

bushland news



Issue 109 **Autumn** 2019 *Time of Djeran and Makuru in the Noongar calendar.*

Connecting Urban
Communities with Nature:
**a new Birdlife
initiative**



Photo – Georgina Steytler



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.

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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

Winter Bushland News

Winter *Bushland News* contributions should be sent to [Urban Nature](#) by **10 June 2019**.

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.

Connecting Urban Communities with Nature: a new BirdLife initiative *by Vicki Stokes*

Generous support from the Western Australian Government through Lotterywest has given wings to a BirdLife Australia initiative to conserve and enhance biodiversity in Perth. During the next three years, the \$576,000 initiative will see BirdLife work with the community and project partners to build healthy habitats for the people of Perth and the wildlife we share it with. It is well known that connecting with nature benefits human health and creating green space builds healthy communities. When done right, these green spaces can benefit our birds and native wildlife too.

In partnership with Perth NRM we aspire to engage Perth residents to help 'rewild Perth' and build an active community network of information sharing and action to support local biodiversity in our backyards. The trees and shrubs in gardens and verges provide important connections – they are the homes and the highways that allow birds and other wildlife to survive in our suburbs. Even small changes such as planting a native tree or shrub or putting in a bird bath can have a big impact, particularly when it is a collective effort of many residents. We want residents to be able to look beyond their balcony or back fence and see a network of habitat being created down the street, within their neighbourhood, across their suburb and throughout the city.

The initiative isn't just about backyards. BirdLife and the cities of Cockburn and Joondalup plan to further increase habitat availability and connections for birds by creating diverse linkages of suitable native vegetation between parks, reserves and wetlands. These areas will be leading examples of approaches that other councils can adopt to safeguard biodiversity.



Minister Dawson (Minister for Environment) presenting the Lotterywest grant certificate to BirdLife Australia's Tegan Douglas, who will be coordinating the new project, Connecting Urban Communities with Nature. Photo – Adam Peck.

Cover photo: Male golden whistler, one of the insect-eating birds that are declining across Perth. Photo – Georgina Steytler.

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Grey fantail, one of Perth's residents that like many birds need trees and shrubs for shelter, to nest and feed, and to move around. Photo – Georgina Steytler

Why help rewild Perth?

Western Australia has some of the most unique and diverse wildflowers in the world. Having locally adapted plant varieties in our backyards, verges and local parks means they are more likely to survive and flourish, they need less water and nutrients, and they support the community of insects, reptiles, birds and mammals that call Perth home. They are also visually stunning and create much needed shade and shelter around our homes.

There are many benefits to attracting birds in our backyards. Silvereyes and fairy-wrens eat insects and keep their numbers in check. Honeyeaters feed on nectar and pollinate our flowers, fruit trees and garden vegetables. Parrots eat and disperse seeds. Birds of prey and owls control numbers of rodents. Plus it is rewarding to share our environment with birds – seeing honeyeaters regularly drink from the bird bath you put in, and watching fantails and silvereyes build nests and raise their families in the shrubs you planted.

Why is this project important?

Urban areas pose considerable threats to our native plants and animals. So much native vegetation has been cleared, feral species have moved in and compete for dwindling resources, and pollutants are detrimental for wildlife health. As a result much of our wildlife is threatened, lost from or declining across our city.

Native parrots and small bush birds are particularly affected. Western rosellas are now a rare sight, red-capped parrots and many insectivorous birds such as thornbills and whistlers are less common, and the endangered Carnaby's cockatoo is finding it harder every year to find enough food.

Perth, like most large cities in Australia, is an area of high biodiversity, so urban communities have a real opportunity to value and help keep this biodiversity in our backyards, reserves, parks and wetlands for all to enjoy. Please [email us](#) if you would like to participate or learn more.

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Urban Nature Update

by Julia Cullity and Grazyna Paczkowska

Urban Nature promotes the use of local provenance seed collection as described in the [Guidelines for sourcing material for restoration and revegetation in the Perth Hills and on the Swan Coastal Plain](#) to maintain the local genetic character of plant communities and species, while also ensuring good levels of genetic diversity in restoration plantings. Provenance seed collection and identification to sub-species is particularly important when planting widespread species with numerous sub-species such as [Conostylis aculeata](#) (10 sub-species), [Acacia saligna](#) (four sub-species), [A. lasiocarpa](#) (five sub-species) or [Calothamnus quadrifidus](#) (eight sub-species). Our feature story on the discovery of a [new species of Acacia](#) in the *Acacia pulchella* group demonstrates that our understanding of local plant variation is constantly developing with many species still poorly-known and not fully described.

Summer has seen the Urban Nature team involved in seed collecting for bushland restoration. We have assisted the Friends of Point Peron with a seed collecting workshop covering the basics in recognising ripe seed and using low technology techniques to safely store the seed prior to direct seeding this winter. The Friends of Paganoni Swamp have also been collecting seed with the assistance of the Threatened Flora Seed Centre and Urban Nature. The collected material is transferred to the centre for cleaning and drying and the seed is then stored in temperature and humidity-controlled area until it is used for restoration projects.

Urban Nature was invited to take part in the Perth NRM TEC Travelling Seminar. As most of you know, TEC stands for [threatened ecological communities](#) and are 'groups of native plants, animals and other organisms that naturally occur together and interact in a unique habitat' that are at the risk of extinction. The management of TECs are more complex than management of a single species as it involves looking at the whole ecosystem (living and non-living community components) and the maintenance of their interactions, links and processes. So, it was good to jump on the bus and visit a few of the projects at sites such as Ellen Brook Nature Reserve, Talbot Road Nature Reserve, and the Greater Brixton Street Wetlands all funded by Perth NRM's [Living Landscapes](#), and to share knowledge and experiences with land managers from around Perth working to protect these sites.

Our attendance at the Island Arks Symposium, the South West Group's Friends Group Expo and WA Local Government Association's [Weed Management Event](#) has allowed us to present and kept us up-to-date on local and international research and management projects. It is inspiring to see the level of interest from community, local and state government and academia in understanding and managing our natural areas.



Friends of Paganoni, Rosalie Barritt and Erica Dearle (centre) learning the ins and outs of seed cleaning from Andrew Crawford, research scientist at the Threatened Flora Seed Centre, with Anne Monaghan potting seedlings in the background. Getting the right sieve size is just the beginning of the rather long process that finishes with almost pure seed. Photo – Grazyna Paczkowska.

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Julia Cullity and James Mumme from the Friends of Point Peron collecting seed from Rottne Island pine (*Callitris preissii*). A sample of the fruit was cut open to check the seed; the plump, creamy-white seed shows that it is ripe. Photos- Isabella Streckhardt.



The Friends of Point Peron were introduced to seed collecting with a workshop at Point Peron. After covering the theory, we handed out the cotton seed collecting bags and secateurs and fanned out into the bushland to collect some available seed. Photo- Isabella Streckhardt.



A final stop at the Greater Brixton Street Wetland and a chance for a group photo against the background of endangered TEC, *Corymbia calophylla* – *Kingia australis* woodlands on heavy soils. Elder Neville Collard (right) shared with us traditional ecological knowledge of the Perth Region. Photo – Perth NRM.

Erythrina crista-galli, cockspur coral tree, an invasive problem of the Canning River Regional Park

By John Snowden

Problem

Cockspur coral tree, *Erythrina crista-galli*, (crybaby tree, fireman's cap) is a potential major weed in waterways and floodplain areas. Originating from Argentina, eastern Brazil, Bolivia, Paraguay and Uruguay, it has been cultivated in Australia as an ornamental plant. It has become an [invasive species in wetlands and along waterways in coastal areas](#) of New South Wales from Sydney to southern Queensland and occasionally naturalised in northern Queensland.

