bushland news

urban nature

Issue 136 **Summer** 2025-26 *Time of Birak and Bunuru in the Noongar calendar.*

Restoring streams, rebuilding connections

GOVERNMENT OF WESTERN AUSTRALIA

Department of **Biodiversity, Conservation and Attractions**

PARKS AND WILDLIFE SERVICE

Bushland News *is a quarterly newsletter of the Urban Nature program to support community involvement in bushland conservation.*

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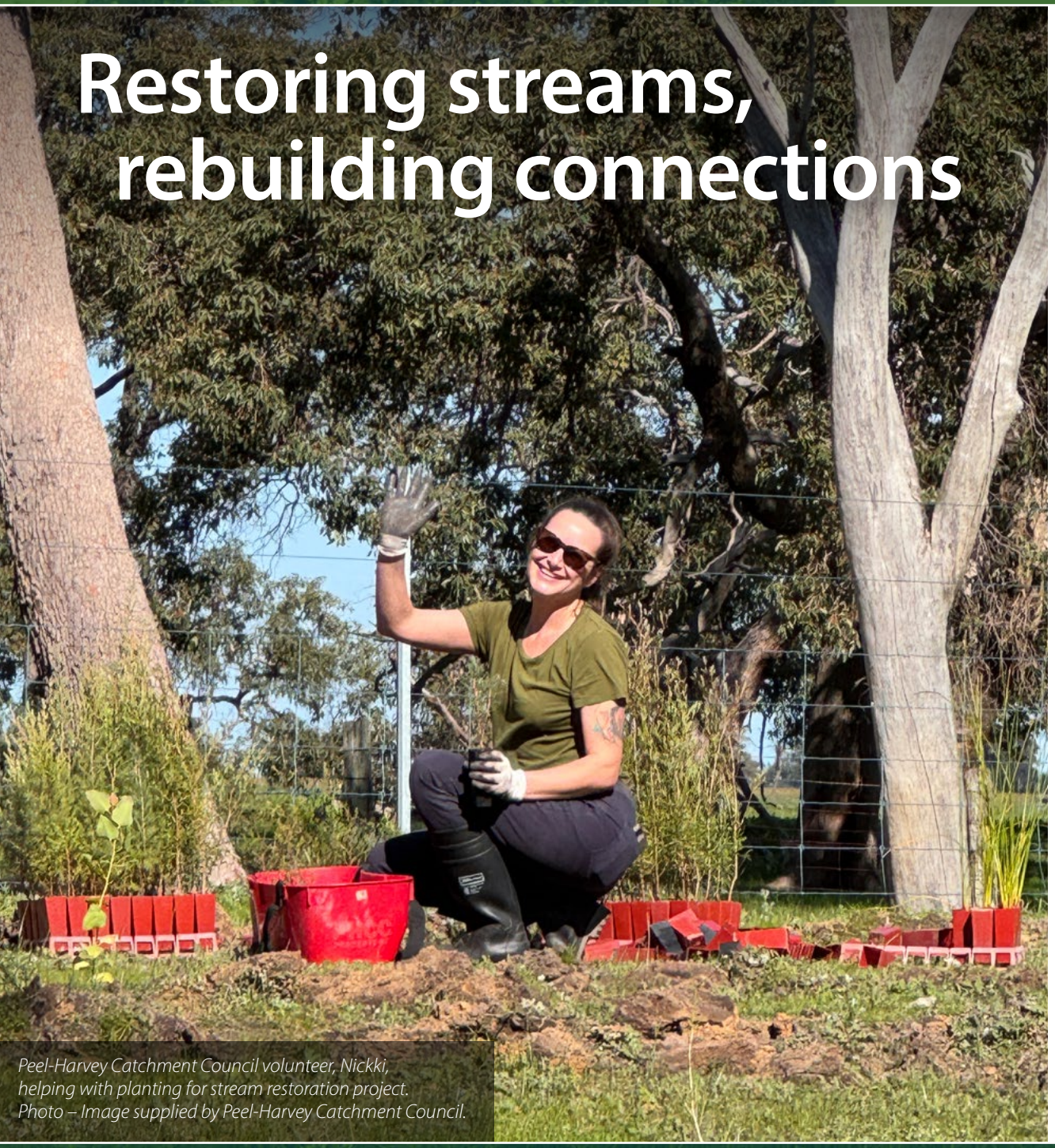
Next issue

Autumn *Bushland News*

Autumn *Bushland News* contributions should be sent to Urban Nature by **Monday 9 Febuary 2026**. *Bushland News* seeks original contributions. If your submission has been or may be published elsewhere please let us know. Compiled and edited by Renee Evans, Jaimee Nobbs, Louise Kaestner and Rebecca Dassens.

Restoring streams, rebuilding connections



Peel-Harvey Catchment Council volunteer, Nickki, helping with planting for stream restoration project. Photo – Image supplied by Peel-Harvey Catchment Council.

PHCC and landholders working together for healthier waterways

Across the Peel-Harvey estuary catchment - known to the Bindjareb Noongar people as Bindjareb Djilba - the Peel-Harvey Catchment Council (PHCC) is working alongside local landholders to protect and restore the streams that flow through farms, small land holdings, and communities before reaching this iconic estuary system. What makes these projects truly successful is not just the kilometres of fencing or thousands of seedlings planted - it's the strong, lasting relationships built with the people who live and work along these waterways.

Through support from the Healthy Estuaries WA program, PHCC has been helping landholders implement actions that reduce nutrient run-off and improve water quality. These projects typically include stock-exclusion fencing, riparian revegetation, and weed control, but they're also about sharing knowledge, building trust, and working together toward a common goal: protecting the health of Bindjareb Djilba (the Peel-Harvey Estuary) and its tributaries for future generations.

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Front cover: Farmers, PHCC staff and volunteers after a successful planting day.

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Working together from the ground up

Every stream restoration project begins with a conversation. PHCC staff meet with landholders on site to discuss their property's history, challenges, and aspirations. For many, fencing off a creek or dedicating part of their paddock to revegetation represents a big change to how they've managed their land for decades. That's why collaboration and open communication are key.

"Every site is different," says PHCC's Healthy Estuaries Officer, Bec Mackenzie. "We spend time understanding the landholder's priorities - whether that's stock management, erosion control, or improving biodiversity - and then design a plan that fits both environmental and practical needs. The success of these projects really comes down to the partnership."

Through these partnerships, PHCC provides the technical guidance, funding support, and on-ground assistance while landholders contribute their local knowledge, machinery, time, and care. Together, they co-design fencing layouts, revegetation areas, and watering systems that protect waterways while maintaining the productivity of the farm.

Small changes, lasting impact

Stock-exclusion fencing is often the first step. By preventing livestock from entering creeks, erosion is reduced, streambanks stabilise, and vegetation can regenerate naturally. This is followed by riparian planting, which adds a diversity of native species that filter nutrients and provide shade, habitat, and food for local wildlife.

In 2024-25 alone, PHCC supported landholders to install over 25 kilometres of fencing and revegetate more than 13 hectares of riparian zones. These collective actions are helping reduce nutrient run-off and sediment entering the Serpentine, Harvey and Murray river systems, along with their many smaller tributaries, farm drains, and ephemeral creeks - all of which play a vital role in feeding Bindjareb Djilba / Peel-Harvey estuary.

Discussing funding opportunities for fencing and revegetation of the drain on their property to exclude stock. Photo – Image supplied by Peel-Harvey Catchment Council.

Beyond the physical outcomes, the process of restoration often transforms how people see their land. "We've seen landholders take enormous pride in their restored creeks," says Bec. "They start noticing native birds returning, frogs calling again, and water running clearer after rain. Those moments reinforce why this work matters."

Hands in the soil: planting together for the future

Each winter, PHCC staff join landholders, community groups, and volunteers on-site for planting days - lively, hands-on events that bring people together to put thousands of native seedlings in the ground. These days are an opportunity for everyone to connect directly with the landscape they're helping to heal. Landholders often provide morning tea or a barbecue lunch, turning the day into a genuine community celebration of stewardship.

