



WICCNews

WICC Newsletter December 2022 - January 2023



Birak

First summer dry and hot, burning time
Season of the Young



Photo by Tim Gamblin

Slithering out of slumber in Birak

By Tim Gamblin

Early twilight and an even earlier pre-dawn chorus of birds signals that time of the year - Birak. Long hot days (by Denmark standards) bring out the reptiles. You'll start to see the roadkill snakes

Long hot days (by European standards), bring out the reptiles. You'll start to see the roadkill snakes and catch a shiny, metallic glimpse of local species sunning themselves on paths and bike tracks, warming up for hunting after a long period of cool weather.

In this article I'll focus on some of the lesser-known snake families and species in addition to the obvious big hitters that steal the limelight every year; the dugite (derived from the noongar word dookatj) and tiger snake (noorn). Both are in the Elapid family which are the front (usually hollow) fanged venomous snakes. They're what you'll see most commonly on the south coast. Colubrids are the rear fanged snakes which are found around the world, but to a lesser extent in Australia. An example being the brown or banded tree-snake in northern Australia. This family have less sophisticated venom delivery, which I can attest to, having been chewed on by a tree snake many years ago; mild swelling was the only symptom. Other families of snakes include the non-venomous pythons. Down here we have the southern race of the carpet python (noongar – wakarl/wargyl), a large species good at climbing and eating mice, rats, birds, lizards and the odd chicken. On another personal note, I had a carpet python swallow one of our chickens subsequently being captured itself by the chicken wire gauge due to the size of its new body lump. I relocated it some distance away and within a week it was back. After a second much further relocation it was back again (it had a distinctive belly scar) and finally after driving many kilometres it never returned. Like most snakes they're part of the ecosystem and I had no intention of harming it. The reason I mention this scaly tale is that it demonstrates that some snakes obviously have advanced navigation and sensory systems which we don't yet fully understand.



The Blind Snake photo courtesy Tim Gamblin

Other families include the harmless blind snakes which you might occasionally find under a log or when gardening. They burrow, have tiny eyes, small shiny scales and eat invertebrates like ants. They won't bite but will produce a strong odour as a defence mechanism that will linger on your hands for hours. I don't find the smell that offensive; it's pungent, earthy and musty, but many find it nauseating. The last group are the file snakes of northern Australia which are amazing fish-eating.

baggy trousered snakes but because we don't have them here, I'll move on. Sea snakes are not a separate group but are also elapids like the tiger snake and evolved from these land snakes for an ocean lifestyle. They are highly venomous but are curious and not aggressive. They have a long lung like land snakes but can absorb air through their skin and thus stay under for hours. It's a myth they have small fangs. Their presence on reefs is considered a sign of the healthy functioning of that ecosystem. Occasionally a vagrant yellow-bellied sea snake will wash up on the south coast after swimming down on the Leeuwin current. WA has 9 endemic species and more sea snakes than anywhere else in the world but you're unlikely to see them down here.



Short Nosed Snake, photo courtesy Charlie Bain





Square Nosed Snake photo courtesy Simon Cherriman

Three small elapids found only in (endemic to) the southwest and on the south coast that are less venomous than the dugite and tiger snake are the short-nosed, square-nosed and crowned snakes. All three are known to rest in stick-ant nests. You'll see these thatched mounds of twigs mainly in winter in sunny warm positions. Perfect for a snake to hide in. The short-nosed snake is seldom seen as it's a very shy, small, and nimble snake living in dense swampy country. It's large eyes are perfect for hunting frogs and sometimes skinks. Keen herpetologists or 'herpers' (like bird twitchers or train-spotters) study reptiles and amphibians and will often have this species on their bucket list to photograph. I hear Nornalup is a good tip. They have a yellow belly like a tiger snake and perhaps this is mimicry to offer them protection. The square-nosed snake is larger, nocturnal and a lizard eater. It often has two shades of colour (one usually being orange) as the latin name *bicolour* suggests. Not much is known about this species.



