BirdLife WA. Meet at Lakeview picnic area near the covered barbeque area and toilet block. [Park entry fees](#) apply. [BirdLife](#).

22–23 Saturday–Sunday


 Garden Clubs and Societies [Plant Fair](#), South Perth Community Centre.

29 Saturday 8am


 **Birdwalk, Wellard Wetlands** with BirdLife WA. Meet at car park Bertenshaw Rd, Baldivis. [BirdLife](#).

March

8 Sunday 8am


 **Birdwalk, Bibra Lake** with BirdLife WA. Meet at southern car park on Progress Dr near Gwilliam Dr, Bibra Lake. [BirdLife](#).

14 Saturday 7.30am


 **Birdwalk, Lake Gwelup** with BirdLife WA. Meet at end car park corner Stoneman St and Huntriss Rd, Gwelup. [BirdLife](#).




14–15 Saturday–Sunday

 **Blue Sky Festival, Mundaring**. Family orientated, local, minimal waste, [fun event](#) based on environmental themes and networking.


17 Tuesday 7.30am

 **Birdwalk, Blackwall Reach** with BirdLife WA. Meet at junction of Kent St and Blackwall Reach Pde, Bicton. [BirdLife](#).

21 Saturday 8am

 **Birdwalk, Yangebup Lake** with BirdLife WA. Meet at the end of Parkes St, Yangebup. [BirdLife](#).

28 Saturday 7.30am

 **Birdwalk, Herdsman Lake** with BirdLife WA. Meet at the Maurie Hamer car park near Heron Pl, Churchlands. [BirdLife](#).



You might be surprised by what you encounter on a bat night stalk, like this Gould's wattled bat. Photo – Joe Tonga.

Activities Key



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

Highlights

1 November 2019 – 28 February 2020

National Shorebird Monitoring Program take part in the annual survey of summer shorebirds, [email](#) to be allocated a site.

6 January–15 February

Nearer to Nature [Sizzling Summer](#) school holiday program.

17–23 January 9.45am–12.30pm

Consultation **workshops** in [Geraldton](#), [Perth](#), [Bruce Rock](#), [Katanning](#) and [Albany](#) to support community input on **Western Australia's Native Vegetation** Issues paper.

21–23 January

Catchments, Corridors and Coasts This three-day [workshop](#) provides a snapshot of environmental education in WA.

31 January 9am–4pm

2020 WA Wetland Management Conference [Wetlands and Biodiversity](#), new venue – Bendat Community and Parent Centre, 36 Dodd St, Wembley.

6–7 March

Changing Your World [Conference and Fair](#) where aspiration, innovation and inspiration come together for a sustainable future, various locations throughout the City of Canning.



13–14 March

WA Landcare Network AGM and [network gathering](#): valuing our local champions, indigenous collaboration and youth in landcare, Roelands Village.

3 April

Earth Day Expo for primary school classes. [Book](#) for full day excursion on how to generate sustainable change, Canning River Eco Education Centre.

5 April

The Great Cocky Count is an annual citizen science census of black cockatoos (Carnaby's cockatoo, Baudin's cockatoo and forest red-tailed black cockatoo) in the south-west of WA. Taking part is simple. Registrations will be open between 22 January–15 March. Go [here](#) after January 22 or [email](#) now to ask to go on our Cocky Notes list (you'll then get an email when registrations open). Please tell us about roost sites you know of at the same email address.

5–9 April

Australasian Seed Science [conference](#), Australian National Botanic Gardens, Canberra.



Coastwest 2020/21 provides grants of \$5,000–\$50,000 to support coastal land managers and community organisations to rehabilitate, restore and enhance the Western Australian coast.

[Applications](#) are likely to **open in February 2020**.

Water Corporation [partnerships](#), contact them to discuss environmental objectives for your area.

NACC Biodiversity Community Grants up to \$5,000 for community groups working to improve the management and protection of threatened malleefowl and black-flanked rock wallaby in the Northern Agricultural Region. [Applications](#) assessed on a first in, first served basis.

Foundation for National Parks and Wildlife Community Conservation Grants for field and educational projects. [Applications](#) close **31 January 2020**.