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A community approach to catchment care

PHCC's approach is grounded in collaboration - not only with landholders, but also with local governments, community volunteers, and partner organisations. Together, they form a network of care around the catchment's waterways.

Looking ahead

With continued support from the Healthy Estuaries WA program, PHCC will keep expanding its stream restoration partnerships across the region. The focus for the coming years includes increasing the uptake of riparian management practices, supporting landholders with long-term maintenance, and showcasing success stories that inspire others to get involved.

"The heart of this work is relationships - with the land, with the water, and with the people who care for both. When we build those connections, the whole catchment benefits."

Get Involved!

If you're inspired to make a difference on your property or within your community, the PHCC would love to hear from you. Landholders can access funding and support for stock-exclusion fencing, riparian revegetation, and other on-ground works that protect our waterways, wetlands, and estuaries.

Visit PHCC's website here.

Newly planted revegetation on stream restoration site with farmers in the background. Photo – Image supplied by Peel-Harvey Catchment Council.

Funding Acknowledgments
This project is part of the Bindjareb Djilba (Peel-Harvey estuary) Protection Plan and Healthy Estuaries WA, State Government initiatives to improve the water quality of the estuary.

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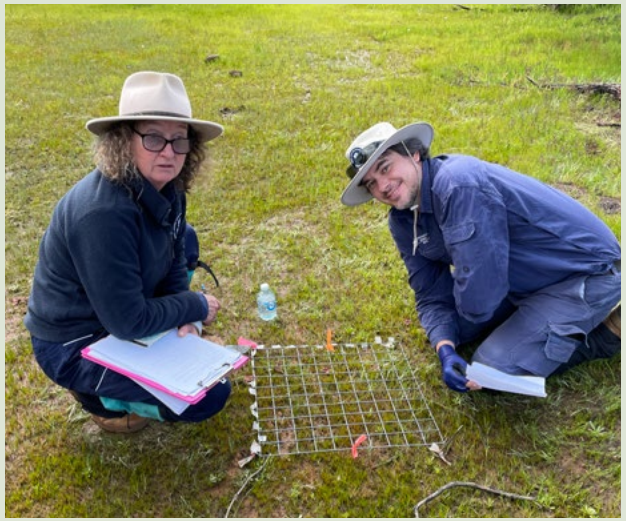
Urban Nature update *By Renee Evans*

A busy spring: out and about with the Urban Nature team

With Julia Cullity on extended leave, I have stepped back into the editor's chair of Bushland News and am invigorated by the ongoing efforts of community conservation groups and inspired by the articles in this edition. I would like to extend a huge thank you to our dedicated volunteers who stepped up to provide additional support this edition.

If you tried to contact us this spring, you likely received an out-of-office reply—we were out in the field! Spring is the ideal time for vegetation assessments and weed mapping, as bushlands and wetlands are at 'their best', with many species in full bloom. It's also the best season to observe annual and geophyte flora that are often hidden during other times of the year. We make the most of this short window by packing in as many field days as possible. The data collected during this period keep us busy in the office throughout summer and autumn, as we process and analyse the results. In addition to the sites mentioned below, we also spent time at Dundas Nature Reserve, Austin Bay Nature Reserve, Meelon Nature Reserve, Paganoni Swamp and Greater Brixton Street Wetlands.



Monitoring of herbicide trial plots within the Perth to Gingin Ironstone Threatened Ecological Community (TEC) has entered its second year. This community occurs on seasonally inundated shallow ironstone and clay soils, which are extremely restricted in distribution across the Swan Coastal Plain, with approximately 97% cleared for agriculture. Management is challenging due to invasion by broad-leaf weeds, for which few selective herbicides are available. Because the native vegetation consists mainly of small annual herbs and geophytes, plot sizes were scaled down to 50 × 50 cm, requiring detailed, ground-level assessments. Julia Cullity and William Fowler rescoring of one of these plots as part of the ongoing trials. Photo - Grazyna Paczkowska.

Neaves Road Nature Reserve supports the Tumulus Springs community (Organic Mound Springs, Swan Coastal Plain), which is listed as critically endangered under the Biodiversity Conservation Act and endangered under the EPBC Act. To inform effective management strategies for this Threatened Ecological Community (TEC), water samples were collected from the mound springs to measure pH and salinity, assessing potential risks associated with acid sulfate soils. Rick James and Julia Cullity conducted water quality testing in inundated wetlands as part of this investigation. Photo - Grazyna Paczkowska.

Urban Nature update *By Renee Evans*

The field component of herbicide trials aimed at identifying a new selective herbicide for controlling Watsonia has been completed at Watkins Road Nature Reserve. In the photo above, Brittany Porter and Grazyna Paczkowska are monitoring a treated plot to evaluate the herbicide's effectiveness on Watsonia and to check for any off-target impacts on native vegetation. Photo - Julia Cullity.

This year, we conducted weed mapping and vegetation condition assessments of the Banksia attenuata woodland over species-rich dense shrublands Threatened Ecological Community (TEC) at Errina Road Nature Reserve—a small reserve surrounded by residential development. These assessments will inform future management of these endangered TECs. During the survey, we identified a new weed for the reserve, Ixia fuscocitrina, likely introduced through garden waste dumping. The infestation is currently small and will be a priority for control. Ethan Black collecting a voucher specimen for submission to the WA Herbarium. Photo - Grazyna Paczkowska.

Wrangling the African Boxthorn *By Jaimee Nobbs*

African boxthorn (*Lycium ferocissimum*) is a highly invasive, drought-tolerant shrub originating from South Africa. Listed as a Weed of National Significance due to its invasiveness, rapid spread and severe environmental impacts, the African boxthorn has naturalised across much of Australia, degrading farmland, outcompeting native vegetation, and forming impenetrable thickets.

The African boxthorn is a dense, woody shrub that can grow up to 5 metres high and wide when established. Unlike many similar shrubs, its branches and stems are hairless. The rigid branches of the African boxthorn end in long, needle-sharp spines that can reach up to 15 cm, providing effective protection against grazing animals and creating barriers that restrict livestock movement.

When young, the stems of the African boxthorn are smooth and silvery-grey, becoming darker brown as they mature. They also have small, fleshy leaves (up to 4 cm long and 1 cm wide) that often grow in clusters and tubular flowers approximately 10mm in diameter and length.

The flowers have five lobes, are pale purple to white and feature deeper purplish markings inside the flower. The fruits of the African boxthorn develop into bright red to orange berries, 5–10 mm in diameter, shiny, round, and slightly wider at the end away from the calyx, which envelops the base of the fruit. Each berry contains 20–70 flattened seeds that are light brown to yellow in colour and around 2.5 mm long.

Where the wind blows, the African boxthorn goes

African boxthorn is well-suited to the dry, sandy climates of Western Australia, but it is also exceptionally adaptable. It can grow in a wide variety of climates, soil types, and habitats, from agricultural land and rangelands to coastal systems and disturbed bushland. It thrives in both full sun and part shade.

The African boxthorn spreads primarily by seed, commonly dispersed when the fruit is eaten by birds or other animals. These seeds can also spread via water, machinery and in dumped garden waste.

Once established, African boxthorn forms dense, spiny thickets, creating an impenetrable wall that reach tall and wide. This restricts stock movement, reduces available pasture, and creates shelter for pest animals such as foxes and rabbits.

The berries also attract insect pests, including fruit flies and dried-fruit beetles, which can affect nearby farms and orchards.

Because the plant has a deep taproot, it can readily reshoot if not completely removed. Long-term management is essential: even when above-ground biomass is removed, fragments left behind can regenerate and re-establish quickly.

The impenetrable wall

Originally introduced in the 1800s, the African boxthorn was used as a hedge plant for boundary demarcation and potentially even used as a garden plant.

