

ISSUE 4, November 2023

# SUSTAIN-A-BULLETIN

FITZGERALD BIOSPHERE GROUP

## Celebrating another successful Spring Field Day

September 12 saw yet another FBG Spring Field Day come and go. This year's biggest strength was the diversity of site visits and presentations on offer; with the day covering perennial pastures, dam evaporation suppression, fence line chemicals, global markets, controlled traffic systems, diagonal seeding, sustainable grain, fertiliser strategies and outlooks, and local agronomical issues.

Following a morning cuppa at the Gairdner Hall, around 40 farmers and industry representatives convoyed to Halls' farm, where Anameka planting was in full swing at a CSIRO/DPIRD Future Drought Fund project site aimed at demonstrating profitable native shrub and legume systems. Here, CSIRO's Matt Wilmot offered advice on best-practice planting techniques such as burying a large portion of the stem rather than just the root system, while Justin Hardy (DPIRD) explained the potential of legumes to boost Anameka growth to promote a sound year-round feedbase.

The next stop, also a project demonstration site, was on the Jones' property. The Jones family had worked with the WaterSmart Dams team to match an existing dam to its catchment by enlarging it, and install a Daisy Dam Cover. Nik Callow and Bonny Stutsel (UWA) explained how the depth logger and weather station at the site would quantify the dam's supply and demand, as well as quantifying evaporation suppression.

Jordy Medlen's (ConsultAg) fence line chemical trial was next on the agenda, hosted at Swarbricks' farm. Jordy talked through the efficacy of various chemical combinations, including their residual effect, as well as noting which chemicals were and weren't safe to use around native vegetation. The importance of maintaining sound fence line weed control by varying chemical combinations to prevent resistance, just as we do in-paddock, was emphasised repeatedly. *(cont-p2)*



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# Celebrating another successful Spring Field Day

Following a packed morning, the group returned to the hall for some much-needed lunch, where Gairdner Progress Association treated everyone to delicious pulled pork and coleslaw rolls. Stegan Vogel, Rabo Research General Manager, was welcomed on stage during lunch to delve into global markets and trends in the agriculture space.

After this respite from the windy weather, we returned to the field to hear firsthand from Colin Green about the costs and benefits of controlled traffic farming. Here, we also got a close-up look at a freshly dug soil pit with Glen McDonald (DPIRD), to aid the exploration of how the system has impacted soil conditions. While this system has proven beneficial in some ways, i.e reducing overall compaction across a field leading to an overall increase in water infiltration capacity, it also presents some drawbacks, like rutting of wheel tracks and associated erosion potential, particularly after some of the wet years experienced recently.

Also trailing a slightly less conventional approach to combatting soil issues was Gary Walter, whose property we then visited to discuss diagonal seeding. Gary, who has noted some improvement in soil wetting capabilities since adopting this system, highlighted the importance of finding an angle that works for you (he works at around 10-20 °, finding this produces optimal overlap with previous years' rows). Bigger angles may improve trafficability but can nearly double the trafficked area in the paddock. Gary noted that being equipped with capable technology and experienced machinery operators is a necessity for effectively implementing this system.

With the in-field portion of the day over, the group reconvened at the hall for presentations from CBH and CSBP. Royce Taylor, CBH Board Director, kicked things off. Royce encouraged the crowd to be proactive about taking steps towards sustainability, given the opportunity to access premiums for sustainable grain. Royce also pointed to the rapidly growing customer-driven demand for proven sustainable grain, with companies like Heineken striving for carbon neutrality by 2040 along their whole chain. Helpful suggestions on assessing your own farm's inputs and outputs were also put forward, Primary Industries Climate Challenges Centre's emissions calculator

being the recommended tool for this.

CSPBP's Keith Gundall followed, delving into nutrient strategies and outlooks for the season ahead. Of particular note were his comments around Urea Sustain, the new coated product developed by CSBP which aims to increase flexibility around applications, as well as nutrient use efficiency, aiming to reduce the emission intensity of grain production.

Agronomists present on the day, Jordy Medlen and James Bee then had the floor, answering queries and having an open conversation around the seasonal issues affecting local growers this year.