Description

Cockspur coral tree is a deciduous shrub or tree that can grow up to 10m high. It flowers in spring to summer and has showy racemes of scarlet flowers (20–40 flowers on a raceme 8–30cm long) often occurring in clusters of three. Cockspur coral trees have cone-shape prickles on the trunks, branches and stems. Leaves are made up of three leaflets 3–6cm long and 2–5cm wide. Sickle-shaped pods 8–22cm long contain 3–12 brown to black, long-lived seeds. Infestations become more obvious during flowering and lose their leaves completely over winter.



The first located cockspur coral tree on the Canning River in Ferndale. Its brilliant red, unusually shaped flowers sounded the alarm. After a positive identification this became the first record of it naturalising as a weed in WA. Aware of this species' impacts on the wetlands of eastern Australia, the Parks and Wildlife Service and SERCUL have moved to control this weed and eradicate it from the Canning River. Photo – John Snowden.

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First recorded in WA on the Canning River

Cockspur coral tree was first located on the Canning River within Canning River Regional Park in January 2018 while undertaking weed control of taro (*Colocasia esculenta*). We observed an unusual tree species with brilliant red flowers growing next to the riverbank in Ferndale. This tree was approximately 3m tall and 5m wide. Samples were collected and photos taken to determine a positive identification. A further two trees of the same species were also found up and downstream from the original sighting. These other small trees were up to 2m tall, flowering with numerous seed pods.

Identification

Images of the unknown species were sent to Department of Biodiversity, Conservation and Attractions' (DBCA) Botanist Greg Keighery who identified it as a new weed record for WA. Unlike our other weedy *Erythrina*, *E.x sykesii* which is a sterile hybrid, cockspur coral tree sets lots of seed. Greg's advice was – since it is in a wetland – and there are few plants, eradicating it would be a very good option.

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Control

After researching recommended control methods in NSW and Queensland, the WA Parks and Wildlife Service and [SERCUL](#) chose the basal bark technique using diesel and triclopyr. Weeds were controlled in February 2018 with all seed pods removed and bagged on the day. A fourth tree was also located and treated. Subsequent site inspections determined that three of the trees are now dead. The larger of the trees was mostly dead, there was just one branch overhanging the river still alive.

This year a further 10 trees have been discovered along the Canning River from Ferndale to Thornlie with the largest being 5m tall and a trunk 40cm in diameter. They were controlled in February using the basal bark technique.

Our weed control contractor has noted a cockspur coral tree showing signs of roots forming where the branches were in contact with the ground or hanging in the river with sediment building up around the branches forming small islands. The branches easily break off and this could result in branches floating downriver and ending up on the riverbank starting off a new tree.

Conclusion

Cockspur coral tree has the potential to become a major weed in the Canning River and other WA rivers and wetlands. This weed tree is a high priority for DBCA's Riverpark Unit to monitor and control within Canning River Regional Park and the surrounding river course and flood plain.



*Cockspur coral tree has characteristic features that distinguish it from the other weedy coral tree *Erythrina x sykesii* that is often planted in gardens and as a street tree. The brilliant, red pea flower 4–5cm long has a large, standard petal that curves backwards when the flowers are fully open, two inconspicuous side petals and a central keel enclosing the stamens. The calyx at the base of the flower is rounded, bright red and shiny. The racemes or flower spikes are long, 8–30cm, and contain between 20–40 flowers. The leaves are made up of three leaflets, with oval, tapered leaflets, compared to the spear-shaped leaflets of *E. x sykesii*. Thorns are present on trunks, branches and stems of both species. Photo – John Snowden.*



Rehabilitating **Roe 8** – a vision of restoration

The [City of Cockburn](#) has begun implementing the Rehabilitating Roe 8 project on behalf of the community and State Government.

The 'Roe 8' extension of Roe Highway was a high-profile project for Western Australia that resulted in the removal of approximately 18 hectares of native vegetation in Bibra Lake, North Lake and Coolbellup prior to the suspension of the project in March 2017.

The Rehabilitating Roe 8 Advisory Committee provides input and guidance to all aspects of the project from choosing planting locations to the annual review, evaluation and adaptation of the management plan. It is made up of 15 members from the major stakeholder groups. From left, Tim Fisher (DBCA), Gail Beck (South West Aboriginal Land and Sea Council), Lou Corteen (Cockburn Community Wildlife Corridor), Angela Jakob (Coolbellup Community Association), Catherine Baudains (Australian Association of Environmental Educators), Ted Griffin (community representative), Guy Boggs (Western Australian Biodiversity Science Institute), Rachel Standish (Perth Urban Restoration Scientific Advisory Committee), Jozina DeRuiter (Hamilton Hill Community Group), Kim Dravnieks (community representative), Diana Corbyn (Wildflower Society), Robert Dunn (Native Arc), Tim Barling (Conservation Council WA). Absent: Heidi Mippy (Cockburn Aboriginal Reference Group), Felicity Bairstow (Wetlands Centre Cockburn). Photo – Linda Metz.

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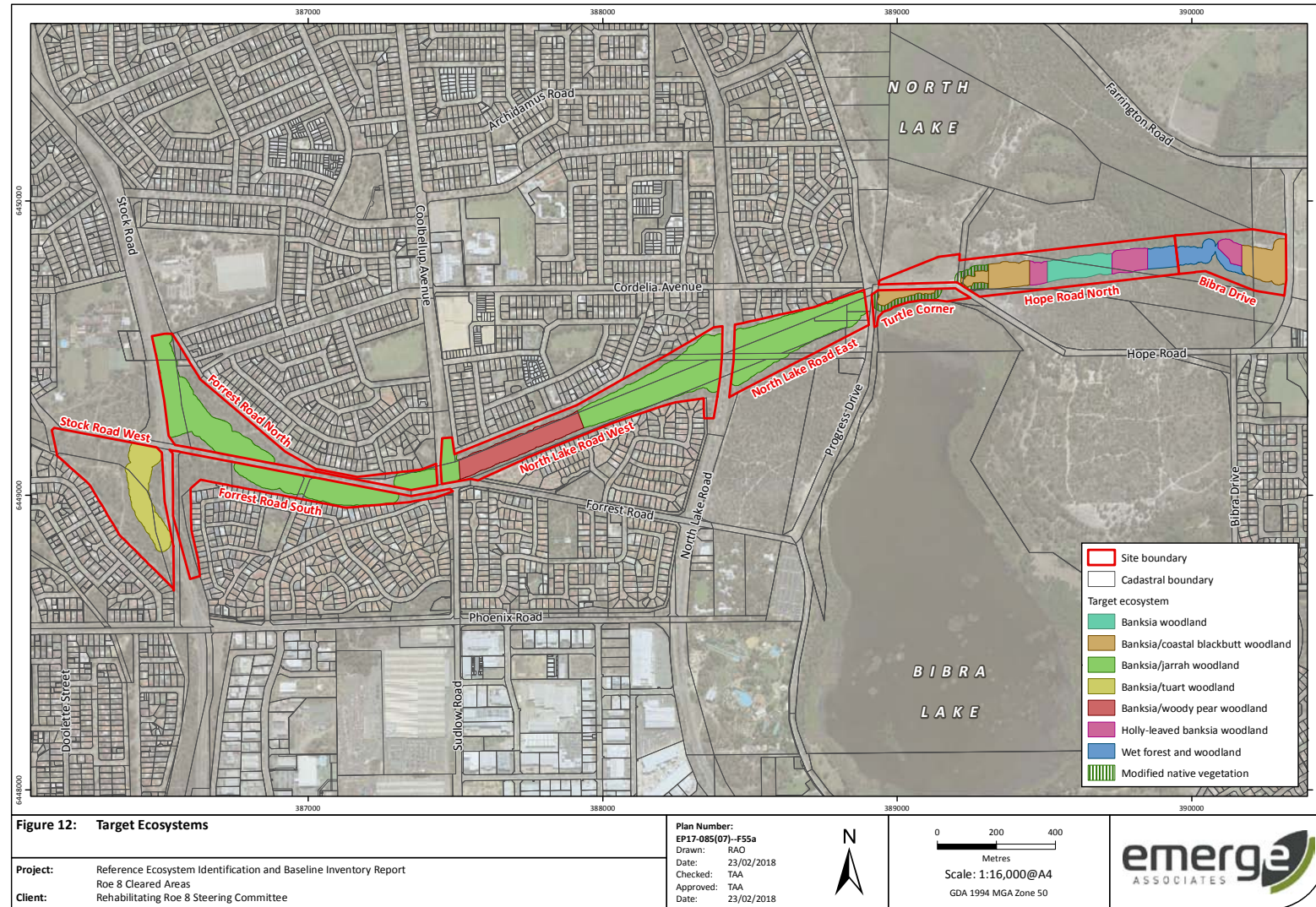
The 'Rehabilitating Roe 8' project arose out of community concern that was stimulated during opposition to Roe 8 and the newly elected State Government's commitment to repair the impacts of the clearing along the proposed road alignment.

