

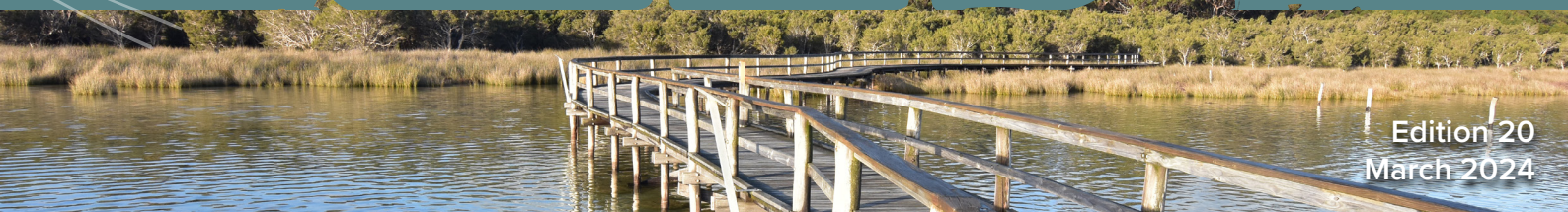
# Landcare matters

Lake Clifton Sub-catchment



PHCC Working Together  
Peel-Harvey Catchment Council

Edition 20  
March 2024



Welcome to the 20th edition of Landcare Matters: Newsletter of the Lake Clifton Stewardship Program – a program supporting landowners for healthy habitats and waterways in the Lake Clifton sub-catchment.

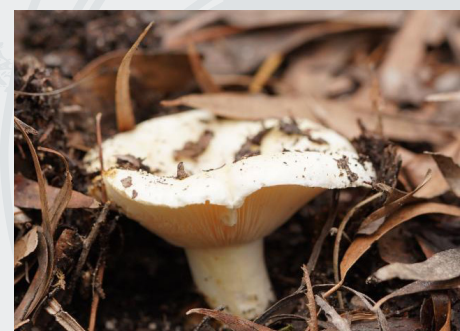
## Not just a fungi, but a good-guy too! Species spotlight – *Russula erumpens*

Ever wondered what the large, white mushrooms are growing under leaf litter in your Banksia or Tuart Woodland? If it grows up to the size of a dinner plate and is difficult to see because its presence is usually revealed only by low, dome-shaped mounds of sand, it's probably *Russula erumpens*.

This fungus is found in eucalypt forests and woodlands across Australia, and Banksia and Tuart Woodlands on the Swan Coastal Plain. Even when fully grown, it remains partially hidden because they have very short stems which do not elevate far above the ground.

*Russula erumpens* has crowded white to cream gills (with some rusty stains) and firm, dense flesh. When you hold the fungus close to your ear and break the flesh, then you can hear the fruit bodies give an audible snap. It usually fruits early in the annual autumn-winter fungi fruiting season, which starts from early May. This mycorrhizal fungus has a large network of mycelial, or tiny threads that looks like fluffy roots, which spread through the soil, linking up to the roots of woody plants present in Banksia and Tuart Woodland (e.g., *Acacia*, *Allocasuarina*, *Eucalyptus*) retrieving nutrients and delivering them to plants.

In return, the plants supply sugars to the fungus. This mutually beneficial partnership enables plants to grow in areas that are depleted of nutrients, such as the Bassendean sandy soils that Banksia and Tuart Woodlands occur on. To protect these beneficial fungi, it is important to retain dead wood and leaf litter, which also provides habitat for fauna and flora.



*Russula erumpens* image by Atlas of Living Australia

## 2024 Lake Clifton Seedling Giveaway – Registrations open soon!

Our annual Lake Clifton Seedling Giveaway will be held on Saturday, 25 May 2024, at the Lake Clifton Community Hall.

This year we have selected a range of overstorey and understorey species common to Banksia and Tuart Woodlands in the Lake Clifton area. Species selected have different flower colours, that flower across different intervals across the year, so that all critters (including insects and microbats) have a source of food across the entire year.

Our seedlings are happily growing at Nuts About Natives Nursery in Karnup. We will be providing the dominant tree species (*B. grandis*, *B. illicifolia*, *B. menziesii* and *Eucalyptus gomphocephala*), as well as a range of understorey species including *Kennedia prostrata*, *Calothamnus quadrifidus*, *Olearia axillaris*, *Pimelea rosea*, *Rhagodia baccata* and *Templetonia retusa*, to name only a few.

Similar to last year, we will be inviting several local environmental groups and organisation to host stalls and provide

information on protecting the flora and fauna in your area.

Stay tuned as this event evolves. We will be sending out personal invitations in early April. Meanwhile, keep your eyes on our events page, as registrations will be opening soon: <https://peel-harvey.org.au/events/>.