African boxthorn *infestation*

Due to its dense infestation, the African boxthorn is an ecologically damaging shrub that can cause dire effects on the vegetation and fauna in the area it takes over, including:

- **Displacement of native vegetation**: Dense thickets outcompete native shrubs and groundcovers by blocking light, monopolising water, and altering soil structure.
- **Habitat degradation**: It provides cover for pest species such as foxes, rabbits, and feral cats, impacting native fauna.
- **Pastoral impacts**: It reduces usable grazing land and creates barriers impassable to livestock.
- **Agricultural risks**: The fruit can harbour significant insect pests, including the dried-fruit beetle and fruit fly species that affect horticultural produce.

And once established, it can be difficult to eradicate.

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Methods of control

While difficult to eradicate entirely, the management of the African boxthorn requires sustained effort due to the plant's resilience and extensive root system. Both chemical control and mechanical removal methods have been tried and tested.

Mechanical removal is suitable for seedlings and young plants however, larger shrubs may need winching, dozing or machine-based cut-stump methods to remove. The entire taproot in this method must be removed to prevent regrowth.

Chemical control has also been tested using methods such as foliar sprays and basal bark treatments however, long-term monitoring and follow-up treatments may be required due to the high persistence of its seeds.

A new frontier: Biocontrol release of *Puccinia rapipes*

A new initiative is now supporting community-led releases of a biocontrol agent to help manage African boxthorn and improve drought resilience across Australian agricultural landscapes.

Funded by the Australian Government's **Future Drought Fund**, and delivered by CSIRO under the 'Nation-wide Weed Biocontrol Mass-Rearing and Release Network for Enhanced Drought Resilience in Australia's Agricultural Landscapes' led by the Centre for Invasive Species Solutions, this program enables communities to participate directly in African boxthorn control.

The biocontrol agent, the rust fungus *Puccinia rapipes*, was approved for release in Australia in 2021 following extensive research confirming it is highly host-specific and does not affect native vegetation.

The rust works by infecting the leaves of the African boxthorn, causing yellowing of the leaves followed by the leaves dying back, as well as pustule formation. The pustules release fungal spores that disperse by wind to infect nearby African boxthorn leaves. While this method doesn't directly kill the shrub; it reduces its growth and ability to reproduce, weakening infestations over time.

Get involved: An invitation to participate in this new initiative

This project aims to establish the fungus at over 400 sites nationwide, reduce the impact of boxthorn on biodiversity and productivity, and build community capacity for sustainable weed management.

Farmers, First Nations groups, community organisations, government agencies, and interested individuals are encouraged to participate. Registered participants will receive biocontrol release kits, with enough material to spray eight or more boxthorn branches, containing the rust fungus, along with clear instructions and support for its release and monitoring. CSIRO will provide training material, opportunities for workshops, and field demonstrations to support community participation

You can register your interest to participate in the release program (or to submit general enquiries) by emailing or visit the website to learn more about the project.

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Puccinia rapipes *release (above) and infection (below).*

Wetland Rehabilitation on the Swan Coastal Plain:
It's Often About Modifying the Drainage Network…

By Rick James

Over the years thousands of kilometres of drains have been excavated on the Swan Coastal Plain (SCP). The initial motivation for most of these drains was to make the landscape more suitable for farming by removing what was seen as 'excess' water from the landscape. However, given that over a quarter of the SCP is classified as wetlands, the reality is that the 'excess' water was natural wetland habitat. It is no surprise that, when undertaking wetland rehabilitation work on the SCP, we're often faced with the task of trying to modify the drainage network to retain water in wetlands. Fortunately, it's often possible to retrofit drains in such a way that they can still remove water from farming land while also reinstating flows to wetlands.

Lower Lake Mealup – A Case Study

Wetlands typically occur at the lowest points in the landscape. Given this, it is not surprising that when drains were constructed they were often excavated through wetlands.

An example of this is the Lower Lake Mealup. The wetlands natural flow regime and local groundwater levels were impacted by the downstream end of a major regional drain – the Mealup Main Drain. This proved to be particularly problematic as Acid Sulfate Soils (ASS) are found in this area. The lowered groundwater levels triggered acid formation and subsequent release of acidified water to the Harvey Estuary. An ASS study, carried out in 2020, highlighted this issue and recommended that action be taken to raise local groundwater levels to both prevent further oxidation of ASS sediments and improve wetland conditions.

Subsequently, a 'flow control structure' was designed in-house and installed by staff from the local Mandurah DBCA work centre. Installation was carried out over summer when the drain was not flowing. This work also had to be carried out at a time when low tides occurred during daylight hours as the lower section of the Mealup Main Drain is tidal with water backing up from the Harvey Estuary.

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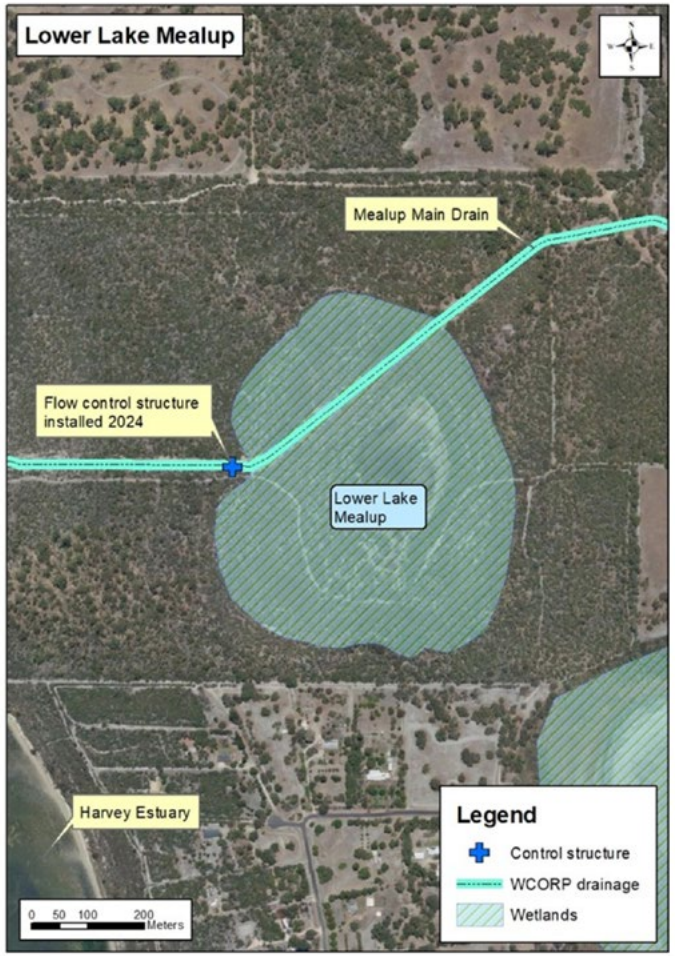

Lower Lake Mealup is part of the Lake McLarty/Mealup wetland system located on the east side of the Harvey Estuary just south of Mandurah. A major regional drain was excavated through the wetland in the past. A flow control structure installed in 2024 helps offset some of the damage caused by this drain. Photo - Rick James.

The flow control structure installed at Lower Lake Mealup involved fitting stop-boards to a concrete culvert. The stop-board frame bolts to the culvert and boards can be added/removed to achieve the desired water level.

The culvert/stop-board unit was installed over summer when there was no flow in the drain. However, a sandbag wall was required to keep tidal water out of the construction site.

The completed structure in 2024 (view looking downstream). The rock was carefully placed against the plywood/plastic/geofabric sidewalls. This arrangement prevents water flowing through the rock meaning that all flow must go through the culvert, or over the top of the rock walls.

August 2025. With some stop-boards fitted the structure raises the upstream water level. Any excess flow can pass either side of the culvert over the rock sidewalls. Photos - Rick James.

With stop-boards fitted the water level upstream of the structure can be kept high and this helps raise local groundwater levels. Photo - Rick James.