The rehabilitation project provides a unique opportunity to maximise engagement with the community to deliver on-ground results. It aims to repair both the social and ecological impacts that resulted from the land clearing.

Ten-year rehabilitation management plan

The [Rehabilitating Roe 8 Rehabilitation Management Plan](#) (the RMP), was prepared for the Rehabilitating Roe 8 Working Group, which consisted of a number of community group representatives, State Government agencies, local government and traditional custodians.

The 10-year plan provides guidance on communications, community engagement, restoration and monitoring activities associated with the social rehabilitation and ecological restoration of Roe 8. The intention of the RMP is to provide an adaptive management framework to allow for changes in responses and methods to both community objectives and rehabilitation objectives.



Rehabilitating Roe 8 is working to restore seven target ecosystems, one wetland and six variants of banksia/eucalypt woodlands. The restoration objectives are consistent for the whole area but will differ in detail across the seven target ecosystems. Map – Emerge Associates 2018.

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The communications, engagement and involvement components of the RMP have been designed to incorporate various stakeholder objectives, actions and outcomes into a complementary series of activities.

The restoration component of the RMP has been designed with attention to the principles and guidance provided in [The National Standards for the Practice of Ecological Restoration in Australia](#).

Community engagement

Having a community-led role in informing the design and elements of the RMP, meant that certain aspects like the level of consultation and engagement with key community groups and stakeholders was of highest importance. Several community engagement sessions resulted in community members being able to make direct input into the RMP. This highlighted how people wanted to be involved, the need to have a sense of place, where along the corridor had significance for them and how they expected to be kept informed.

The concept of building social rehabilitation, one of the six principles in the National Restoration Standards, allowed objectives of engagement and communication to be detailed within the RMP including recognising Aboriginal heritage and continued connection to land, ensuring the community has input into decision-making and into the roll-out of the project and providing the community opportunities for hands-on involvement in the implementation of the RMP.

Rehabilitating Roe 8 Advisory Committee

The Rehabilitating Roe 8 Advisory Committee (RR8AC) has a pivotal role in providing input and guidance to all aspects of the RMP from planting locations to reviewing the RMP annually. In February 2019, 15 individuals representing the community, stakeholder organisations and DBCA came together. The RR8AC will work along with the Project Manager to help fulfil the vision of a restored, socially connected piece of bushland in the heart of the urban environment.



Biological surveys undertaken prior to clearing and baseline monitoring surveys of reference sites in 2017 will be used to set a benchmark to assess the success of ecological restoration. Here volunteers Ian Joass (left), Doug McColl and Angela Sawiak are assisting Jonathan Majer (front) in sampling invertebrates. Social targets are also given great importance in the RMP with objectives to measure community engagement and involvement in the restoration. The soon to be developed 'community expectations and satisfaction survey' will be a key measure of the success of social rehabilitation. Photo – Linda Metz.

Restoration goals

Principle four of the National Restoration Standards was used as a basis to develop broad restoration goals and specific restoration objectives. Primary and minimum goals have been detailed in the RMP including managing the 20m uncleared buffer from the cleared areas. The primary goals aim to optimise restoration outcomes within the site over the 10-year period so that full ecological restoration of the site has the highest potential to be achieved. The intention of the minimum goals is to enable 'completion' of restoration activities to be evaluated within a practicable timeframe.

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These goals address re-establishing native vegetation, re-establishing fauna habitat and managing threats and establishing ecosystem function. These goals were informed by the Rehabilitating Roe 8 Steering Committee who included members of the Perth Urban Scientific Advisory Committee and [Western Australian Biodiversity Science Institute](#).

Monitoring, evaluation and reporting

The RMP is designed to have ongoing reporting and evaluation of both the restoration goals and the social objectives. Tools to inform progress against community engagement objectives include development of a community satisfaction survey, creation of a community report card and having a number of communications channels available to facilitate feedback. The ecological restoration goals are linked to annual monitoring of the key biological parameters such as native vegetation cover, invertebrate activity and fauna diversity. Murdoch University students are involved in vegetation monitoring. In addition, 'reference' areas have been identified that are used to characterise each target ecosystem.

Where to now?

While the long-term future of the corridor is being debated in Parliament, the on-ground works began in 2018 and have included weed control and small-scale planting in 2018. This will be built upon by a larger planting program with events in [June](#) and [July](#) 2019. Volunteers from [Cockburn Community Wildlife Corridor](#) have regularly been hand weeding under the tuarts and Conservation Volunteers Australia have removed stands of Geraldton wax. Invertebrate and vegetation monitoring has been completed with a detailed fauna survey to come. In addition, citizen science projects – such as oblong turtle research with Murdoch University – are in development.

Where to find more information?

To keep informed about activities, opportunities and provide feedback a number of tools and events have been developed. [Download](#) the Rehabilitating Roe 8 Rehabilitation Management Plan, [sign up](#) to the Rehabilitating Roe 8 e-newsletter, [visit](#) the Rehabilitating Roe 8 website or attend events such as the [Community Open Day](#) on 14 April 2019.



The Rehabilitating Roe 8 project aims to repair both the social and ecological impacts that resulted from land clearing linked with the proposed Roe 8 construction. The Rehabilitation Management Plan ensures the community has input into decision-making and provides opportunities for hands-on involvement in its implementation. Here Lisa O'Malley (MP for Bicton and Chair of Rehabilitating Roe 8 Working Group) and Kim Dravnieks (Rethink the Link) are planting seedlings at the first planting event in 2018. Register to volunteer at this year's [June](#) and [July](#) planting events. Photo – Linda Metz.

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Do I need a clearing permit to control *Typha*? by Julia Cullity

Maybe you do, it will depend on the tenure of the land you are working on. *Typha orientalis* has been reclassified as native to WA and with the *Biodiversity Conservation Act 2016* coming into effect this year it means we need to update the info we included in our 2016 [Weedwatch on Typha](#). That *Typha* can become invasive within its natural range and require management to prevent disruption to wetland ecology, remains unchanged.

Land managers and volunteers working on [Typha management](#) will need a [clearing permit](#) under the *Environmental Protection Act 1986*, unless they have an exemption. Exemptions apply for

- clearing on DBCA-managed land
- to maintain infrastructure e.g. clearing in man-made drains
- to manage transport corridors e.g. clearing roadside drains in the maintenance zone
- clearing that is part of a management plan approved under law

Private landholders, State authorities (outside of DBCA) and local government will need to apply for a clearing permit. Land managers can apply for a strategic clearing permit covering the annual maintenance of *Typha* within designated waterways and wetlands for 5–10 years. A purpose permit application ([form C2](#)) that allows clearing from time to time for ongoing maintenance should be used.

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Please keep this in mind when controlling any of our [local natives that can act weedy](#).

Identifying some local mushrooms by

Elaine Davison

Plant diversity is one of the first things which comes to mind when thinking about the native bush, but have you ever thought there might be a similar diversity of mushrooms? Most of the time mushrooms are out of sight and out of mind, but these fungi are perennial components of the bush, albeit in a microscopic form for most of the year. Mushroom fungi are ecologically important as both mycorrhizal symbionts of many local woody plants, and decomposers of leaf litter and woody debris. Surveys of local bushlands conducted as part of the [Perth Urban Bushland Fungi Project](#), and long-term surveys of Kings Park and Bold Park have shown these larger fungi are numerous, and many local species are unnamed and new to science.