Crowned Snake photo courtesy Simon Cherriman

The crowned snake with its grey 'crown' is quite commonly seen locally, especially on the WOW and Heritage Rail Trail in coastal heath. The Bardick can come in a range of colours but around Denmark and Walpole I've mainly seen them yellowish through to copper coloured. They are stout and vaguely like death adders in appearance. Occasionally you'll see them in sand dunes. The Gould's hooded snake is a beautiful species thought to have venom equivalent to a bee or wasp sting, though never chance testing it in case you are particularly sensitive. Quite a few snake species have a 'hooded' or dark head like the Gould's Hooded snake. It may be a way to fast track heating up the head from the sun's rays, giving its brain and sensory organs a boost. This way it can wake up and plan its day (like our cup of coffee) while its body is safely under cover, hidden from the eyes of predators.



Cooper crown snake photo courtesy Rob Brown





The Bardick photo courtesy Tim Gamblin



Gould's Hoded Snake photo courtesy Tim Gamblin

The dugite is slender when young, feeding largely on lizards, and gets more robust with age as it transitions to mammals. They can be quite dark down here, even black and are sometimes mistaken for tiger snakes. To make matters more confusing, tiger snakes may not always have stripes. It makes sense for southern species to be darker so that they can absorb heat faster than their northern sun-spoiled cousins. Dugites prefer dry sandy areas unlike the frog-eating tiger snake which has the well-known preference for damp habitats (they also eat reptiles and mammals). Dugites may live up to 20 or 30 years and lay eggs, while tiger snakes produce live young. I've seen small (10-15cm) recent hatchlings of both species eating geckoes – one under my house and another at the waters edge at Ocean Beach.

I won't go into the first aid procedure or the horrific old fashioned and sometimes comedic remedies as can be sourced online or through a first aid certification. However, I will say that snakes are typically timid and will look for a way out - they don't like to tangle with humans. The images here of snakes being held are by professionals. Please don't approach snakes. If you need one removed, the Shire will have contacts of licensed reptile handlers.

Australasian Bittern booming at Fungedun

Australasian Bittern booming at Eungedup

By Robyn Pickering BirdLife WA



The Bardanitch skulks in swamps and lakes in the south-west of WA and is rarely seen. Boomers use cryptic camouflage to hide in thick rushes and reeds but wake all around them with their foghorn-like booming at dawn and dusk. The Bunyip creeps up and devours small creatures in wetlands. So, what are these creatures? They're all pseudonyms for the Australasian Bittern (*Botaurus poiciloptilus*), an endangered waterbird found in Australia and New Zealand. They are positively booming at Eungedup wetlands!

Its a member of the heron family and its mottled brown plumage and vertical stripes on the breast provides perfect camouflage among the reeds and rushes. This camouflage helps it to stalk prey

and is also a defense strategy. When approached by people it will either crouch down slowly below the surrounding vegetation or stand still with its bill raised high to further emphasize the vertical striping camouflage. While it may look a bit snooty, having its long thin bill in the air, it makes it difficult to find!

The male calls during the breeding season with a deep resonant series of booms that sound like a foghorn or air blowing over a bottle. The call is can be heard over several kilometers away in still conditions due to the low frequency of the call. So, while they are difficult to see, their loud carrying calls provide organisations like BirdLife and the Department of Biodiversity, Conservation and Attractions to survey them.

Bitterns prefer swamps and lakes that have large areas or rushes or sedges but can at times be found in flooded paddocks and estuaries. These habitat preferences mean that the species is largely confined to fresh and brackish wetlands, particularly during the nesting season when it uses tall sedges to construct its nest. Bitterns are omnivorous, and eat a wide variety of fauna including frogs, fish, gilgies, tadpoles, small birds, mice and insects, but will also eat leaves and other vegetation.

In WA the Australasian Bittern is found in wetlands in the south west from Yanchep to Cape Arid. Its main strongholds are the Muir-Unicup Wetlands and south coastal wetlands from Augusta to Cape Arid. Eungedup Wetlands, near Wilson Inlet hosts a number of them each year and is a significant place for them in Western Australia as survey data indicates that less than 150 Australasian Bittern remain in the state.

Eungedup in the news



One wetland

situated, mid-way between Albany and Denmark, on Western Australia's South Coast. The wetlands are, in fact, three adjoining properties, comprising 103 hectares that were, until a few years ago, used for agriculture. Since the farming stopped, the land has become a patchwork of grasses, reedbeds, open pools (both deep water and shallow) and mudflats. In other words, it's a waterbird's oasis. And it's home not just to the right little cranes which I saw that morning—over 90 species of birds have been identified here, including a slew of migratory shorebirds. Eungedup is also part of a broader wetland complex that includes two wetlands of national importance—one of which is the well-known Wilson Inlet.