*This Seedling Giveaway is supported by funding from the PHCC and the Shire of Waroona.*



Seedlings for the Giveaway happily growing at Nuts About Natives ; ©Nuts About Natives



## Cluster roots enable Banksias to grow on nutrient deficient soils

The term 'cluster root' is used to refer to the plant root regions, where many short rootlets are produced in a compact group, forming the appearance of a bottle brush. There are generally three types of cluster roots (simple, complex and compound), all of which are considered great adaptations for nutrient uptake in plants. Thanks to the evolution of cluster roots, Western Australian Proteaceae plants are amazingly successful in acquitting phosphate and micronutrients from severely nutrient-deficient soils (Lambers et al. 2001). But how do these tiny clusters of hair-like roots help to extract nutrients from sandy soils?

Banksias produce cluster roots that release massive amounts of organic acids, called carboxylates, into the rhizosphere, which is the narrow region of soil that plant roots and soil microorganisms grow in. These carboxylates then mobilise nutrients, but particularly Phosphorous, that is otherwise not available for plants that lack these structures. The cluster roots also release compounds that inhibit microbial activity, which protects the carboxylates from being consumed by microbes.

Banksias also form taproots and sinker roots so they can extract water

from deeper in the soil profile, but their cluster roots tend to remain close to the soil surface, sometimes forming large, inter-connected mats, where most nutrients are found. For a visual demonstration of this root dynamic, check out Hans Lambers fascinating 3 minute video showing cluster roots of a 2-year old *Banksia prionotes*: <https://www.facebook.com/watch/?v=2249275528629573>

While this evolutionary adaptation enables plants to exist on nutrient deficient soils, it also makes them sensitive to high nutrient loads, particularly phosphorous. Banksias that grow on richer soils will invest less in cluster root development and instead rely more heavily on mycorrhizal fungi, which has implications for their survival if nutrient levels fluctuate. For these reason, Banksias and other species with cluster roots readily suffer from phosphorous toxicity when fertilisers or soil conditioners are used.

If you plan on fertilising your bush gardens or recently planted seedlings, it is important to use fertilisers with less than 3% phosphorous. Fertilisers with a NPK (nitrogen:phosphorus:potassium) ratio of 10:3:6 are ideal!



Simple cluster roots of *Hakea trifurcata*

Cluster roots of *Hakea trifurcata*, by Lambers et al. (2001)



Compound cluster roots of *Banksia prionotes*

Cluster roots of *Banksia prionotes*, by Lambers et al. (2001)



Development stages of compound cluster roots for *Banksia attenuata* from Cawthray et al. (2021)

## Have your say on Urban Greening (closes Friday 7 June)

The Western Australian Planning Commission's Perth and Peel Urban Greening Strategy aims to enhance existing tree canopy and create additional green spaces throughout our urban areas.

Urban greening is an important part of the Government's plans to improve the liveability of our suburbs and urban centres as they grow and develop.

Have your say and help inform the strategy by Friday 7 June.

Link to public survey: <https://form.jotform.com/240349066160048>

## Biosecurity Alert – Myrtle rust

Myrtle rust is a highly invasive fungal disease of Myrtaceae plants which include peppermint trees, Geraldton wax, eucalypts, melaleucas, and bottlebrushes.

It was first introduced to Australia in 2010 and is now widespread along the east coast from southern New South Wales to far north Queensland and into the Northern Territory. It has been found in production nurseries in Victoria and north-west coast rural properties in Tasmania.

The disease is spread mostly via wind, but the spores can also be spread via infected plant material, contaminated equipment, vehicles, clothing and footwear.

What does it look like?

- Masses of bright yellow or orange-yellow spores (see image).
- Lesions on young, actively-growing foliage, as well as floral buds and young fruits.
- Rust lesions on plant species such as bottlebrush are purple in colour and sometimes spores are dark brown.
- Buckled or twisted leaves.

Although Myrtle rust is currently present only in a small part of the Kimberley, it could readily move to other parts of the State as it is transported by wind or movement of people. You can

help by arriving clean and leaving clean when entering bushland. This means ensuring that items are free of mud, soil and organic matter before entering and existing bushland, and always staying on roads and trails.

If you suspect myrtle rust present in an area, do not touch suspect plants or collect samples. Take photos of the infected plant and immediately record the location and report it to DPIRD's Pest and Disease Information Service on 9368 3080 or [padis@dpiird.wa.gov.au](mailto:padis@dpiird.wa.gov.au)



Myrtle rust © Louise Shuey – DBCA

## Join us for the Great Cocky Count on Sunday 14 April

The Great Cocky Count is a citizen-science survey, and the biggest single survey for black-cockatoos in Western Australia. In the lead-up to the Count each year, Birdlife Australia ask people to keep an eye out for roost sites. Roost sites are places where Black Cockatoos gather to sleep at night.

If you suspect you have a roost site near your property, please contact Birdlife WA asap. Then, on one evening each autumn, join volunteers to monitor known roost sites and count black-cockatoos as they arrive in the evening.