Some of the commonest and most conspicuous local mushrooms are members of the mycorrhizal genus *Amanita*. The members of this genus are easy to recognise in the field, but individual species are difficult to separate and identify. Identifications in the past were based on both macroscopic appearance and microscopic characters. Modern taxonomy now includes DNA sequencing, as this gives greater confidence in the description of new species. Recent work which I and my collaborators at Curtin University have undertaken, has reviewed or described about 20 local amanitas, and at least 30 more await description. A recent grant from the WA Naturalists' Club and Lotterywest will fund the DNA sequencing which assists in characterising these local species, which in turn will provide greater certainty in naming these mushrooms. One anticipated outcome of this work will be the inclusion of amanitas in [FloraBase](#), making the local species easier to identify.

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Amanita fibrilloses, the peach amanita. This is a common, widely distributed local species which has a pale pink cap covered with white warts when young (top). With age, the cap colour becomes cream, and the warts become brown (above). The gills are white and the ring is at the top of the stem (top). Photo – Elaine Davison.

Minister's grant supports regional parks community advisory committees *by L-A Shibish*

In June 2018, the Hon Stephen Dawson, Minister for Environment, created a one-off funding allocation of \$200,000, made available for Perth's eight regional park community advisory committees to support community environmental projects. The Minister recognised that volunteers play a tremendous role in helping conserve and maintain the biodiversity, recreational, cultural and social values of our beautiful regional parks.

This funding allocation was a small acknowledgement of the importance of community partnerships and helped to highlight the role the advisory committees provide in supporting the management of regional parks. Eight regional parks (Beeliar, Canning River, Darling Range, Herdsman Lake, Jandakot, Rockingham Lakes, Woodman Point and Yellagonga) were allocated \$25,000 each for projects that were consistent with their regional park management plan.

An application process was undertaken, and projects were assessed by each community advisory committee in consultation with Parks and Wildlife Service and other relevant land managers/stakeholders. The results were 32 projects selected for funding, across 20 sites, involving 12 friends groups, three environment centres, a bird banders group, a university (Murdoch) and two local governments (Canning, Melville).

The nature of the projects was broad and included: habitat enhancement; community nature-focused events; improvements for turtle rehabilitation facilities; native seed collection; installation of limestone paths, interpretation signage; scientific education equipment; weed control; feral animal management; bird banding equipment; seedling raising supplies; site rehabilitation works; and walk trail development.

Hon Stephen Dawson thanked members for their contribution to the advisory committees, which he said are an integral part of assisting in the management of regional parks. The projects are underway and all are due to be completed by June 2019.


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The Herdsman Lake Community Advisory Committee gained funding to upgrade and raise the limestone paths at Herdsman Lake, where sections had been underwater for up to nine months of the year. This allows the community to gain all-weather access and enjoy the full circuit of paths in the wetlands and paperbark swamps surrounding Herdsman Lake. Photo – Wayne Childs.

The River Conservation Society (RCS) was established in 1990 with the aim of conserving and restoring natural features in the Vale of York. The principal key action areas are the Avon River and its tributaries and areas of remnant natural bushland within the shire. In the past the RCS has fenced river banks, revegetated, created habitats for both aquatic and terrestrial fauna and undertaken scientific surveys of water quality, flora and birds. Particular studies have focused on the oblong tortoise, the water rat (rakali) and invertebrates, all of which have a tenuous existence in these waterways. Over 2500 species of regional plants have been collected and identified by the WA Herbarium. With the assistance of grants from Lotterywest and State / Regional NRM the York Herbarium has been updated. Volunteers have collected 200 new specimens for the collection, including new plants for the WA Herbarium collection and locations of priority plants. Field photographs of both new and previous collections have been taken to create a database, which will be available digitally to the wider public. Priority plants have also been mapped.

Generous grants from these organisations have also enabled the purchase of a digital microscope and motion sensitive cameras. The cameras are placed in the field at the various river pools and have revealed the existence of the rakali. Their resilience is exciting, when one considers recent flood events, pollution and human interference. Recently, fire mitigation work has been undertaken on The Avon River, in and around the York townsite. The RCS has received a \$5500 grant from the Shire of York to provide the riparian plants for revegetation, which the RCS, with help from other community groups will undertake.

The RCS is also the custodian of 10 small reserves. As often as possible, the Society holds its monthly general meeting in one of the reserves. Prior to the meeting, litter is removed and a guided walk is conducted, to familiarise members with the reserve's unique character. RCS members have a varied range of skills and interests - water surveyors, flora collectors, computer boffins, representatives to government instrumentalities as well as those who simply are interested in finding out more about local species. One of the aims for the future is to encourage young people to engage with our local environment. The RCS is actively engaged with many other community groups and has been given positive support. Through increasing awareness we hope to assist in the conservation and preservation of our natural environment into the future.

The River Conservation Society of York

by Helen Green

Photo – Bryn Watkins.

Report in!

Please send us your regional report (200 words) and a photo by **Monday 10 June 2019**. Text may be edited in response to volume of submitted reports.

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Caring for Perth's coastline

by Ingrid Sieler

Perth is renowned for its coastal lifestyle and participants at Perth NRM's Coastal Forum 2019 were educated on the pressures impacting our iconic shoreline. Elder Noel Nannup performed a traditional Welcome to Country to open the forum for the Coastcare community. Delegates learned about seagrass restoration and the importance of planning and prioritising on-ground coastal management. Coastal dynamics and the impact of wind and water erosion on dune revegetation was highlighted using examples from the Town of Cambridge.

Recreation and coastal development pose a range of threats to native flora and fauna, including macroinvertebrates, but delegates learned of actions being undertaken to combat them. Importantly, through programs like the [Australian Marine Debris Initiative](#) the community can act and instigate behaviour change. Perth NRM would like to thank Dr John Statton and Prof Ryan Lowe from UWA; Alison Dorn, Tangaroa Blue; David Knowles, Spineless Wonders; Melissa Evans, DBCA; Meg Anklesaria, Cambridge Coastcare; and Adam Harris, City of Cockburn for sharing their knowledge.

As our population increases, and the changing climate continues to affect our coastline, community, government, researchers and non-government organisations will need to continue to collaborate to ensure effective management and mitigation of pressures on the coastal and marine environment. The Forum was supported by a [Coastwest](#) grant.

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Friends of Paganoni Swamp

by Leonie Stubbs

Our group is looking forward to working with Perth NRM, DBCA, SERCUL and our experienced contractors as a result of our successful application in the Federal Government's *Regional Land Partnership Project*. The project incorporates all those activities that are needed to ameliorate threats to a banksia woodland threatened ecological community situated in a metropolitan reserve. This includes feral animal control, seed collecting, growing up seedlings and planting. Our goal over the next few years in relation to planting and weeding is to improve the bushland edges of the reserve to discourage weeds from entering in the first place. We rely on the expertise of Andrew Crawford from DBCA's Threatened Flora Seed Centre in managing and teaching us all aspects of seed collecting. DBCA will be constructing fencing for our plantings as we have found fencing the seedlings to be an extremely successful strategy to stop kangaroo grazing whilst plants establish. Whilst we'd love to have the opportunity to move the fencing over time (rather than just dismantle it) unfortunately it seems that anything that is not secured is stolen (another challenge to working in our metro reserves).

Grazyna Paczkowska from DBCA's Urban Nature along with group members have mapped the banksia woodland threatened ecological community within Paganoni Swamp Reserve as part of the project. It's a great opportunity to take stock of the diversity of vegetation types present. So often we're looking down (for weeds) and lose sight of the whole. Exercises such as this bring it back into perspective.

We really appreciate the fact that the grant extends over a longer term than twelve months as we believe outcomes are likely to be more successful. For example, there may be opportunities to undertake a form of adaptive management in activities such as feral animal control.