With the exception of a couple of deep-water pools, the majority of the Eungedup Wetlands comprises raised causeways which separate stretches of knee-deep water. At the wetland dries out in summer, thickets of typha and mudflats become exposed, making it ideal feeding habitat, not only

So, when bitterns were seen on the property in 2020, it meant this little slice of heaven might be the salvation of a struggling species. BirdLife Australia and the WA Department of Biodiversity, Conservation and Attractions made a concerted effort to assess their status, drawing on years of monitoring and habitat data collected as part of the Australian Bitterns in WA project. During the 2020–21 breeding season, between four and six males were heard calling, along with sightings and other data collected from camera traps and audio recorders. Analysis of this data suggested that the possible breeding population at the wetland may represent 5–10 per cent of the breeding population in WA. This information was instrumental in documenting the value of the wetlands for bitterns, and led to the development of a plan to purchase and conserve these precious wetlands.

A group of dedicated individuals and organisations, including Gondwana Link, BirdLife Australia, Denmark Bird Group

of the wetlands controlling fires, cats and pigs, revegetating cleared areas within the wetland buffers with local native plants, and minimising disturbance from human activities.

Eungedup Wetlands are the only wetlands on Western Australia's South Coast that are able to have their water levels manipulated. This means we can manage water levels so that optimal breeding and feeding habitat for bitterns can be maintained. South-western Australia has lost perhaps 70–80 per cent of its wetlands (mainly on the Swan Coastal Plain), and is one of the fastest drying regions on the planet, so these wetlands have the potential to play a critical role in the survival of these birds.

In the words of Dr Stephen Garnett, Professor of Conservation and Sustainable Livelihoods at Charles Darwin University:

The Eungedup Wetlands give me hope for the future. As much western Australia dries due to climate change, such rare, magnificent wetlands become critical to conservation of birds like the Australasian Bittern.

We have all our ducks (or should that be cranes?) lined up. All we need to secure and manage the 103 hectares of future-proofed,

at a time



Bittern

at a time

When Australasian Bitterns were found on private property in Western Australia, a plan was hatched to save this 'slice of paradise'. *Georgina Sneyler* explains how research, citizen science and community action have come together to make it possible.

I imagine you are lying in the grass at the edge of an opening in the reeds. A pair of bright red eyes appears, peering around the corner of a clump of rushes. Then an orange, mud-covered foot stretches forward and is soon followed by the body of a dark-grey, dumpling-shaped bird, its tail busily bobbing up and down, up and down. Then another appears. And another. Before you know it, you are surrounded by six Spotted Crakes and a couple of Australian Spotted Crakes. Can being in nature get any better than this?

This is what happened to me the first time I visited Eungedup Wetlands. It felt as though I'd died and gone to heaven that morning, but not before towing to the birds that we would do everything we could to save their little slice of paradise.

Eungedup is the local indigenous name for the area in which these wetlands are

critical habitat for Australasian Bitterns and other waterbirds in your financial assistance.

We have until 31 December next year to raise the money. Help us save these wetlands and give generously. You never know, one day you too may find yourself nestled among the reeds, listening to the honks of Black Swans, the grunts of Purple Swamphens, the mournful wails of Red-capped Firetails and the occasional deep, resonant boom of an Australian Bittern.

To learn more or donate, visit www.wlcc.org.au

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Ongoing management will include: maintaining the diverse habitats (deep pools, shallow water, mudflats) required by Australasian Bitterns and other waterbirds; monitoring wildlife populations through surveys, camera traps and audio recording devices; annual analysis of the water quality (pH, salinity and nutrient levels)

and the Conservation Council of WA, all banded together, with the Wilson Inlet Catchment Committee (WLCC) coming on board to take on the ongoing management of the wetlands. (WLCC is already carrying out conservation works on adjacent properties, and has extensive expertise in native flora rehabilitation and control of invasive species.) The management group will look to place a covenant on the wetlands so that their protection is guaranteed forever, so they can never be cleared of their native vegetation.

Perhaps the most important resident of Eungedup Wetlands is the Australasian Bittern, a species pulled to 'Eungedup' status after losing much of its habitat from land clearance, drainage of wetlands and water diversion. Australasian Bitterns live in freshwater wetlands in the temperate south-east and south-west of Australia, favouring areas with dense vegetation, where they forage in still, shallow water, often at the edges of pools or waterways. Current estimates put the population of mature bitterns across Australia at a mere 3,500, with fewer than 100 left in Western Australia.