FBG EO Maddy Wylie concluded the day's official proceedings with a well-deserved thank you to site hosts (Craig, Alex, Colin, Gary), presenters (Matt Wilmot, Justin Hardy, Bonny Stutsel, Nik Callow, Glenn McDonald, Stefan Vogel, Royce Taylor, and Keith Gundall), caterers (Gairdner Progress Association), and sponsors (CBH, Rabobank), and funding bodies associated with project demonstration sites (Australian Federal Government's Future Drought Fund, DPIRD, and the Western Australian State Government's Natural Resource Management Program). This transitioned us into the informal and much-awaited part of the day, the sundowner, where the crowd had the chance to relax, dig into some cold drinks provided by CBH, and discuss any questions that came up throughout the day with the relevant industry representatives present.





## Spring Field Day 2023

**THANK YOU**  
For attending our annual Spring Field Day!

We extend our appreciation to all site hosts and presenters...

Craig Hall, Justin Hardy (DPIRD), and Matt Wilmot (CSIRO)

The Jones family, Nik Callow (UWA), and Bonny Stutsel (UWA)

Jordy Medlen

Colin Green and Glenn McDonald (DPIRD)

Gary Walter

Stefan Vogel (Rabobank)

Royce Taylor (CBH)

Keith Gundall (CSPB)

...and are extremely grateful to CBH (sponsors of the sundowner), Rabobank (ongoing FBG sponsors), and Gairdner Progress Association & Naam Hall for the delicious catering and fantastic venue.

This event and its demonstration sites were also supported by...

Joint funding through the Australian Federal Government's Future Drought Fund, and the Department of Primary Industries and Regional Development, lead by GGA.

The Australian Federal Government's Future Drought Fund - Drought Resilient Soils and Landscapes Grants Program, lead by CSIRO and DPIRD.

The Western Australian State Government's Natural Resource Management Program.











Read more about Hall's legume, perennial, and Anameka site here:  
<https://www.fbg.org.au/current-projects-expanded/fdfhall>



Follow Jones' dam site and the WaterSmart Dams project here:  
<https://www.fbg.org.au/current-projects-expanded/watersmartdams>



Use the CBH recommended PICCC tool to calculate your farm emissions:

<https://piccc.org.au/resources/Tools.html>



# From the EO's desk

Welcome to our final issue for the year, and my final with FBG! I have loved being part of the organisation over the past 7 years and look forward to hearing of its future direction and developments.

It is a wonderful farming community in the Shire of Jerramungup and this year we've had some great events to celebrate this, namely our inaugural Ladies Day, as well as our annual Spring Field Day. We were thrilled with the response and turn out to the Ladies' Day held in August – I hope that a similar event can be held in the future to support all aspects of our local farming businesses. The Spring Field Day this year covered a broad range of topics in the Gairdner area with subject matter experts giving some relevant and topical insights into farmer-driven practices. Thanks for all members who attended the day. We highly value your contributions and like to ensure that we are running a day that is of value to our growers.

**In upcoming industry events, Agrifutures evokeAG is next year being held in Perth on 20-21 February. The Grower Group Alliance is supporting its member groups by offering a farmer member discount. This will see a special offer of \$550 (instead of \$770). If you are interested in attending and would like the most of this opportunity, please get in touch to obtain the discount code. The exciting program can be found here: <https://www.evokeag.com/evokeag-2024/2024-program/>**

This year has also seen a number of projects wrap up, notably the Regional Land Partnerships program which we updated you on in June, as well as the State NRM-funded Salinity-focussed project that is currently being wound up. Both projects have been capably and diligently coordinated by Carrie Taylor who we also say farewell to at this point in time. Carrie has been a huge asset to FBG, as well as to the Jerramungup community, notably the netball club. Carrie, you will be sorely missed and we wish you all the best with your future endeavours.

On behalf of the FBG team, we wish you all a safe and successful harvest and here's to 2024!

## Industry surveys

For those of you who love a survey, there are a few out at the moment which would greatly benefit from your input on the GGA Website:

### Grain traceability survey

Is grain traceability worthwhile or practical? What proportion of consumers will pay for traceability credentials? UWA researchers are seeking to identify and represent farmers' positions and views on potential traceability solutions, focusing on farm sustainability as part of the Investigating the economics of grain traceability investment decisions project.