Paganoni Swamp is a 700 hectare reserve in Karnup where the majority of the site isn't swamp but banksia woodland in excellent condition. For this reason, the friends are working over the next few years to restore the disturbed edges of the reserve and protect the intact bushland from weed invasion. Photo – Grazyna Paczkowska.



Leonie Stubbs

Friends of Paganoni Swamp

email fop@westnet.com.au

The discovery of a new species of *Acacia*, and the opening of a can of wattles by Kevin Thiele

In 2015, during surveys of bushland at the Water Corporation's Southern Seawater Alliance Binningup desalination plant, keen-eyed botanists Geoff Cockerton and his team spotted a wattle that looked odd. It was a low shrub with small feathery leaves and was abundantly suckering at the site. Intrigued and perplexed as to what it could be, samples were collected and sent to the Western Australian Herbarium for scrutiny. Comparisons with the extensive collection of *Acacia* specimens there showed that it belonged to the prickly moses (*Acacia pulchella*) group of species, which are widespread throughout south-west Western Australia. However, the specimens from Binningup didn't quite match any of the [four described varieties of *Acacia pulchella*](#). A can of wattles was opened.

Acacia taxonomist Bruce Maslin, recently retired from the Western Australian Herbarium, has spent his entire career working on the taxonomy of *Acacia*, the largest genus of plants in Western Australia and Australia. He's named literally hundreds of species in his time, and is the go-to person for Western Australian wattles. Bruce initially felt that the new specimens matched *A. pulchella* var. *goadbyi*, one of the four widespread varieties, but with reservations. In fact, a revision of the prickly moses group of wattles was one of Maslin's first-ever taxonomic papers, published in 1975. While this was a great start at sorting out the taxonomy of this group of species, it was just that, a start. All four varieties of *Acacia pulchella* are widespread and variable, and their taxonomy remains far from settled.

A situation like this creates a headache for taxonomists, and for those who use their taxonomy. A simple question – are the Binningup specimens *A. pulchella* var. *goadbyi* or are they something else – can be very difficult to answer. A careful study of the Herbarium's collections of *Acacia pulchella*, numbering many hundreds of sheets, showed that the Binningup plants were closest to var. *goadbyi* but differed in some significant ways, and var. *goadbyi* itself seemed unusually variable and didn't quite make sense. Worse, the same assessment showed that all three other varieties – var. *pulchella*, var. *glaberrima* and var. *reflexa* – were themselves variable and didn't quite make sense. Field work confirmed this.

Continued next page ...



Acacia sp. Binningup is distinguished from other taxa within the *Acacia pulchella* complex by the large blue-green pinnae, prominently zigzagged upper stems, being a long-lived plant with suckering habit and having more than two flowers per axil. Photo – Geoff Cockerton.

In one area near Harvey, two clearly different forms of *A. pulchella* var. *glaberrima* were found growing together with no intermediates, usually a good indication that they are separate species. And yet, currently both are included in var. *glaberrima*. To make matters even more confusing, some plants later found growing on roadsides and along drainage canals south of Harvey could be yet another distinct species (closely related to but different in some respects from the Binningup plants).



The suckering growth form of Acacia sp. Binningup was the initial trigger that led Geoff Cockerton and his team to collect and begin the investigation that led to the naming of a new species of Acacia. Photo – Geoff Cockerton.

People often want a simple answer from taxonomists. While simple answers are sometimes possible, sometimes they are not. To resolve the question posed by the Binningup plants will require resolving the taxonomy of the whole *A. pulchella* complex. Some things are clear. For example, the four currently recognised varieties of *A. pulchella* should actually be recognised as distinct species. Other things are not at all clear: for example, how many species are there exactly in this group; and frustratingly, are the Binningup and Harvey plants distinct (and rare species) in their own right, are they variants of the same species, or are they both variants of a more widespread species? Taxonomists deal with these difficult questions all the time. Sometimes it takes a while to get a clear answer from among the complexities of the natural world.

For the time being, the Binningup and Harvey plants have been given a temporary name on the Western Australian plant census (they are called [Acacia sp. Binningup](#)). More work needs to be done to answer all these questions before they can be formally named and described. A can of wattles has been opened, and it may take some time to close it again.



Acacia sp. Binningup, a new species of Acacia, has been found at Binningup, Harvey, Rockingham and Busselton. Its preferred habitat is inland sub-coastal dunes in a combination of tuart, peppermint and banksia woodlands. Photo – Geoff Cockerton.

Contact

Kevin Thiele

Taxonomy Australia, Australian Academy of Science

email kevin.thiele@science.org.au

Ellen Brockman Integrated Catchment Group

by Rosanna Hindmarsh

The Ellen Brockman Integrated Catchment Group (EBICG) formed in 1996 in collaboration with State Government agencies, local government, community groups and community volunteers. Many activities are undertaken to protect and improve water quality, biodiversity and soils some of which are:

- community education and behaviour change programs to protect and improve waterways, wetlands and water quality
- drainage nutrient intervention projects in collaboration with DBCA to remove nutrients from the Ellen Brook before it enters the Swan River
- water quality monitoring and analysis to measure the outcomes of catchment revegetation
- revegetation projects that have contributed to the planting of 2.2 million seedlings
- perennial pastures and improved farming practices to improve soil and productivity
- control of feral animals and weeds
- contributing to policy and planning issues with State and local government.

Ellen Brook is a natural, ephemeral waterway with headwaters south of Gingin and has a nutrient problem while the Brockman River begins just south of Mogumber and flows through the picturesque Chittering Valley; it has a salinity problem. Together these two catchments cover 220,000 hectares.

Much of the Ellen Brook catchment has been cleared for agriculture, urban and industrial use. It is the largest coastal sub-catchment of the Swan Canning catchment and contributes the highest total nitrogen and total phosphorus to the Swan Canning estuary. Much of the Ellen Brook catchment has shallow groundwater and sandy soils making nutrient export a key management issue.

Remaining areas of vegetation within the catchment are identified as having high conservation value in local government planning strategies and contain several threatened ecological communities, priority flora, the critically endangered western



Saint Mary's Girls School has been working with EBICG for ten years. Here the students are planting sedges in the Bullsbrook Biodiversity Corridor. Photo –Chittering Landcare Group.

swamp tortoise and Carnaby's cockatoo. Funds are provided by the Swan Alcoa Landcare Program, State NRM, Perth NRM and DBCA for projects that protect and enhance these areas.

Since 1999, EBICG has worked from the Chittering Landcare Centre in Muchea and on 1 May 2019, the centre will be celebrating 20 years since Tronox provided the property to establish a landcare centre including ongoing support. The major Northlink Highway from Ellenbrook to Muchea and beyond now divides the Ellen Brook catchment but it is hoped that its construction will open up opportunities for the group to continue their good work.

Continued next page ...



Chittering Springs was a saline, acidic seepage in a rural residential reserve (top) that was affecting soils and surrounding waterways. Ten years and 100,000 seedlings later (right) it has become a functioning wetland. Once again Saint Mary's Girls School (pictured) has helped us with plantings as have scouts, Tronox staff and River Rangers. Photos – Chittering Landcare Group.



The Bullsbrook Biodiversity Corridor is one of many projects that have been undertaken collaboratively with other community groups and in this case, Royal Australian Air Force Pearce. Beginning in 1997, most of the seedlings have been planted by students from St Mary's Girls School, Air Cadets and Singaporean trainee pilots and their families. St Mary's students hold the record of planting 23,000 seedlings in five hours in the corridor. St Mary's Anglican Girls school is celebrating ten years of community service with the group; a wonderful contribution to the environment for which we congratulate them.

Creating a functioning wetland from a saline acidic seepage is a project started in 2009 with support from the Shire of Chittering. It has been planted with at least 100,000 seedlings over the years by scouts, Tronox staff, River Rangers and St Mary's Girls School. This has improved water quality in Rocky Creek and eventually the Ellen Brook by reducing the rate of water flowing across the reserve. This reduces the erosion and movement of silt into the waterway. It has also created a wonderful habitat that is regularly visited by water birds. We are also working to improve water quality in our own back yard. A constructed wetland at the Landcare Centre is a created wetland with a different purpose. It was designed to filter the water running from the Landcare Centre's paddocks to reduce nutrients entering the Ellen Brook. Both of these wetlands are managed to ensure that they are functioning ecosystems.