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"They estimate there are only 150 mature individuals left in WA, and they need to extend everywhere. But we're losing all our species. They're connecting to areas like this. Eungedup is connected to nearby Lake Seide, which has been used to pump water out of the wetlands before the potatoes were sown each year. WLCC now hopes to use the same hydraulic system to pump water back into the wetlands during dry years. "The Bittern, especially requires water about 30cm high in some areas and then a patchwork," Georgina says. "We need to maintain the patchwork, because to support all the different birds you want different water levels, you want open mud flats, you want some open areas. Brad Kneebone from the Dierkes Bird Group was one of the first people to realise the property's potential as a conservation stronghold. "It is the only wetland this side of Australia where you can control the water level," he explains. "Brad lives a couple of kilometres away" as the Bittern flies. "He and his wife Jill first spotted the notoriously elusive bird."

■ The Eungedup Wetlands are a mosaic of reeds, rushes, grassy embankments and open water dotted with waterbirds.

Picture: Georgina Sneyler

■ A Eungedup Wetlands Australian Spotted Crane.

Picture: Georgina Sneyler

■ Georgina Sneyler takes in the scenery from the roof of the shed.

Picture: Aaron Bannister/Byner

All plans to remain quiet are forgotten as we watch it either into the reeds, only to spot another, much bigger one, coiled up in the grass beside us. Our whispered excitement is whirled away by the wind. The landscape here can be deceptive. Georgina points out a narrow channel of water often covered with grass that she fell into on a previous visit, plunging into deep water. The mistake cost her a camera and she is still drying out her lenses, but she laughs it off with a cheerful cackle. She has been a regular visitor to the wetlands this year, putting together a portfolio of images for promoting Eungedup to philanthropists and big business, and was amazed to find most of the smaller birds had not become habituated to humans. "I was lying here, and I had two spotted and two spotted cranes come out and feed around me," she says. "They are really, really shy so you don't often see them. But they weren't bothered by me, and I've never had that in my entire life. "I could not believe it. It was just amazing. And you think if they're just here, imagine what it is in the rest of the wetland, because this is just a tiny part of it. The best thing is it's not really disturbed by people. So they don't have any fear. Ethics are central to Georgina's practice of low-impact photography that doesn't disturb wildlife or disturb natural behaviours. "People can't come here at the moment. It is actually private land," she says. "It's very difficult with bird photographers. Because on the one hand they do a lot of good promoting the birds but on the other hand, they can do a lot of destruction. "Apart from four-wheel drives and dogs, bird photographers and hikers are now becoming a big problem. They want to get the photos and then they get too close. They disturb the birds and they can draw the attention of predators. It is one of the reasons we want to try and keep the exact location secret." Georgina dreams of building a bird house on top of the old shed, or a taller structure that allows an all-encompassing view of the wetlands. "It is a really great opportunity and it will be really exciting. If we can get the land, to see what conservation project work we can do here and finding the best way to manage the wetland," she says. "Now is the critical time. I think, where we need to look away places like this because things are just going to get worse."

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Southerly Magazine article on Eungedup Wetland



Bittern off more than you can chew this Christmas?

If you are looking for a Christmas gift, why not give something meaningful and donate to Wilson Inlet Catchment Committee to help raise funds to purchase Eungedup Wetlands.

"This is one of the best wetlands I have ever seen. It is critical that we preserve it for our future."



- Michael Morcombe AM, Author Field Guide to Australian Birds



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wicc.org.au/donate.html



To donate and learn more click [HERE](#)

Inlet Update



Dr Elke Reichwaldt, Department of Water and Environmental Regulation

Caitlyn O'Dea and a team of scientists from the Department of Water and Environmental Regulation (DWER) have been out on Nullaki (Wilson Inlet) monitoring seagrass for five days in December. The team carried out a huge survey, using boat, kayak and drone to monitor almost 240 sites. Caitlyn said that the seagrass was seen to be flowering abundantly and producing pollen in many areas of the estuary. The survey collected data on the abundance, density and health of the seagrass, which will be analysed and made available in 2023.