Stop-board flow control – an effective outcome

The control structure installed at Lower Lake Mealup has proved to be very effective and provides a good example of how drains can be retrofitted to improve wetland hydrological conditions without impacting on the functionality of the drain. The value of the new structure is further enhanced by the fact that Lake Mealup is located only 1km upstream. Water levels at this wetland are managed by a weir system that was installed in 2010, and the two structures are now managed together with additional water being stored in Lake Mealup over winter. This water is gradually released in spring and summer to maintain the high water levels in the drain through Lower Lake Mealup.

Although a relatively simple structure, the fact that it was installed in a Water Corp drain meant that their approval was required though the Asset Protection Risk Assessment process. A formal Maintenance Agreement was also negotiated. Overall the design and approvals took over 12 months.

Stop-board flow control structures offer a great deal of control of flow rates and levels when compared to 'fixed structures' e.g. a fixed level concrete weir, however, require additional resources to maintain and operate. At Lower Lake Mealup, the Water Corp were prepared to accept a stop-board structure that has the potential to raise water levels by up to almost 1m. If we'd proposed a fixed structure they would have been far more conservative with respect to the design height i.e. only about 350mm.

The Maintenance Agreement stipulates that DBCA are responsible not only for the maintenance and operation of the structure but also its decommissioning at the end of its design life or early removal if unforeseen problems occur. The design that was developed reflects these requirements as removing the rock work and lifting out the culvert would be relatively simple to achieve compared to a concrete structure. In fact, if need be, the culvert and stop-board arrangement could be relocated and installed at another site.

Overall, given the work involved in getting the required approvals, and the staff time required to maintain and operate stop-board flow control structures, they should only be considered when the benefits derived from their installation are great e.g. a large wetland area will benefit.

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2025 Great Cocky Count results are in

By Merryn Pryor

On Sunday 6 April 2025, over 660 registered volunteers, along with friends and family, headed out in the evening to count black -cockatoos as they flew into their evening roost site as part of the annual Great Cocky Count (GCC). The 2025 event was the 15th Great Cocky Count since its inception in 2010.

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2025 Great Cocky Count results

A total of 448 roost sites were surveyed from Chapman Valley in the north to Esperance in the southeast. Of the 448 roost sites surveyed, 275 of these were occupied, with 124 roost sites recording forest red-tailed black cockatoos only roosting, 103 recording white-tailed black cockatoos (Baudin's and/or Carnaby's) only, and 48 recording both white-tailed black cockatoos and forest red-tailed black cockatoos roosting.

A total of **15,786 white-tailed black cockatoos** were recorded overall, with 7,446 recorded in the Greater Perth-Peel region and 8,340 recorded in regional areas. The largest roost site of 1,420 birds was recorded in Nilgen, followed by two roost sites of 1,386 and 781 birds in the pine plantations at the Pinjar Motorcycle Area. This year's total was the lowest recorded for white-tailed black cockatoos since 2015, as well as the lowest recorded count for the Greater Perth-Peel region since 2015.

A total of **4,194 forest red-tailed black cockatoos** were recorded overall, with 3,071 birds recorded in the Greater Perth-Peel region and 1,123 birds in regional areas. The largest roost site of 150 birds was located in Mungalup.

The **low numbers recorded this year**, particularly for the white-tailed black cockatoos, is concerning. While it is impossible to pinpoint the exact reason behind the drop in numbers, there are several factors that may have contributed, including the delayed impact of the loss of thousands of hectares of foraging habitat from the Gnangara Pine Plantations in recent years before harvesting ceased, and the flow on effects of both a poor breeding season and the 2023-2024 drought and heatwave conditions likely continuing to impact food availability in many areas.

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Lowest recorded count since 2015

275 roost sites occupied

15,786 white-tailed black cockatoos

4,194 forest red-tailed black cockatoos

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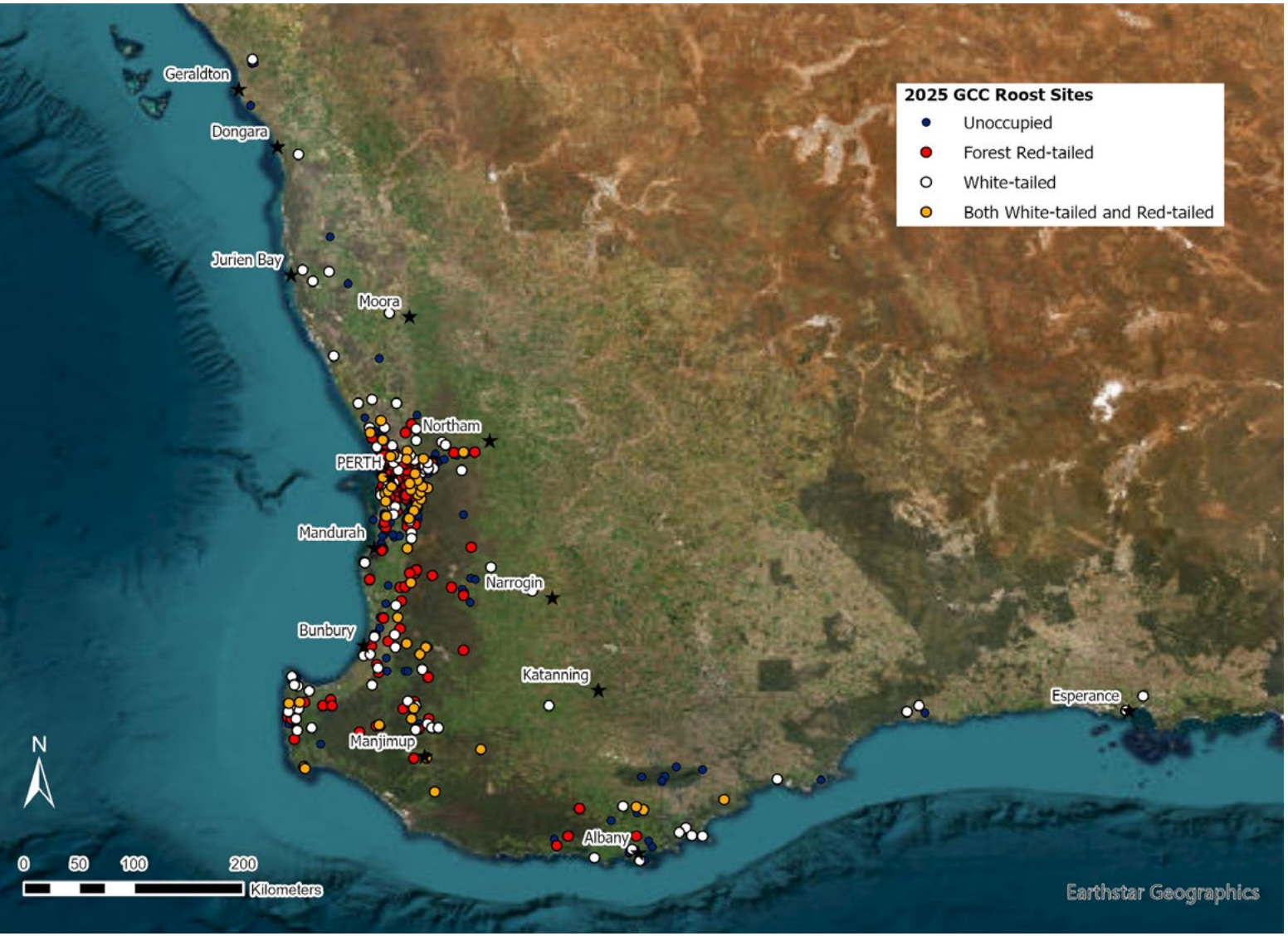
2025 Great Cocky Count results



The results of this year's GCC emphasise the importance of long-term consistent monitoring in picking up changes to threatened species populations over time. Thank you to all the wonderful volunteers who participated and made the 2025 count possible.