Contact

Chittering Landcare Centre

phone 9571 0400

email chitteringlandcare@inet.net.au

web <http://chitteringlandcare.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@inet.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 the Friends of Booragoon and Blue Gum Lakes. First Saturday of each month. Meet at the boardwalk into Booragoon Lake on Aldridge Rd, Booragoon. Weeds course third Saturday of each month at Blue Gum Lake. Contact: Mary-Ann 0456 357 799 molly.olly1@bigpond.com


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

 **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 8am–10am

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


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 website


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 **birdwalks, centre viewing and scooping**. First Sunday of each month. \$2 adults, \$1 kids & seniors, \$5 family. Corner Selby St and Flynn St Wembley. Contact: 9387 6079 admin@wagouldleague.com.au

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 9339 2439 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](#)

Tuesdays and Thursdays, 8am–10am

 **Coastcare activities** with **Stirling** Natural Environment CoastCare (SNEC). Contact: Sheldon 0488 190 651 Rae 0419 191 710 [website](#)


Wednesdays

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


Wednesdays and Saturdays 7.30am–9.30am

 **Bushcare activities** with **Bicton** Environmental Action Group. Planting, weeding and foreshore cleanup. Various dates. Contact: Peter 0439 467 855 pneesham1@hotmail.com [website](#)

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@bgpa.wa.gov.au [website](#)


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](#)

Thursdays or Fridays 9am–4pm

 **Wetland, bushcare and nursery activities** with **Cockburn Wetlands** Centre. Contact: Denise 0412 081 540 community@thewetlandcentre.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](#)

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. Hot days over 35 degrees sees us sorting seeds in air conditioning. Contact: mail@mosmanparkbushland.org


Fridays 7.30pm

 **Talks** with **Eastern Hills** Branch of the **Wildflower Society**. Fourth Friday each month, Octagonal Hall, 52 McGlew St, Glen Forrest. \$2 entry, visitors welcome. Also art and photography, propagation, excursions, open gardens and library. Contact: eastern.hills.branch@wildflowersocietywa.org.au, [facebook website](#)


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](#)


Check calendar

 **Birdlife Australia** hold regular **talks** and **excursions** each month. [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.

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.

April

2 Tuesday 6.30–8.30pm

 **Botanical heritage and conservation in the Armadale region** talk by Adam Cross, City of Armadale Function Room, 7 Orchard Ave, Armadale. Free, light refreshments. [RSVP's](#) or 9394 5874.


5 Friday 7.30pm

 Kevin Kenneally talk **botanical work in the Kimberley** for the WA Naturalists', Hew Roberts lecture theatre, UWA. Contact John 9389 8289


7 Sunday 7am

 **Bird survey** at **Canning River** requires volunteers with a good knowledge of local birds. Contact Pam by email. admin@canningriver.org.au


7 Sunday 8am

 **Birdwalk** at **Lancelin**. Meet at Nilgen Lookout, 12km north of the turnoff into Lancelin on Indian Ocean Drive. **Birdlife WA**.

7 Sunday 9am–12 noon

 **Coastal Biodiversity Discovery Day** with **Mullaloo Beach** Community Group, Birdlife WA and Biodiversity Educator Angela Rossen. Learn about the Quindalup Dune system and local habitat of the quenda. Meet Westview Parking Station, Oceanside Prom, Mullaloo Beach. Email mbcginc@inet.net.au or [facebook](#)


7 Sunday 5.30–6.30pm

 The tenth consecutive **Great Cocky Count** where registered citizen scientists count black cockatoos as they come in to roost at sunset. Remember to count! **Birdlife WA**.


8 Monday 8–11am

 **Bushcare activities** at **Mary Carroll Wetlands**. Meet May St. Email unicerobinson@gmail.com or [facebook](#)


9 Tuesday 6.30–8.30pm

 **Act for Birds** community [forum](#) town-hall-meeting-perth on environmental law reform, Tamala Room, WA Ecology Centre, Bold Park. **Birdlife WA**.

11 Thursday 8am

 **Birdwalk** at **Tomato Lake**, Kewdale. Meet near the small tearooms at Tomato Lake off Oats St, Kewdale. **Birdlife WA**.


11 Thursday 9.30am

 **Perth NRM Sustainability Conference** a full day focusing on ways individuals can be more environmentally sustainable at home and create an impact on a global scale. The Rise, 28 Eighth Ave, Maylands. [Free registrations](#).


11 Thursday 7.30–9.30pm

 **Carnivorous plant heritage of the Armadale Region** talk by Adam Cross, Settlers Common Environmental Centre, Triton Crs, Bedforddale. \$3


12 Friday

 **Management of roadside vegetation forum**, Margaret River. [Registrations](#).


15 Monday 8–11am

 **Typha check and removal** at **Mary Carroll Wetlands**. Meet Verna St. Email unicerobinson@gmail.com or [facebook](#)


16 Tuesday 2.30–5.30pm

 **Bird photography workshop** ages 12–16 with Bush Skills for Youth, Jorgensen Park Pavilion, Kalamunda. Must have your own camera. Free registrations. BS4Y@emrc.org.au.

16 Tuesday 5–8pm

 **Bats Fantastic** all kinds of batty activities at **Piney Lakes**, bring a torch and take part in a night stalk. Why not really get into the spirit and dress up as Batman or Batwoman to be in the running for some great prizes!! [Tickets](#)


20 Saturday 8am

 **Birdwalk** at **Victoria Reservoir**, Canning Mills. Meet in the car park beside the information board at the entrance to the dam. **Birdlife WA**.


22 Easter Monday 8–11am

 **Bushcare activities** at **Mary Carroll Wetlands**. Meet May St. Email unicerobinson@gmail.com or [facebook](#)


24 Wednesday 1.30–3.30pm

 **Make your own insect and native bee hotel for kids** all materials supplied, Environment House, 125 King William St, Bayswater. \$15 [Bookings](#).


26 Friday 6–8.30pm

 **Nightstalk** at **Mary Carroll Wetlands**. Meet May St. Email unicerobinson@gmail.com or [facebook](#)


26 Friday 8pm

 Terry Houston **talk Our Native Bees**, Octagonal Hall 52 McGlew Road, Glen Forrest. Contact eastern.hills.branch@wildflowersocietywa.org.au

27 Saturday 9am–2pm

 **Northern Suburbs Branch Wildflower Society annual plant sale** 100s of local and WA species, Landsdale Farm, Evandale Rd, Darch. [Species list](#)

27 Saturday 12 noon– 1.30pm

 **Plant me instead – Native plants in Your Garden** workshop on local native alternatives to common garden plants that can become environmental weeds, Shire of Mundaring Administration Building, Mundaring. **BSFH**.

29 Monday 8–11am

 **Weeding** at **Mary Carroll Wetlands**. Meet Eudoria St. Email unicerobinson@gmail.com or [facebook](#).

Registration/contact details

AGLG Armadale Gosnells Landcare Group. Look for the AGLG sign at the meeting point, BYO gloves and dress for the weather. Morning tea provided. Call 0413 883 565 or check [facebook](#).

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

BSFH Bush Skills for Hills. Free workshops, with refreshments. [Registrations](#) essential. Contact 9424 2216 or environment@emrc.org.au

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.