Ruppia megacarpa the only species of seagrass in Wilson Inlet

Seagrasses are the only marine flowering plants that live and grow completely submerged underwater. *Ruppia megacarpa* (commonly known as widgeon grass) is the only species of seagrass found in Nullaki (Wilson Inlet). The seagrass meadows provide food and habitat for animals, produce oxygen and can contribute to good water quality, making them an important part of the estuary ecosystem. The DWER regularly monitors the distribution and condition of seagrass because it is an important indicator of the overall health of the estuary and quality of the water entering from creeks and rivers. For further information, visit the Healthy Estuaries WA website:

<https://estuaries.dwer.wa.gov.au/strategies/science-for-management/seagrass/>





Ruppia megacarpa in Wilson Inlet (requires light for photosynthesis)

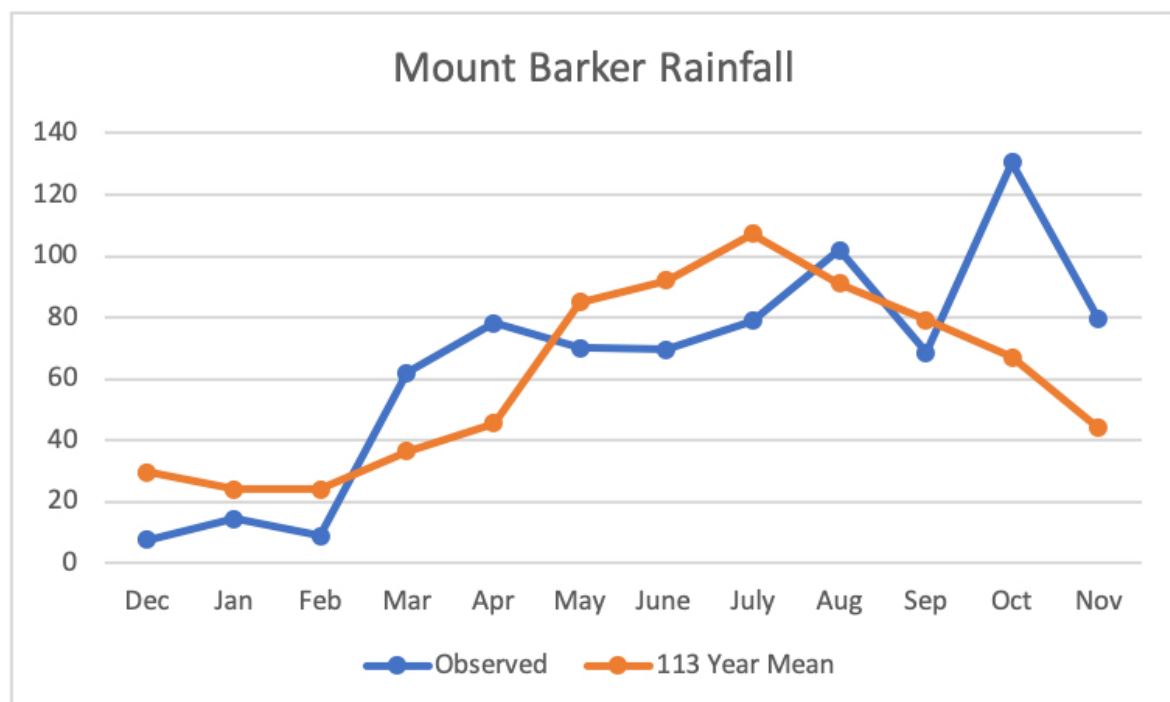
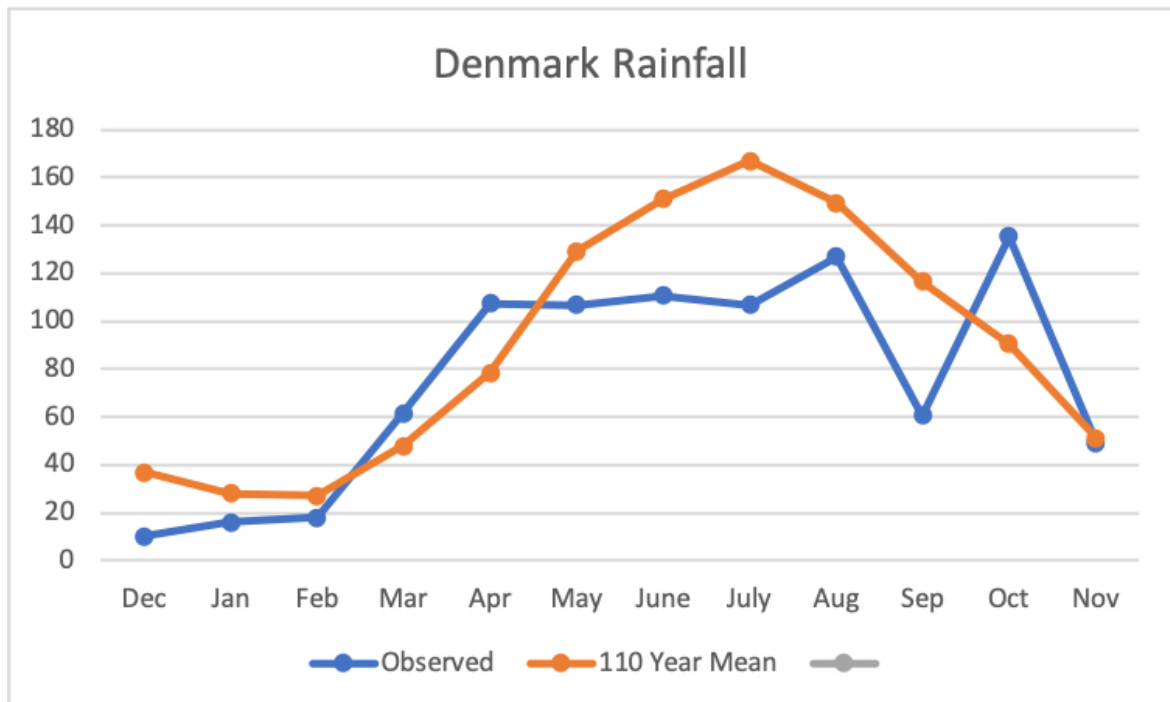
See the latest inlet monitoring date [HERE](#)