Churchill Fellowship offers the opportunity to travel overseas to investigate a topic or issue you are passionate about. [Applications](#) open **1 February** and close **30 April 2020**.

Council of Australasian Weed Societies (CAWS) travel awards to attend conferences or short stay study tours. [Applications](#) close **1 March 2020**.

Weeds Society of WA travel award for attending conferences or forums. [Applications](#) close **20 March 2020**.

Local government community grants These local governments provide small grants to their communities which fund environmental groups' management and restorations projects. Eligibility varies. [Armadale](#) opens **March 2020**, [Belmont](#) closes **28 February 2020**, [Cambridge](#) opens **January 2020**, [Canning](#) closes **15 March 2020**,

[Cockburn](#) closes **31 March 2020**, [Melville](#) open year round, [Mosman Park](#) closes **6 February 2020**, [Subiaco](#) closes **31 March 2020**, [Swan](#) opens **January** and closes **March 2020**, [Vincent](#) closes **29 March 2020**, [Wanneroo](#) opens **29 January** and closes **10 March 2020**.

Impact 100 WA provides large \$100,000 grants to charities that will make a difference to the WA community. [Applications](#) open **March 2020**.

Albany Community Foundation provides [funding](#) for events, projects or programs that help make Albany a better place.

Bankwest Easy Grants each month 40 community groups are shortlisted for a \$1,000 [Easy Grant](#) that the public votes on.

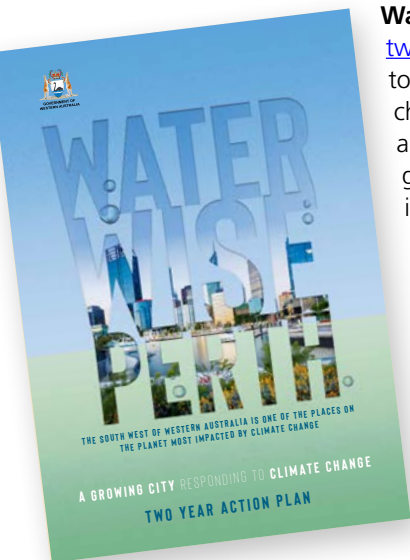
Youth Engagement Grants for projects that engage young people (10–18 years old) in creative ways and help achieve positive outcomes. [Applications](#) close **30 June 2020**.



WA Wetland Management Conference provides an exchange of information and ideas from community, government and the private sector involved in wetland management. Photo – Denise Crosbie.

New publications

Australia's Strategy for Nature 2019–2030: Australia's national [biodiversity strategy and action plan](#). Australia's Strategy for Nature 2019-2030 is the overarching framework for all national, state and territory and local strategies, legislation, policies and actions that target nature. The strategy builds on previous and existing work, and is underpinned by science. However, it also takes an approach that is new and very different from that taken previously. It moves away from a purely protection-based approach and strives to incorporate adaptation, resilience and natural resource management in our cities, rural and natural environments, on land and at sea.

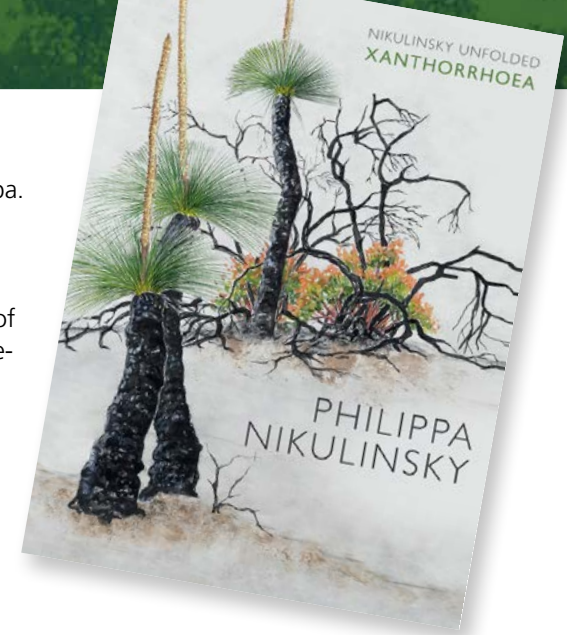


Waterwise Perth Action Plan The [two-year plan](#) sets the groundwork to respond to the impacts of climate change on Perth's water supplies and meet the water needs for a growing population. The actions in the plan are set out at different scales; from household to precinct, suburb and city scale. It also includes actions Government will take as a driver and leader for change. It establishes a solid foundation for the successive plans needed to achieve the action plan's 2030 targets.