May

1 Wednesday 1–2pm

 **Growing Native Plants presentation** to introduce the beginner to growing native plants in domestic gardens, Boya Community Centre, Clayton/Scott St Boya. Contact Lee lee.roberts205@gmail.com

3 Friday

 **Management of roadside vegetation forum**, Northam. . [Registrations](#)


9 Thursday 7.30–9.30pm

 **Arachnids** talk by Mark Harvey, Settlers Common Environmental Centre, Triton Crs, Bedforddale. \$3

11 Saturday 9am–2pm

 Eastern Hills Wildflower Society **Annual Native Plant Sale** offers hundreds of local plants grown by local enthusiasts who will be on hand to offer lots of advice, Octagonal Hall 52 McGlew Road, **Glen Forrest**. \$2.50–\$6 each. Contact eastern.hills.branch@wildflowersocietywa.org.au


12 Sunday 9am–12noon

 **Migratory Bird Day, planting seedlings** with Friends of **Mary Carroll Wetlands**. Meet Eudoria St carpark. [AGLG](#).

18 Saturday 10am–12.30pm

 **Native Fauna Discovery and Rescue** learn about how animals live and thrive in the environment and what to do if you find sick or injured wildlife, Native Animal Rescue, 170 Camboon Rd Malaga. [BSFH](#).


18 Saturday 2–3.30pm

 **Successful native plants for containers and small gardens** with Nancy Scade, Australian Native Nurseries, Environment House, 125 King William St, Bayswater. \$15 [Bookings](#).


19 Sunday 8.30am

 **Birdwalk at Lake Goollelal**, Kingsley. Meet at the car park on Woodlake Retreat. [Birdlife WA](#).

24 Friday 8pm

 John Ewing **talk Orchids: Near and Far, Usual and Unusual**, Octagonal Hall 52 McGlew Road, Glen Forrest. Contact eastern.hills.branch@wildflowersocietywa.org.au


25 Saturday 9am–12noon

 **Planting seedlings** along the **Southern River** at Southernwood Park, Thornlie, park along Shearwater Way. [AGLG](#).

25 Saturday

York Branch Wildflower Society plant sale, Main St, York.

25 Saturday 9am–1pm


 **Bushcare activities** with Waterbird Conservation Group at **Maramanup**, Baldvis. Removing plastic guards from older plantings. Lunch and morning tea provided. [RSVP](#)

26 Sunday 9am


 **Noongar Six Season walk** and **weeding** activity with Perth NRM and Baigup Wetlands Interest Group. Bookings 9374 3333 or email community@perthnrm.com

June


1 Saturday 9am–12noon

 **Planting seedlings** along the **Canning** River, meet Parkside Dr near Coolabaroo Neighbourhood Centre, Thornlie. [AGLG](#).


1 Saturday 9am– 1pm

 **Planting** with Waterbird Conservation Group at **Folly Pool**, Baldvis. Lunch and morning tea provided. [RSVP](#).


2 Sunday 8am

 **Birdwalk** at **Manning Lake**, Spearwood. Meet in the car park, Azelia Rd, opposite the museum on the western side of the lake. [Birdlife WA](#).


2 Sunday 9am– 1pm

 **Planting** with Waterbird Conservation Group at **Maramanup**, Baldvis. Lunch and morning tea provided. [RSVP](#).


6 Thursday 8am

 **Birdwalk at Lake Monger**, Wembley. Meet at the car park at the end of Dodd St. [Birdlife WA](#).


8 Saturday 9am–1pm

 **Rehabilitating Roe 8 planting**. Meet at the gate corner of Hope Rd and Progress Dr near the roundabout. [Bookings](#).


9 Sunday 9am–12noon

 **Planting seedlings** along the **Southern River**, meet end of Chilcott Gardens, off Fremantle Rd, Gosnells. [AGLG](#).

15 Saturday 9–11.30am

 **Monitoring Techniques** monitoring, sampling and surveying with simple and time effective techniques including photo monitoring, Zig Zag Cultural Centre, 50 Railway Rd Kalamunda. [BSFH](#).

15 Saturday–16 Sunday 9am– 1pm

 **Planting** with Waterbird Conservation Group at **Maramanup**, Baldvis. Lunch and morning tea provided. [RSVP](#).


15 Saturday 9am–12noon

 **Planting seedlings** at **Tom Bateman** Reserve, parking Wilfred Rd, Thornlie. [AGLG](#).


16 Sunday 9am–12noon

 **Planting seedlings** along the **Ranford** Stream, meet end of Savage Rd, Kelmscott. [AGLG](#).


16 Sunday 9am–12noon

 **Planting seedlings** and **handweeding** at **Mary Carroll Wetlands**, meet at Eudoria St carpark, Gosnells. [AGLG](#).

22 Saturday–23 Sunday 9am– 1pm

 **Planting** with Waterbird Conservation Group at **Maramanup**, Baldvis. Lunch and morning tea provided. [RSVP](#).

29 Saturday–30 Sunday 9am– 1pm

 **Planting** with Waterbird Conservation Group at **Maramanup**, Baldvis. Lunch and morning tea provided. [RSVP](#).

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.

Highlights

13–28 April

Autumn's aura school holiday [program](#) with Nearer to Nature. Opportunities for children and families to participate in outdoor, hands-on activities in the natural environment. [Bookings](#) essential

14–17 April

Wild Pollinator Count help build the database of Australian wild pollinators by watching a flowering plant for 10min and counting native insects. <https://wildpollinatorcount.com/>



Autumn's aura school holiday program with Nearer to Nature.

15, 24, 25 & 26 April

Earth Assist a free program for school students aged 15 – 18 years, where you can step into the environment and contribute to real conservation projects. [Bookings](#).

17 April and 8 May

FameLab join some of the country's brightest minds tell their [science stories](#) in just three minutes or less with no props, no jargon and no PowerPoint. Perth semi-final WA Maritime Museum with the national final at the State Theatre Centre, Perth.

1–13 May

Great Western Woodlands bird survey call for volunteers. Frank Hann/Peak Charles and Dundas bird survey 1–9 May, you will need to be self-sufficient with a four-wheel drive. Bird ID and survey skills course Credo Station 10–13 May \$20 [places limited](#).

Wednesdays or Fridays May–June 9.30am or 10.30am

Zippy's Kings Park Adventures early learning adventures for little ones. Interactive 45min lessons use puppets, music and movement, craft and nature-based activities in an eight-week term. \$80 [bookings](#).

20–22 May

Pint of Science Festival brings some of the most brilliant scientists to [your local pub](#) to discuss their latest research and findings.

24 Friday May

2019 Environmental Practitioner's Forum Sharing Experiences in Environmental Practice. Leederville Fuction Centre, Leederville Oval, 246 Vincent Street. [Registrations](#) \$200 (\$100 discount).



Zippy's Kings Park Adventures early learning adventures for little ones.

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.

Highlights

12–13 June

2019 Australian Biosecurity Symposium [inaugural meeting](#), Gold Coast Queensland.

26–28 June

Nature City Seminar, 2-day seminar and 1-day field trips showcasing research and best practice in improving our capacity to better manage, enhance, design and connect with nature in urban areas. [Email](#) to express your interest.

3–5 July 2019

Australasian Ornithological Conference Darwin

7–11 July

Australian Mammal Society Conference, Sydney



21–25 July

29th International Congress for Conservation Biology [Conservation beyond boundaries: connecting biodiversity with communities, government and stakeholders](#). Kuala Lumpur, Malaysia.

31 July–1 August

Prescribed Burning Conference 2019: Evidence and Policy, The University of Western Australia. [Registrations](#) \$300 (\$150 concessions).

2-5 September

Australian Rangelands Conference 2019 [Resilient future rangelands: integrating environment and livelihoods](#), Canberra, ACT.

5–6 September

WA Threatened Species Forum, Geraldton visit <https://www.nacc.com.au/> for more information.

15 Sunday September

Bushcare's Big Day Out [register](#) your event.



29 September–4 October

Australian Native Plant Society National Conference held every two years at a different location in Australia. [Blooming Biodiversity](#), Albany.

1-4 October

2019 WA State NRM and Coastal Conference Edith Cowan University, Joondalup.

24–29 November 2019

Ecological Society of Australia Annual Conference, Launceston,

Swan Alcoa Landcare Program provides funding for Perth revegetation and rehabilitation activities in 2020. [Applications close 24 April](#).