Rainfall Update

October and November were cold and wet for most of the state. Spring rainfall was more than double the 1961-1990 average for Western Australia as a whole and the second highest on record. October was in the top 10% of rainfall records for much of the south coast. The cold weather and lack of sun led to a slow start to the growing season.

In the next couple of months, the warmer sea surface temperatures north of Australia increases the likelihood of tropical cyclones developing. These tend to come earlier during La Nina years such as this. Summer rainfall in our area is typically attributed to isolated thunderstorms and tropical

cyclones and it is therefore harder to provide reliable long range forecasts for this time of year.



Plant tissue testing and trace elements

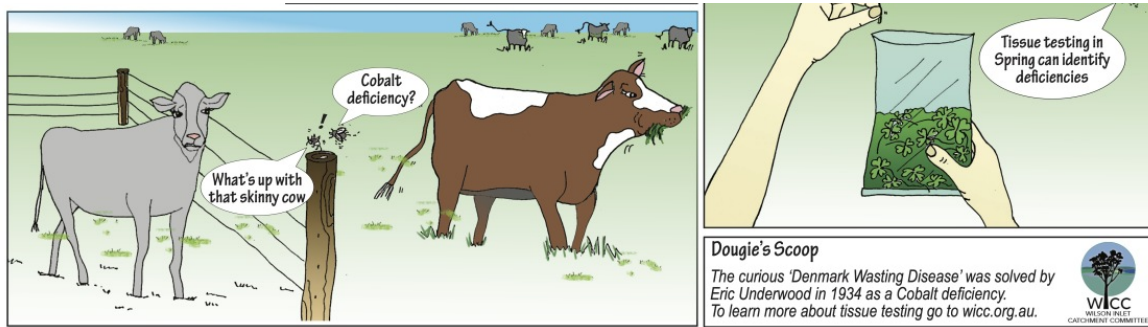
Finding hidden keys to increase productivity and reduce nutrient loss

By Kylie Cook

DOUGIE THE DUNG BEETLE

Dougie has been moving around the local farms. He has discovered that high rainfall areas are often deficient in trace elements such as Cobalt, Selenium and Copper.





Sampling pasture plants during spring growth for lab analysis helps farmers pinpoint which nutrients and minerals are limiting growth in their pastures. Improving understanding on a paddock-by-paddock basis then allows farmers to apply fertilizers with the elements most needed, boosting productivity and avoiding waste. This allows more nutrients to be retained on farms and less lost to waterways.