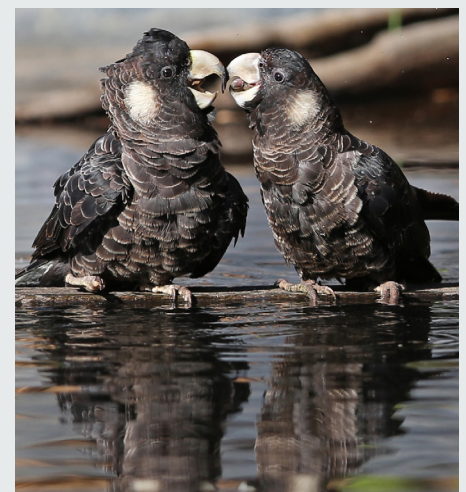
The Count takes place between Geraldton and Esperance, on a single night in Autumn. This year it occurs on Sunday 14 April 2024, from 5.30pm – 7.00pm.

Black-cockatoos live across a large area, so it's difficult to get an accurate record of how many there are in the wild. We know their numbers are declining, largely due to habitat clearing which reduces foraging and breeding habitat.

By working with citizen scientists in the Great Cocky Count, we are able to get a snapshot of where Black Cockatoos are located, giving us a better idea of their numbers and how to protect them.

Birdlife will be hosting a series of workshops in the lead-up to the Great Cocky Count, for participants to learn about Black Cockatoo biology, ecology, behaviour and threats, and also how to participate in the Count.

For more information, go to Birdlife Australia's webpage: <https://birdlife.org.au/events/great-cocky-count/>



Boudin's Black Cockatoo Preening – Keith Lightbody



## Events coming up...

- Mar 25 **Dolphin Watch Mandurah Training Event.** Join DBCA for a free training event to learn how to identify our amazing dolphins of Mandurah and report sightings to researchers. By attending this event you'll become a fully trained Dolphin Watch volunteer. Reserve your spot: <https://www.eventbrite.com.au/e/dolphin-watch-mandurah-training-event-tickets-859259447137?aff=ebdssbdestsearch>
- Mar 27 **Natural Capital And Nature Positive – Opportunities For Landcare.** This free online Hot Topic Forum on Zoom hosted by WA Landcare Network will explore the emerging area of Natural Capital and Nature Positive. Reserve your free ticket here: <https://events.humanitix.com/natural-capital-and-nature-positive-opportunities-for-landcare>
- Apr 6 - May 5 **WA Tree Festival.** Events, tree trails, free trees, competitions and other activities. See: <https://www.watreefestival.com.au/>
- Apr 9 **Nature Family Fun Day.** Take a journey through nature-inspired activities, arts and crafts, stilt-walkers, seed planting and healthy snacks to make and recipes to keep. This free community event is being held at Mandurah Performing Arts Centre. See: <https://www.manpac.com.au/events/pop-up-family-fun-day/>
- Apr 17 - May 8 **Joseph And Dulcie Nannup Trail Guided Bush Walks.** Join these FREE guided walks along the scenic Joseph and Dulcie Nannup Trail in Riverside Gardens, Greenfield. Led by expert guides, suitable for all abilities. Reserve your spot: <https://www.eventbrite.com.au/e/joseph-and-dulcie-nannup-trail-guided-bush-walk-tickets-859265334747?aff=ebdssbdestsearch>
- Apr 21 **Sundowner With Bouvard Coast Care Group.** Come along to Café Coast for an informal chat with BCCG members. Discussion topic: Winter brushing & planting event. Email: [brushing@bouvardcoastcare.org](mailto:brushing@bouvardcoastcare.org) for more info.
- Apr 27 **Worm Farming – Food For Thought Workshop.** Guided by the knowledgeable team at the Worm Shed, uncover the secrets of vermicomposting. Discover how these tiny creatures can convert your kitchen waste into garden gold, enriching your plants and minimizing food waste. Reserve your spot for this free event: <https://www.eventbrite.com.au/e/worm-farming-food-for-thought-workshop-tickets-845500573977?aff=ebdssbdestsearch>
- Apr 28 **Walk & Talk at Sapphire Cove** with Western Australian Seabird Rescue. Limited numbers. Bookings essential. Contact MEHG for more details.
- Jun 2 **Bouvard Coast Care Group's Mega Planting Event.** Help the BCCG members to plant 1200 plants to restore an area of dune. Meet at Tims Thicket beach carpark. Email Alex Pinkster at [planting@bouvardcoastcare.org](mailto:planting@bouvardcoastcare.org) for more info.



Want to contribute an article about your property in the next Lake Clifton Landcare Matters?

Please send your article to [admin@peel-harvey.org.au](mailto:admin@peel-harvey.org.au)

Subscribe to our e-newsletter here:

<https://peel-harvey.org.au/wattle-quoll/>

See our website for available grants and funding opportunities: <https://peel-harvey.org.au/grants/>



This project is supported by PHCC through funding from the Shire of Waroona

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