The 2026 Great Cocky Count is scheduled to take place on Sunday 12 April, with registrations opening on 2 February.

The Great Cocky Count is supported by funding from the Western Australian Government's State NRM Program.

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A map of the documented roosting sites and sightings of Forest red-tailed black cockatoos, white-tailed black cockatoos and both white-tailed and red-tailed black cockatoos that were counted as part of the 2025 Great Cocky Count. Photos - Provided by Birdlife Australia.

Growing Older OutDoors:
The benefits of environmental volunteering

By Sam Rycken

BirdLife WA volunteers conducting a bird survey on Rottnest Island. Photo – Sue Mather.

Most environmental organisations, especially not-for-profits, work with volunteers. But did you know that almost all the most dedicated volunteers are retirees, who spend immense time and resources supporting the vital work these organisations do to protect the environment?

Last year, Dr. Catherine Martin (Curtin University), Dr. Catriona Stevens (ECU) and I (Dr. Sam Rycken (DBCA, BirdLife WA)) started the GOOD (Growing Older OutDoors) project, together with participant researchers Sue Mather, Freda Blakeway, and Heather Beswick, who are retired citizen scientists and champions in Bird Conservation work. Through a series of interviews led by our participant researchers, followed by focus group discussions on photos our volunteers submitted, we explored where their passion for nature originated, why they volunteer, how this affects them as they age, and how they see citizen science and its benefits for the environment.

One of the main findings from the research was that, although passion for nature and the environment originated at a young age, it is only after retiring that most found their way to volunteering and spending time teaching others about nature on excursions or through events. This means that although environmental organisations invest a lot of time in reaching the younger generations, it is equally important to invest in our retired community who only then have the time to make the kind of difference to environmental protection and citizen science that organisations depend on. Multiple other benefits were discussed as well, with volunteers agreeing that it keeps them mentally astute and engaged, as there's always more to learn and know about our natural world.

Heather Beswick and Jarna Kendle out in the field. Photo - Sam Rycken.

Catherine Martin and Sam Rycken at the GOOD Project exhibitor booth at the Ageing Well Expo. Photo – Christine Shaw.

It also gets them out in beautiful natural places where they wouldn't normally go, with others that share their passion, and gives them a sense of peace and connection. But most of all, they remember how things use to be in Western Australia and want to make sure its incredible natural places and species are protected for future generations.

Having concluded the research component, the GOOD project is now engaged in outreach attending events such as the Aging Well Expo 2025, Bold Park Open Day, Have a Go Day in Burswood Park and several other regional events. We use these opportunities to share the outputs of the research, let people know about the benefits of environmental volunteering and put them in touch with their local organisations. This allows them to engage with an organisation that appeals to them or join a walk or event and meet likeminded people or, sometimes, to find a whole new passion and purpose in life.

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Farmers join trial to fight bushfires with native plants

By Kristy Hitchens

Could living firebreaks in Western Australia's South West be a tool for helping reduce the impact on communities and landscapes of predicted increases in climate-driven disaster?

It's a question South West NRM is seeking to answer via a new trial which forms part of a collective effort by the Natural Resource Management (NRM) sector nationally, to better understand the potential for nature-based solutions (NbS) to mitigate the impacts of fire, flood and climate risks.

NRM Regions Australia Nature-led Resilience Program Lead Sarah Hoyal said, "The Living Firebreaks project is an innovative response to a critical challenge - fire - that faces the South West Region and many other parts of Australia.

What's a living firebreak?

Living firebreaks are planted areas of low flammability vegetation that are strategically placed in the landscape to slow and reduce fire spread.

South West NRM CEO, Dr Manda Page, said the trial would explore the design of living firebreaks (including species selection, location, size and extent) to suit West Australian conditions, with the aim of maximising success by delivering landscape-scale risk reduction.

South West NRM is working with farmers who are providing land to install the living firebreaks and collaborating with two Australian universities on the design and research components of the project.

Input from Traditional Owners is being sought to inform plant selections and understanding of fire behaviour-plant interactions.

Why is this needed?

Dr Page said the United Nations' Intergovernmental Panel on Climate Change (IPCC) continues to identify the South West of Western Australia as a global drying hotspot which is supported by Bureau of Meteorology data showing a 20 per cent reduction in rainfall since the 1970s.

"Living or green firebreaks are not intended to replace existing fire prevention and management techniques but - depending on the outcomes of this trial - could provide an additional tool in addressing the risks associated with changing climatic conditions," Dr Page said.

Nature-led resilience is an ongoing NRM Regions Australia program to improve awareness, capability, and investment for nature-based solutions that can deliver broad benefits across Australia. The initial Nature-led Resilience: Safeguarding Regions from Fire, Flood and Climate Risks project runs from May 2024 to May 2026, with support from the Minderoo Foundation.

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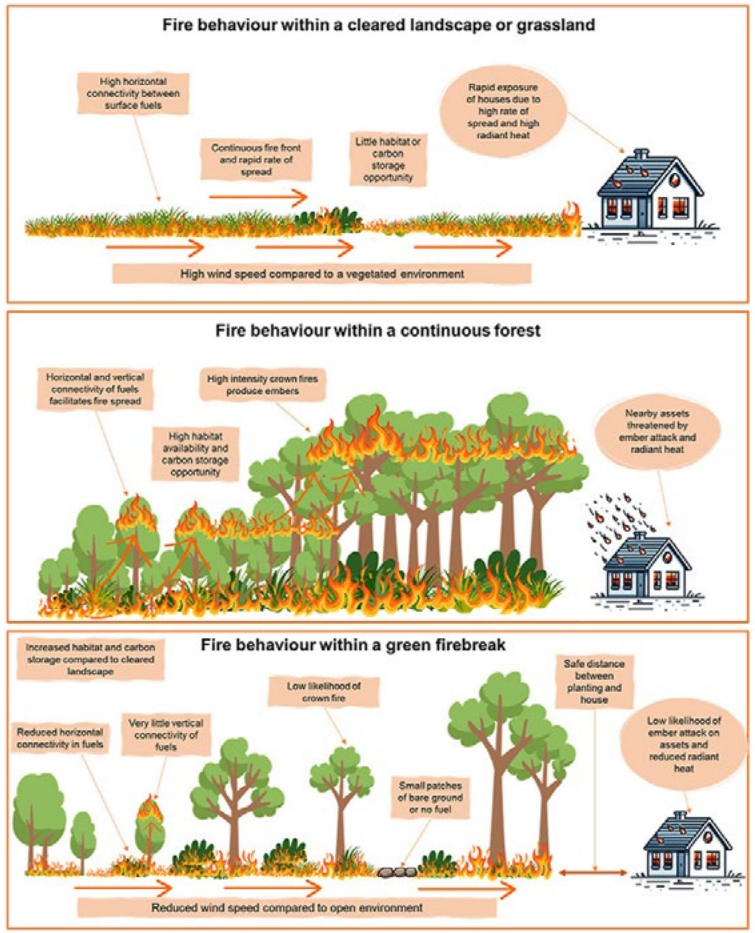

A graphic of the different ways fire can behaves within a cleared landscape or grassland, within a continuous forest or within a green firebreak. Source: Marshall et al.,2024

Fire dams: a lifeline for wildlife in a drying south west

By Kristen Fernandes

The rivers, streams, and wetlands of south west Western Australia are drying out, and the impact on wildlife is serious. More than 1000 species depend on freshwater flows, including woodland birds, frogs, native fish, crayfish, and mammals. As water disappears, survival becomes harder for all of them.

One unexpected lifeline could be fire water points. These are artificial dams that were built to supply water for firefighting. These dams often hold water through summer and may provide critical drinking spots for native animals. Endangered Carnaby's white-tailed black cockatoos and forest red-tailed black cockatoos have been seen using them, along with quokkas and chuditch. However, as aerial firefighting becomes more common, these water points are used less and less for fire suppression, raising questions about their future role and whether there is a continued need to manage them.