### Have your say on soils survey

Are you working with growers, managing land or have an interest in the future of WA soils? A national survey to assess soil issues, knowledge gaps and research and extension opportunities across Australia is open. The anonymous results will be summarised for the Regional Soil Coordinator project in a report to DAFF to ultimately help inform the design and delivery of targeted soil interventions to address priorities under the National Soil Strategy

### Participate in Farm to Port survey

Grain growers are encouraged to complete a survey that will assist research aimed at optimising grain supply chains. The 'Farm to Port' study is led by The University of WA and supported by the SW WA Hub through its student bursary program. Complete the survey

## Search for new EO/Project Officer

If you know of someone who would be keen to join the FBG team, please get in touch! FBG is looking for an EO/Project Officer (WaterSmart Dams). This role could be full time or divided into a part time job – we are a very flexible organisation and would be happy to work with the right candidate.

If interested, please get in touch with Maddy on 0421 645 410 ([eo@fbg.org.au](mailto:eo@fbg.org.au)) for a run down on role requirements, or feel free to have a chat with Chair Craig Hall on 0427 086 011.



# Baseline water quality assessment and guidelines produced for Bremer, Fitzgerald, and Gairdner Rivers

Since late 2021, FBG have carried out water quality monitoring at 14 sites across three of our Biosphere's rivers; the Fitzgerald, Gairdner, and Bremer. This is the first recorded project involving simultaneous monitoring of all three rivers.

Establishing a baseline from which to measure change across these rivers has historically been challenging, given the lack of pre-clearing data and the naturally saline, ephemeral natures of these rivers. Through analysis conducted by Department of Water and Environmental Regulation, guidelines for future monitoring (based on FBG's 2021-2023 data, as well as older data collated from a number of different programs) have now been developed. DWER have also analysed the current condition of the waterways, based on FBG's 2021-2023 monitoring.

Ranges for each parameter measured are summarised in tables 1-4. Going forward, sustained levels outside the 25th – 75th percentile range may indicate trends and/or quality issues.

Salinity levels across each river have been visually represented in figures 1-5. Consistent with most other South Coast rivers, the Bremer, Gairdner, and Fitzgerald Rivers all exhibit decreasing

salinity from upstream to downstream. Sites with very high salinity are consistent with records of extremely saline groundwater nearby, indicating a relationship between river water and groundwater. Fitzgerald River is the most saline (more than two times saltier than the sea in parts) while Bremer is the least; exposing an east-west pattern of decreasing salinity. Upstream Fitzgerald River sites experience the most variation in EC of all sites, though the pattern of greater variation in upstream sites compared to downstream sites is consistent across all rivers. As is expected, there is a significant relationship between rainfall/temperature, and EC, owing to dilution and evaporation.

Given the impact of clearing and saline groundwater on both our river systems and neighbouring agricultural areas, we encourage you to get in touch with FBG to find out how we may be able to help you restore salinised waterways and prevent salt encroachment into productive areas.

For further details, including analysis of pH, turbidity, and temperature data, visit

[fbg.org.au/reference-document-links](http://fbg.org.au/reference-document-links)



This monitoring program was supported through funding from the Western Australian Government's State NRM program.