Nikulinsky Naturally: An Artist's Life Snell, Ted (ed) illustrated by Philippa

Nikulinsky Fremantle Press, 2019. \$39.95. This book celebrates Philippa's extraordinary career from the mid-1970s to today. Specialising in plants from harsh environments, especially the Great Sandy Desert, Philippa's magnificent illustrations have been included in many books and magazines.

Nikulinsky Unfolded: Xanthorrhoea. Nikulinsky, Philippa. Fremantle Press 2019 \$35. In an artwork painted on a continuous piece of Japanese kozo paper, Philippa depicts the regeneration process of the grass tree (*Xanthorrhoea thorntonii*). It unfolds through time to show the elegance of unburnt leaves, and in contrast the stark drama of bushfire-wrought sand dunes. This concertina book unfolds fully to a length of over four metres, making it a unique and surprising gift for lovers of art and nature.



Apps



CAUL Urban Wildlife



Many West Australians are familiar with the distinctive call of the [motorbike frog](#). As the name suggests, the frog sounds like a motorbike changing gears. Next time you hear this sound, you can contribute to meaningful science by recording data into the free [CAUL Urban Wildlife app](#) developed by the Clean Air and Urban Landscapes (CAUL) Hub. The app enables citizen scientists in Australian cities to monitor motorbike frogs (and other frogs) to help promote conservation efforts. It also includes modules on flying-foxes, beneficial insects and possums and gliders.

Butterflies Australia is a [citizen science project](#) that aims to get everybody looking at butterflies and recording their sightings. A free

phone app (iOS and Android) and website will let you send your sightings to enable analysis of trends in butterfly numbers and distributions. The apps also include a free digital field guide, and the website will have a feature that lets you explore the butterfly data in many ways on a handy map.

Website watch

Western WEB volunteer experience [Facebook](#) page lists opportunities to assist in wildlife ecology and behaviour research.

Understorey, a weekly environment community radio program on [RTRFM](#) broadcast on Wednesday mornings at 10.30am, is now podcasting on everyone's favourite podcast apps. Meanwhile our 10 years of programs about our shared precious environment with its challenges and solutions through interviews and research is also [online](#).





Photo – Wayne Eddy.

Rainbow bee-eaters *by Julia Cullity*

With magnificent bright, multicoloured plumage, the rainbow bee-eater is a beautiful summer visitor to Perth's bushlands. While ranging throughout Australia, our populations migrate to breed in our sandy soils after overwintering in northern Australia, Papua New Guinea and Indonesia.

Rainbow bee-eaters nest in the ground. They dig tunnels in the sand up to a metre long leading to a nesting chamber, which is surprisingly bare of nesting material. They are good housekeepers who continually sweep their nests leaving a fan of freshly excavated soil at the entrance to an active nest. It's important not to walk too close to the entrance as tunnels can collapse in sandy soil.

Rainbow bee-eaters are distinctive in flight with streamers that extend from their tail, and their bright orange underwings, tipped with black, which create a stubby triangular wing. Males have longer tail streamers than females and younger birds are duller and greener and lack streamers. Keep an ear out for their [rhythmic high-pitched 'prrrp prrrp' call](#).

They are aerial hunters always on the lookout for flying insects, often from a high perch. Smaller insects are swallowed quickly but larger prey must be subdued before swallowing, bees and wasps are rubbed against the perch to remove stings and venom glands. This bird was carrying this dragonfly for a long time, wary and waiting for an opportunity to fly to its nest without being seen. For bird watchers this provides an opportunity to get a good look and maybe a photo or two.