Department of Biodiversity, Conservation and Attractions Research Scientist, Dr Kristen Fernandes, taking an eDNA sample from a fire water point. Photo - Dr Laurence Dugal.

Our project set out to determine how important these fire dams are for wildlife. We surveyed six dams in the Northern Jarrah Forest using cameras, audio recorders, and bird counts. At three of the dams, we also used environmental DNA (eDNA) to capture broad biodiversity signals. eDNA refers to genetic material shed by organisms (such as hair, skin cells, or saliva) into their environment. We collected water, sediment, and soil samples at these water points to see if we can detect the animals that frequent them.

The eDNA results were promising. We detected one fish species, one amphibian, 18 birds, one reptile, and eight mammal species across the three water points. Amongst the birds detected, we picked up the threatened white-tailed black cockatoo, although, the two species (Carnaby's and Baudin's) are too genetically similar to be teased apart using eDNA methods. We also captured birds of prey, emus, fantails, and bee-eaters. The mammals detected included western grey kangaroos, western brush wallabies, and even bats. Unfortunately, feral animals were also present, with DNA from red fox and feral pigs found at these sites. Of the three sampling methods, sediment revealed the highest diversity, although using all sampling methods helped create a broader picture of biodiversity at the water points.

An example of a fire water point, an artificial dam that holds water through summer and provides a critical drinking spot for native animals. Photo - Dr Laurence Dugal.

We are still analysing the data to understand how the different survey methods complement each other and whether novel approaches, such as eDNA, provide useful complementary information. This research will inform conservation, maintenance, and management strategies at water points, ensuring they continue to support biodiversity in a drying climate.

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A Strategic, Lifecycle-Based Conservation Model to Support Carnaby's and Build Resilient Landscapes

By Emma Malloch, Perth NRM

As a Regional Delivery Partner for the Natural Heritage Trust, Perth NRM has been implementing a strategic, lifecycle-based approach to the conservation of Carnaby's Black Cockatoos (Noongar name: Ngoolark) (Scientific name: *Zanda latirostris*). Recognising the species' ecological role and its function as an indicator of ecosystem health, our work focuses on both the breeding landscapes of the Perth Hills/Wheatbelt and the foraging/roosting habitats of the Swan Coastal Plain.

Stage 1 of Building Resilient Landscapes in the Swan Region: Carnaby's Black-Cockatoos, applied multi-criteria analysis (MCAS-S) to integrate ecological data, habitat connectivity, resilience, and threat levels. This analysis produced a regional-scale conservation blueprint pinpointing high-priority actions for Carnaby's breeding areas and across six LGAs for post-breeding habitat management (Stage 2). Within the breeding landscape, Perth NRM partnered with Carnaby's Crusaders to install 12 nesting boxes on an identified Bindoon breeding property. Installed in February 2025, three of these hollows are already occupied by females (as of 13 October 2025), each with two eggs – a strong, early indicator of site suitability and habitat recovery potential. Artificial hollows or nesting tubes mitigate the loss of old-growth tree cavities (>100 years) and provide secure nesting alternatives where natural hollows are limited. As pairs are site-loyal, successful nesting this season increases the likelihood of ongoing use and local population stability. There were also three females in original tubes on the property, which means there are six breeding females at this Bindoon site at this time.

Two Cockatoo eggs found in one of the nest boxes which have been provided. Photo - Emma Malloch.

"These birds are highly loyal to successful nest sites, so this is an excellent sign," said Perth NRM Environmental Program Coordinator, Emma Malloch. "When a pair successfully raises chicks, they'll return to the same hollow year after year. Each successful nest is a step towards stabilising the species' population."

Post-breeding interventions on the Swan Coastal Plain include weed control and revegetation (1.36 ha to date) and establishment of diverse food species within 4–6 km of mapped roosting sites. Upcoming "Carnaby's Café" projects in community spaces, co-implementation of Cockatoos Action Plan with collaborating local councils, and expanding weed control and revegetation works (including 1.3 ha of habitat work in Kwinana) aim to enhance community engagement and extend ecological corridors. This integrated data-driven approach advances both species recovery and broader landscape resilience by addressing nesting, foraging, and roosting habitat at local and regional scales - reinforcing Carnaby's conservation as a model for ecosystem-based management.

One of the Female Carnaby Cockatoos enjoying herself on the nest box. Photo - Emma Malloch.

The Building Resilient Landscapes in the Swan Region: Carnaby's Black-Cockatoos project is funded by the Australian Government Natural Heritage Trust and delivered by Perth Natural Resource Management, a member of the Commonwealth Regional Delivery Partners panel.

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Please send us your regional report (400 words) and one or two photos by Monday 9 February 2026. Text may be edited in response to volume of submitted reports.

Beeliar Woodland Walks a triumph of community spirit *By Adam Peck*

A 4.5km nature trail known as the Beeliar Woodland Walks has risen triumphantly from the ruins of bushland destroyed during clearing for the now-defunct Roe 8 corridor.

Complete after eight years work, it is another lasting legacy of the Rehabilitating Roe 8 project, based at the City of Cockburn, in partnership with a steadfast band of community members and stakeholders.

The trail project has also been a catalyst for the formation of volunteer community organisations the Cockburn Community Wildlife Corridor, Karak Cooby Bushcarers and Biyara Bush Bandicoots. Their members diligently care for bush sections of the trail, bringing advocacy for the land full circle to local stewardship.

The trail's creation followed consultation with the Rehabilitating Roe 8 Advisory Committee, workshops with key stakeholders at The Wetlands Centre Cockburn, online community surveys, and meetings with City of Cockburn staff and other stakeholders.

The community vision was for a sustainable path network to enable passive recreational use and opportunities to enjoy nature and cultural education, realising multiple social, environmental and health benefits.

Much of the consultation revolved around path treatment types such as limestone and sand, location of primary paths and opportunities for loop trails or interpretive nodes.

It also mapped the attributes and points of interest that community members wanted highlighted. Local Nyungar people advised on the interpretive text and zones have also been named in Nyungar language.

It also meets Australian standards for walking tracks, including safety and accessibility attributes.

The east-west bush trail links Bibra Drive (Bibra Lake) in the east and Stock Road (Hamilton Hill) in the west. Most of the trail features a limestone path meandering through the bush, with Corten steel signs providing wayfinding and interpretive information.

The trail signs link by QR code to the City's Beeliar Woodland Walks website, which has expanded information about biodiversity and hydrology, Nyungar heritage and long connection to the area, the history of the Roe 8 protests and the management of the project.

There is something to see at all times of the year on the trail, from spring wildflowers to egg-laying long-necked turtles and migratory Rainbow Bee Eaters.

"Beeliar Woodland Walks has been created alongside the extensive land management and restoration activities of Rehabilitating Roe 8," City of Cockburn Mayor Logan Howlett said.

"Those involved in this immense task should be very proud. Not only are they restoring the Beeliar wetlands and woodlands, they have created a valuable asset for the community.

"The health benefits of being able to seek calm, find ways to be physically active and join with community in a common goal to preserve bushland, particularly in an urban setting, cannot be underestimated."

Catherine Baudains, Rehabilitating Roe 8 Advisory Committee member, and William Baudains involved in the restoration activities of Rehabilitating Roe 8. Photo - C. Athanassiou.

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BioBlitz Unveils Julimar State Forest's Hidden Riches

By Melissa Adams

Despite a wet and chilly weekend in early September, the Julimar State Forest BioBlitz was a resounding success, bringing together over 94 citizen scientists and experts to document the incredible biodiversity of this Western Australian gem.

The weekend began on Friday evening with the Conservation Council of WA's Environment Matters event, which featured a beautiful Welcome to Country by Uncle Ben and Robert Miles, followed by fascinating presentations on the forest.