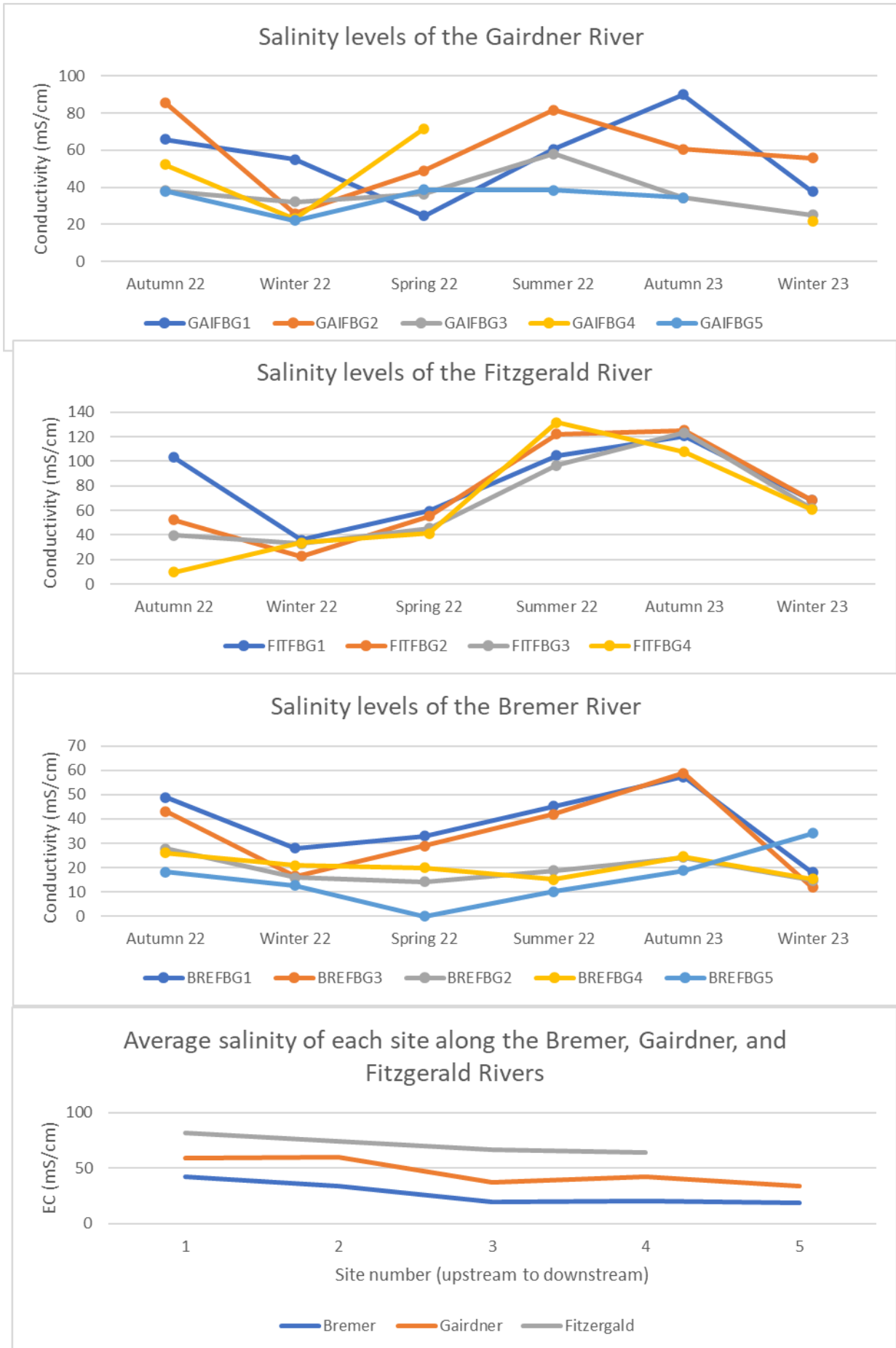
Government of Western Australia  
Department of Water and Environmental Regulation



natural resource  
management program



# Baseline water quality assessment and guidelines produced for Bremer, Fitzgerald, and Gairdner Rivers



Figures 1 -5: Upstream – downstream, and seasonal salinity patterns of the Fitzgerald, Bremer, and Gairdner rivers.

## Baseline water quality assessment and guidelines produced for Bremer, Fitzgerald, and Gairdner Rivers

Temp	Summary Range Temp					
	Fitzgerald upstream	Fitzgerald Downstream	Gairdner upstream	Gairdner Downstream	Bremer upstream	Bremer Downstream
minimum	11.60	12.60	9.90	8.90	11.20	11.10
<b>25th percentile</b>	17.35	16.00	15.68	14.50	18.10	16.20
median	19.70	21.60	18.75	18.30	21.60	19.95
75th percentile	22.05	24.00	23.73	22.30	24.90	24.33
maximum	30.05	27.90	30.00	33.50	26.30	26.80
mean	19.44	20.22	19.64	18.73	20.36	20.11

pH	Summary Range pH					
	Fitzgerald upstream	Fitzgerald Downstream	Gairdner upstream	Gairdner Downstream	Bremer upstream	Bremer Downstream
minimum	6.18	7.17	7.92	7.25	5.79	7.40
<b>25th percentile</b>	7.90	8.03	8.28	7.87	7.61	7.71
median	8.12	8.22	8.46	8.07	8.29	8.06
<b>75th percentile</b>	8.30	8.66	8.69	8.20	8.44	8.31
maximum	8.70	9.20	9.39	9.16	8.90	8.60
mean	8.01	8.25	8.50	8.11	8.01	8.01