Coastwest 2019/20 provides grants of \$5000–\$50,000 to support coastal land managers and community organisations to rehabilitate, restore and enhance the Western Australian coast. [Applications close 15 April](#).

Ian Potter Foundation considers large grants >\$100,000 for fostering biodiversity or water and/or land management. [Applications close 17 April](#).

Keep Australia Beautiful **Community Litter Grants** <\$5000 for local area projects and <\$10,000 for major initiatives that seek to change littering behaviour and work towards a litter-free WA. [Applications open April](#).

Northern Agricultural Catchment Council **Biodiversity Community Grants** to protect and manage the environment. [Applications](#) assessed monthly until June 2019.

New Indigenous Protected Areas competitive grant round supporting Indigenous Australians' consultation on proposals, dedication and management of new Indigenous Protected areas. [Applications close 30 April](#).

Alcoa Waroona Sustainability Fund 2019 for community development projects that make a positive contribution to the economic, social, recreational or environmental sustainability of communities within Waroona Shire. Grants \$10,000–\$50,000. [Applications close 31 May](#).

Australian Bird Environment Foundation grants up to \$5000 for on-ground conservation activities for Australian birds. [Applications close 31 May](#).

FAME seeks to fund on-ground conservation with a focus on seed-funding and innovation for Australian species most at risk of extinction. [Applications](#).

Wettenhall Environment Trust small environmental grant scheme funds research and education projects on flora and fauna conservation. [Applications open 1 April](#).

Australian Geographic Society sponsors Australian adventurers, scientific and environmental research and community projects up to \$10,000. [Applications close 30 April](#).

Churchill Fellowship for overseas travel to investigate a topic you are passionate about. [Applications close 30 April](#).

Impact100 WA provides large \$100,000 and minor \$10,000 grants for projects to be carried out in WA. [Applications close 17 May](#).

AMP Tomorrow Fund seeking amazing Australians doing great things to share in \$1 million in grants. [Applications open 11 April](#).

Local government community grants

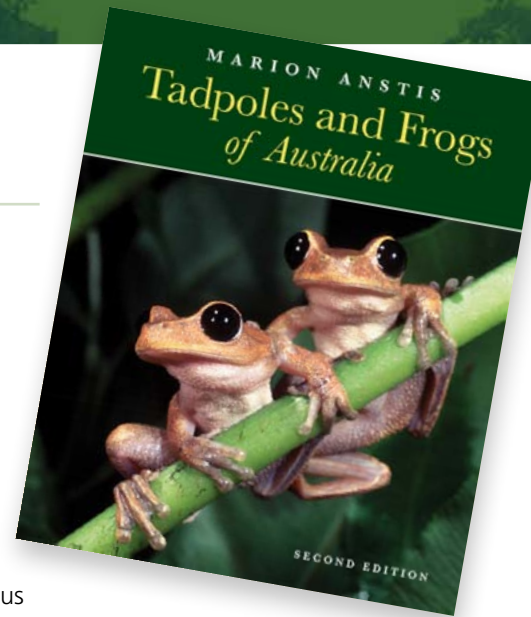
These local governments provide small grants to their communities which can fund environmental groups' management and restoration projects. Eligibility varies. [Albany closes 30 April](#), [Busselton closes 3 May](#), [Cottesloe closes 26 April](#), [Rockingham closes 3 May](#), [Subiaco closes 2 July](#).

New publications

Those wild rabbits: how they shaped Australia. Munday, Bruce. *Kent Town: Wakefield Press*, 2017. \$40. A century ago Australia was home to 10 billion rabbits, thriving in their adopted home. Storyteller Bruce Munday finds the rabbit saga irresistible – the naive hopes of the early settlers, the frustration, environmental damage, cost to agriculture, dreams shattered, and the lessons learned and ignored. Those Wild Rabbits highlights not only the damage done but also Australia's missed opportunities for real rabbit control and makes the case for continued research to drive the next rabbit-control effort.

Tadpoles and Frogs of Australia Anstis, Marion *New Holland*, 2018. \$150. Covering the complete life histories of virtually the entire frog fauna of Australia, this second edition contains comprehensive information about Australian tadpoles as well as the eggs, metamorphosed frogs and adult frogs, accompanied by detailed colour photographs. Using meticulous keys, descriptive characters and a multitude of illustrations, *Tadpoles and Frogs of Australia* helps readers to identify which tadpole or egg belongs to which frog using keys, descriptive characters and a multitude of illustrations.

Rottnest Island Kingdom of the Quokka De Barros, Leighton, *Sea Dog TV International* 2017. This [coffee table book](#) and [DVD](#) reveal the secret life of the quokka along with stories of the life cycles of the other wildlife on Rottnest, Carnac and Penguin islands. The quokka is secretive and incredibly tough, and both the film and book reveal a different side to this popular and likeable marsupial.



Website watch

Rabbits: a threat to conservation and natural resource management. 2008.

This [quick assessment method](#) will help you decide if rabbits are a problem and what action you need to take.

WALGA Environmental Event series for the local government sector facilitates the sharing of knowledge and networking with other interested organisations. Powerpoint presentations of previous events are posted on their [website](#).

Wikimedia Commons a collection of millions of [freely useable](#) media files, images, sounds or videos to which anyone can contribute.

Safe Cat, Safe Wildlife website aims to build a community of cat owners who have the tools providing a safe space at home for a cat to thrive while protecting native wildlife.

Recent research

Roetman P, Tindle H, Lichfield C (2018) Management of Pet Cats: The Impact of the Cat Tracker Citizen Science Project in South Australia. *Animals* 8(11) 190.

Bradshaw S. D., Dixon K. W., Lambers H., Cross A. T., Bailey J., Hopper S. D. (2018) Understanding the long-term impact of prescribed burning in mediterranean-climate biodiversity hotspots, with a focus on south-western Australia. *International Journal of Wildland Fire* 27, 643-657.

Cochrane A (2017) Are we underestimating the impact of rising summer temperatures on dormancy loss in hard-seeded species? *Australian Journal of Botany* 65(3) 248-256.

Matusick G, Ruthrof KX, Fontaine JB, Hardy GESJ (2016) Eucalyptus forest shows low structural resistance and resilience to climate change-type drought *Journal of Vegetation Science* 27(3), 493–503

Molloy SW, Davis RA (2016) Resilience to agricultural habitat fragmentation in an arboreal marsupial *Australian Mammalogy* 39 (2), 185–196.



a slime mould named *Leocarpus fragilis*

by Karina Knight

Slime moulds are an amazing component of our bushland. While the name might conjure images of fuzz on old bread, or a green slime found in an over-watered lawn, slime moulds are neither of these. They are an amazingly diverse group of organisms that quietly go about their business, mostly unseen.

Slime moulds (*Myxomycetes*) have two main life phases: the 'slimy' part is known as the plasmodium, and the fruit is called a sporocarp. The plasmodium is primarily an assemblage of protoplasm moving across a substrate, grazing on micro-fungi and bacteria, which themselves feed on the substrate as nutrient recyclers or decomposers. Slime moulds are then, in turn, predated on by small insects such as springtails and beetles. The sporocarp forms from the plasmodium when environmental conditions are suitable and are packed full of spores.

Many slime moulds are tiny and not easily observed, however *Leocarpus fragilis* has a large, spectacularly bright yellow plasmodium, which forms large clusters of small, egg-shaped sporocarps each 2–4mm high, that become brown when mature.



Photo – Peter Davison.

Leocarpus fragilis and other slime moulds are most likely to be seen during the wetter months of the year, when enough moisture allows for their food source to proliferate and their spores to germinate. They may be observed on a range of substrates such as bark, old stumps and leaf litter.

Watch a video on [movement](#), [problem solving](#) and [discovery](#) to get inspired and go looking.

Different life phases of Leocarpus fragilis: plasmodium on the top leaf, beginning to change from plasmodium to fruiting bodies on the stick and the mature, brown, egg-shaped sporocarp on the leaf below.