Jason Fowler, Senior Campaigner of the WA Forest Alliance (WAFA), gave an overview of the Forest and the current threats it faces; Max Howard, of the Avon Valley Bird Group shared what birds we would be lucky enough to see; Daniel Heald of WA Insect Research Study Society captivated us with the world of invertebrates; Dr Kit Prendergast was passionate about our native bees; and Dr Julianne Waldock fascinated us with trapdoor spiders.

Saturday kicked off with a Smoking Ceremony, and then our enthusiastic participants, guided by experts, set off to search for fungi, flora, birds, reptiles, invertebrates and to study different habitats. All observations were meticulously recorded, often using the iNaturalist app, to contribute to the official species tally.

The discoveries were spectacular! The fungi team was ecstatic to find a seldom-seen Smooth Cage fungi, and an expert declared the find as once-in-a-lifetime. The plant life was equally diverse, with a variety of beautiful orchids.

The Orchids included the delicate Blood Orchid, along with the discovery of the endangered Many-headed Dryandra and the priority four Yellow China Orchid. The invertebrate team even managed to locate an elusive velvet worm!

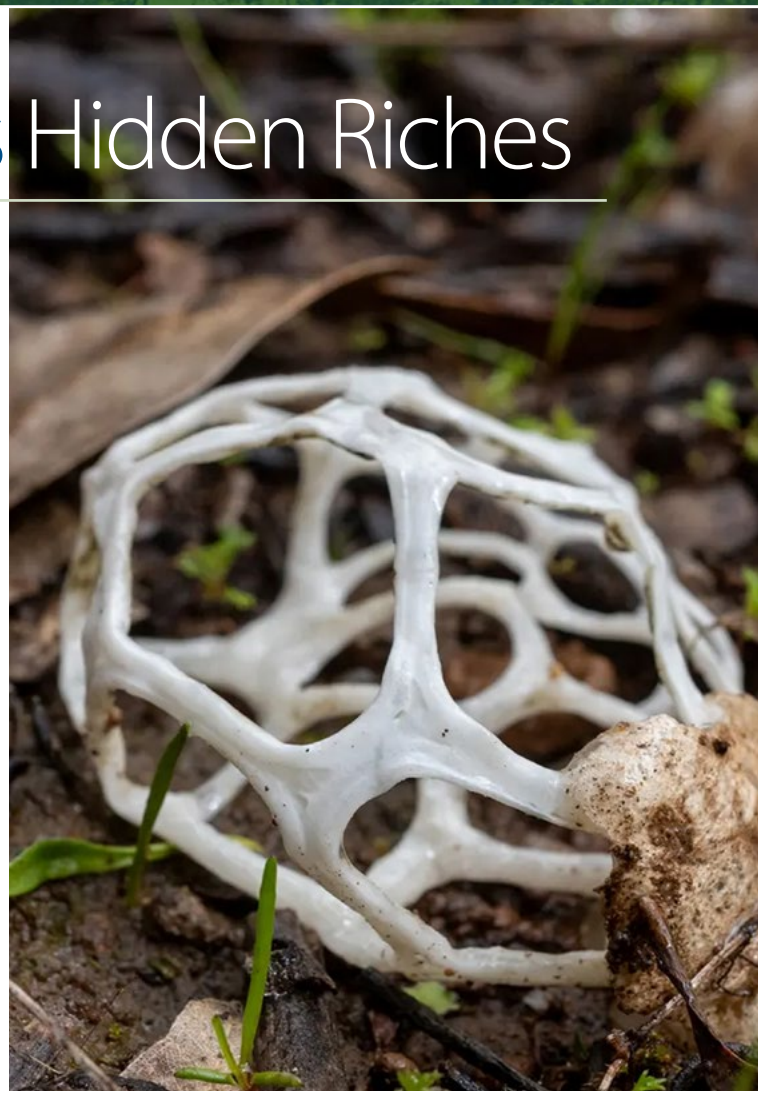
As evening fell, spotlighting surveys rewarded participants with an amazing number of possums and frogs, plus a very special sighting of a critically endangered Woylie. Ecologists also used a bat detector to confirm the presence of bats in the forest's dark canopy.

Across the two days of surveys, almost 2,000 observations and over 360 different species were officially recorded, with the final number expected to rise as data is further analysed.

The BioBlitz was an invaluable display of citizen science in action, made possible by the incredible support of the local Toodyay environment groups, the Conservation Council of WA, Julimar Conservation and Forest Alliance and the Noongar Kaartdijin Aboriginal Corporation. The BioBlitz was also proudly supported by the Bupa Foundation.

Finally, I'd like to thank Amber from the Northam Environmental Hub and Joy, a CCWA intern, for setting up the iNaturalist project. Without the assistance of dedicated individuals, we would not have held the event. The event not only gathered vital data but also inspired a strong commitment from attendees to return and advocate for this important biodiversity hotspot.

The report will be available in early 2026. Read more about Julimar State Forest BioBlitz.



Basket fungi (Ileodictyon cibarium) are unusual mushrooms with a delicate, cage-like structure that emits a foul odour to attract insects for spore dispersal. Photo – Angus Demster (iNaturalist).

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Upper Lesmurdie Falls Rehabilitation 2012 to 2025

By Mike Robinson

From the 1880s to the 1980s, most of the land around Lesmurdie Brook, in what is now Mundy Regional Park, was privately owned property. By the late 1980's, those properties had been resumed and added to Mundy Regional Park. The legacy of the private ownership was a highly degraded brook and the land surrounding it. Weed infestation, both annual and perennial, was a huge problem and the brook had become an ugly and dysfunctional drain.

The Friends of Upper Lesmurdie Falls (FOULF) was formed in late 2012 to rehabilitate the area. Our vision was to restore as much of the site as possible to something approaching the natural bush nearby, restore the brook to a healthy natural waterway, enhance the facilities and generally improve the visitor experience.

State NRM has been our major sponsor from day one and has now funded eight separate projects with another application pending. To date, they have contributed over $244,000 to the rehabilitation of this iconic site. State NRM has not only supplied funding but has also demonstrated a genuine and much valued interest in our work throughout our association with them.

We have also received over $41,000 from the Rivers and Estuaries branch of DBCA for repair and replanting of a large erosion gully on a rivulet feeding into the brook.

Grants from both these organisations have been restricted to activities directly related to the natural environment and that meant we needed to approach other bodies for funding path and car park construction, bridge building, shade house construction, maintenance, etc.

To enable those works, we teamed up with the local ratepayers' group (the Lesmurdie and Districts Community Association (LDCA)) to raise an additional $171,000. The contributors to that total were Kalamunda Rotary ($90,000), the Shire of Kalamunda ($48,000), Forrestfield Community Bank (Bendigo Bank) ($16,000), Lotterywest ($15,000) and LDCA ($2,000).

As we were finding our feet in 2013, Perth NRM were a great help by providing advice on a wide range of issues including Aboriginal use of the land prior to European settlement. They also financed a comprehensive assessment of the vegetation on site—both native and weed species.

Across all these different sources of funding, our in kind contribution has vastly exceeded the value of the grants. We have a very active membership which has grown from the initial five in 2012 to nearly 350 at the present time. We hold Busy Bees on the second Sunday of every month and communicate with the full membership via a high quality newsletter—Creeklines.

The improvement to the site on all the elements of the vision mentioned above has far exceeded our initial expectations but we still have a lot to accomplish over the coming years. In 2019 we received the WA Landcare award for Best Community Group and in 2023 we received the Kalamunda Chamber of Commerce award for Best Non-Profit organisation.

For anyone wishing to know more about us, we can be contacted via our website, email or by ringing our President (Nick Underwood) on 0409 100 681.

Continued next page ...

The weir in 2023, after a miraculous restoration. Photo - Nick Underwood.

Friends of Upper Lesmurdie Falls tending the Earth. Photo - Margaret Sorah.

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WA Wetlands Conference 2026 *By Renee Evans*

Now in its 22nd year, the WA Wetlands Conference stands as one of Australia's largest and most influential gatherings in wetland science, management, and research. Held each year to commemorate World Wetlands Day, this conference brings together experts, practitioners, and enthusiasts to address critical issues facing our wetlands.