This year, plant tissue samples were collected by farmers during spring growth, in the pre-flowering to beginning of flowering stage. The samples were analyzed to measure macro-nutrients (nitrogen, phosphorous, potassium) and trace elements (e.g. cobalt, copper, selenium, molybdenum) present in the pasture plants' leaves. Trace elements are present only in tiny amounts within the plant or soil but are vitally important to both plant and livestock health at the correct levels.

Independent agronomist Graham Mussell spoke to a roomful of Wilson Inlet farmers in November, highlighting that nutrients and minerals identified as “marginal” in sample results were actually in the target or optimal range, having just enough for productive pastures and no excess. The terminology used may lead farmers to believe they should apply more of that nutrient, when in fact it was not deficient and wouldn't lead to large increases in pasture growth.

Plant tissue testing complements soil testing as it provides a more direct estimate of what livestock are receiving in their pasture-based diets. Sometimes, certain conditions can prevent uptake of a particular element from the soil into plants; or prevent absorption by the animals. Graham explained this could be the case with molybdenum – with increasing pH, molybdenum becomes more available and when in excess, can prevent animals from absorbing copper, potentially resulting in fertility problems.

Farms across the catchment were almost universally low in selenium and cobalt, illustrating the continuing need to provide mineral supplements to livestock to prevent deficiencies which can have large impacts on animal health and fertility.

The farmers present were convinced of the value of both soil and plant tissue testing. As Graham pointed out – at today's fertilizer prices, it's more important than ever to use soil and plant tissue testing to make sure your pastures are getting what they need.

WIGG is funded in part by the Western Australian Government's State Natural Resource Management Program.

Contact Shaun Ossinger; 0401 291 457; info@wicc.org.au for more information.

No-kill cropping and livestock handling

By Kylie Cook

Future Farming Field Day

Farmers met at the RegenWA Future Farming Day in Carrolup to hear Bruce Maynard speak about his no-kill cropping methods and livestock handling techniques. Kylie Cook from WICC attended the event hosted at the Kowald's farm and facilitated by Perth NRM|RegenWA.

Bruce has spent decades developing his farming techniques and sharing them with others. This year he received the 2022 Bob Hawke Landcare Award for his work promoting sustainability in agriculture.

Bruce's cropping methods involve adding diversity to existing pasture, allowing a greater range of species to grow together. At Bruce's own property in NSW, his pastures contain over 100 species of plant and crops are dry-seeded with a disc seeder directly into the existing grassland. "Every different plant brings different nutrients at different times to the soil surface," Bruce says, "introduced or natives – I'm happy to have them all" (although plants which become dominant, excluding others, are discouraged). By dry-seeding, Bruce gives the planted seeds a head start (by creating a small amount of soil disturbance) but allows other plants to grow alongside the grain crop.

By allowing other plants to live within the crop, Bruce freely admits that yield is lower, about a quarter to a third of conventionally grown crops with high levels of weed control. But, growing crops this way costs less than 10% of a conventional crop – a prospect that is increasingly appealing to farmers facing big increases in input costs. This method also boasts a reduced risk of environmental damage – since there is less susceptibility to wind or water erosion – which can be considered a huge long-term benefit.

Diverse pastures also allow livestock to have a more varied diet year-round. A diverse diet minimises the risks of toxicity, stimulates appetite and improves animal performance, but animals must first become familiar with and learn to incorporate new foods.

Stress-free stockmanship was also discussed – delving into the mind of the cow! Bruce explained that animals graze differently for their individual needs, and that animals can choose from a greater range of options when not experiencing stress.

He has trained his herd to eat weeds, recognize and respond to signals. This creates positive interactions with humans, reducing stress during transport and yarding. By applying self-herding techniques, we can set up circumstances that encourage animals to make choices that are both comfortable for them and favourable for us and the landscapes we manage.

Animals also experience peer pressure – the group guides how individuals behave. Livestock behaviours have direct effects on other parts of the ecosystem – soil, plants, other animals and people.

Bruce pointed out that our livestock are already receiving signals from us (like coming for hay when hearing the tractor) but we can take these signals to a new level to improve stock wellbeing and performance. He offers a range of signals – visual, sound and smell – that tell animals when a reward is available. Preferably the signals can be not tied to a certain person or vehicle – a whistle or bell is a good place to start.

More information – including free printable guides can be found at: [Self Herding \(farmingsecrets.com\)](https://www.farmingsecrets.com)