This year's conference will be held on the 5th and 6th of February at the Wetlands Centre in Cockburn. The overarching conference theme follows the Ramsar theme for 2026 of '***Wetlands and traditional knowledge: Celebrating cultural heritage***.'

The event will feature keynote addresses, expert presentations, case studies, research sharing, plenary discussions, guided tours, and ample networking opportunities. Early Bird Registrations are now open.

Native bee habitat structure *By Renee Evans*

Based on years of research and over 70 publications Dr Kit Prendergast has identified not only the best flowers for native bees, but also the best designs for their nesting habitat. Come and learn how to create habitat for native bees, and see these designs installed in the ReWild Perth Demonstration Garden. The event is to be held on Saturday 13 December 2025 at the Perth NRM office in Bentley.

This project is funded by the Australian Government Natural Heritage Trust and delivered by Perth Natural Resource Management, a member of the Commonwealth Regional Delivery Partners panel. Register at ReWild Perth

Danger Mouse

By Geoff Barrett, Russell Palmer and Erin Clitheroe

Perth's Islands offer a safe haven for roosting and nesting seabirds, away from human activity, domestic dogs and cats, as well as foxes and other pest animals. A control program for black rats was implemented on Penguin Island with the last animals removed by DBCA in 2013. Foxes are also not keen to swim from the mainland to the island.

Despite ongoing vigilance, seabird numbers and breeding success varies from year to year, and the department is dependent on dedicated volunteers to monitor populations. In 1980, Carnac Island, located north of Garden Island, was home to thousands of breeding pairs of Silver Gulls and various tern species, as wells as burrowing Wedge-tailed Shearwaters (*Ardenna pacifica*) and Little Penguins (*Eudyptula minor*). Recent surveys by ornithologists however, indicated that Little Penguins have disappeared from the Carnac Island Natural Reserve all together, whilst the Wedge-tailed Shearwaters are now restricted to a flat, rocky outcrop called Flat Rock, located to the south of Carnac. In addition, the once thriving Silver Gull population has undergone a concerning decline of by more than 80%. Extensive camera trapping in 2023 failed to detect obvious predators such as Black Rats, leading to speculation that perhaps the humble House Mouse may be the culprit. But how could this be, mice are more often prey than predator?

Midway Atoll

The four Japanese aircraft carriers sitting on the ocean floor off Midway Atoll, serve as a terrible reminder that prey can become predator. This tiny speck of land in the vast Pacific Ocean, midway between North American and Asia, was a naval service centre but also of immense strategic importance to seabirds. Rats were eradicated from Midway Atoll, also known as Kuaihelani, in 1996 but the House mice (*Mus musculus*) remained, thought to be small and harmless. However, by 2015 biologists were surprised to learn that mice had begun to kill mōlī, also known as the Laysan Albatross (*Phoebastria immutabilis*) – eating the large, docile fledglings alive in their nests.

The switch from herbivore/insectivore to carnivore is understood to have occurred during prolonged dry spells, when the vegetation on Midway Atoll died back, leaving the mice with seabird carcasses, as their primary food source. DNA sequencing of mouse droppings (between 2018 and 2019) indicated that 12% of their diet consisted of flesh from the Laysan albatross.

Returning to Carnac Island, where speculation as to the causes of the decline in Silver Gulls, Wedge-tailed Shearwaters and Little Penguins, has begun to consider the House Mouse as a possible cause. A field study is planned, to determine whether the mice there have become larger and more aggressive, and most importantly, to conduct stable isotope analysis to see whether their diet includes seabirds. If so, eradication of house mice from Carnac Island other islands in the Shoalwater Islands Marine Park will play an important role in the conservation and management of Perth's seabirds and their island habitats.

Mice detected on cameras at Carnac Island. Photo - Russel Palmer.

Funding opportunities

The **City of Rockingham** proudly supports locals through the Community Grants Program, funding ideas that build a stronger, more connected community. There are also opportunities including tertiary scholarships for Uni and TAFE students, youth encouragement grants for young achievers, and travel subsidies to help locals represent Rockingham beyond our borders. Check out the website for more information.

The **Indigenous Land and Sea Corporation** funds land acquisition or management projects that deliver benefits to Indigenous Australians through the Our Country Our Future Program. This includes on-ground activities to maintain or improve the condition of Country (land, water, biodiversity, and cultural heritage). They accept applications **year-round**.

Australian Wildlife Society Conservation Group grants fund up to three groups yearly, specialising in wildlife conservation and the preservation of wildlife habitats. Applications **open year-round**.

Treebates open to Western Australians to claim up to $150 rebate on the purchase of native trees that will reach at least three meters in height when mature. Up to 10,000 rebates per year for next four years. Visit the website for more nformation on how to apply.

Lotterywest Grassroots Community-Led Grants fund community efforts to care for, sustain and enhance local biodiversity. Applications **open year-round**.

The **Swan Canning Riverpark Urban Forest** program provides funding to public land managers to improve the Swan Canning Riverpark's ecosystem health, amenity value and use of the urban forest landscape. Approach your public land manager to partner in projects. Applications **open year-round**.

Purves Environmental Fund gives funding to projects focusing on the mitigation for the exploitation of natural resources and the protection of freshwater habitats. Applications **open year-round**.

Feliman Foundation offers support to organizations doing on ground conservation projects, as well as organisations raising environmental awareness. Applications **open year-round**.

Santos aims to provide funding to support and protect biodiversity. Applications **open year-round**.

The Ian Potter Foundation supports big picture thinking that focuses on issues such as biodiversity loss and climate change. Expressions of interest **open until 11 December 2025 with applications closing on 26 March 2026**.

IGA Community Chest raises funds to support local communities, charities and other worthwhile causes. Approach your local store **year-round with a pitch**.

Harvey Water provides funds to support sustainable solutions, and management practices in the communities of Harvey, Waroona, Dardanup, and Collie. Applications **are open now**.

Feeling stuck? Check out this fabulous **Grants and Program Finder tool** brought to you by the Australian Government. This refinable search engine allows you to hunt down the perfect grant for your land and wildlife conservation project or goal while conserving your valuable time and energy.

The Linkwest Open Grants Opportunities website is another great resource to assist you in finding a grant. This information is relevant with new grants opening all the time.

Local government and place-based community grants. These local governments and groups provide small grants to their communities which may fund environmental management and restoration projects. Eligibility varies. Cockburn Sustainability Grants **open all year**, Gosnells **close 24 each month**, South Perth **open year-round**, Wanneroo **open year-round**.

These hidden gems in the Southwestern wetlands

Schoenolaena juncea

The Schoenolaena juncea *flower photographed in Kenwick. Photo - Grazyna Paczkowska.*

By Jaimee Nobbs

As summer arrives and the days begin to warm, tightly packed clusters of the *Schoenolaena juncea* flowers appear. Schoenolaena juncea is a perennial, rush-like herb that can grow up to 1 meter tall and is native to Southwestern Australia. It belongs to the carrot family (Apiaceae) and can be found flowering in swamps and wetlands from Dandaragan through to the east of Albany in Summer and Autumn. In cooler months, long, cylindrical basal leaves that taper to a point emerge. These wither away by early summer, when clusters of small white flowers appear, each surrounded by large, papery bracts that are white with purple tinges.

Schoenolaena juncea is the sole species in its genus, meaning the genus Schoenolaena is monotypic. For the longevity of the species, the *Schoenolaena juncea* takes matters into its own hands transitioning from a male phase, when it releases pollen, to a female phase as it matures, when it becomes receptive to pollination. This transition can be seen in the shedding of the anthers, its pollen-producing organs. The plant reproduces primarily by seed, which are well-adapted for dispersal by water, and pollination is also facilitated by wind and small insects. This reproductive strategy ensures successful pollination and seed production for the species.

Keep an eye out for *Schoenolaena juncea* this Summer!

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