NTU	Summary Range NTU					
	Fitzgerald upstream	Fitzgerald Downstream	Gairdner upstream	Gairdner Downstream	Bremer upstream	Bremer Downstream
minimum	0.00	0.50	3.00	1.10	3.00	3.00
<b>25th percentile</b>	3.33	3.00	10.00	3.00	7.00	3.00
median	10.00	7.00	10.00	10.00	13.00	6.00
75th percentile	25.00	8.50	15.00	10.00	21.00	7.50
maximum	65.00	21.00	60.00	40.00	34.00	21.00
mean	16.24	7.07	13.70	15.79	15.24	7.18

EC	Summary Range EC					
	Fitzgerald upstream	Fitzgerald Downstream	Gairdner upstream	Gairdner Downstream	Bremer upstream	Bremer Downstream
minimum	22.70	33.00	4.28	3.70	10.50	0.00
<b>25th percentile</b>	56.15	33.70	40.40	27.40	21.44	11.40
median	79.90	41.30	58.55	37.00	31.00	18.28
75th percentile	113.85	56.50	69.23	49.45	44.20	20.50
maximum	162.30	131.60	97.60	133.50	58.80	26.10
mean	83.91	58.34	56.58	46.33	32.73	21.72

Tables 1-4: Summary ranges for upstream and downstream sections of each river, for NTU, pH, EC, and temperature.

# Community Photo stories in the Fitzgerald Biosphere

By Annie Leitch Communications and Events for the Fitzgerald Biosphere Community Collective (FBCC)

Taking inspiration from Astrid Volske (Ourphotostories), the Fitzgerald Biosphere Community Collective (FBCC) and the Bremer Bay CRC brought together a day where we could combine photostory concepts to a group of photographically minded people at Tozer's Bush Camp.

Astrid, a former photojournalist, showed us how you can create meaningful storytelling, guiding us through things like capturing real emotion, using good lighting and downloading various apps to help along the way. She treated us to some of her archived projects, most of which are stories of people in rural areas who become characters in their own script, on their own stage, often in their ute, workplace or home with their livestock, flowers or dogs – akin to Robert Tozer himself!

Tozer's Bush Camp - a 700 acre property that was borne out of contemplation around farming during tough times and providing for a family – demonstrates a relatively low impact sustainable business, in a bush setting that conserves biodiversity within the transition zone of the Fitzgerald Biosphere. What's more – academics can and have accessed his property for research and his records for data such as fire history, whilst paying tourists can affordably stay and learn about the local flora via a botanist led tour. Tozer, albeit unknowingly, is nailing the Biosphere brief.

Alongside this workshop we were able to capitalise on Astrid's time and detour to some of our friends around the Jerramungup shire to see what makes the Fitzgerald Biosphere special to them – stay tuned to see more of our Biosphere photo stories in weeks to come!

This event was made possible by funding from Lotterywest and the Shire of Jerramungup.



*Astrid from Ourphotostories sharing her skills with us*



*Tozer with his dog*



*Troy Treeby at family property discussing his experience growing up in the Fitzgerald Biosphere*



*Dr Alison Lullfitz sharing her story about growing up and working in the Fitzgerald Biosphere*



# Groundwater continues to rise in Jerramungup Shire, stabilisation likely decades away.

FBG recommenced monitoring of select bores in 2021 as part of State NRM funded project, 'Regenerating saline land; a new approach to an old problem'. Bores for monitoring were selected on the basis of farmer interest, condition, representative geographical placement, and capacity to capture long-term trends (bores characterised by shallow water table depth were excluded due to heightened responsiveness to short-term weather fluctuations).

Of 98 piezometers audited, only 37 were serviceable and 20 were considered useful for ongoing monitoring due to depth and access to historical data. Of the 20 bores with historical data (from between 1989 and 2008), 65% were rising, 10% stable, and 25% falling. Bores situated in lucerne paddocks, sandy areas, and areas close to remnant vegetation dominated the stable and falling bores.

For comparison, 1990-1997, monitoring of 86 FBG-drilled bores indicated that 91% were rising, while AgBores between 1991 and 2020 varied between 52% and 74%.

As this project comes to a close, we urge participating landholders, and any other interested landholders, to continue to monitor piezometers and

send results to FBG or DPIRD ([simons.john@dpird.gov.au](mailto:simons.john@dpird.gov.au)) for interpretation.

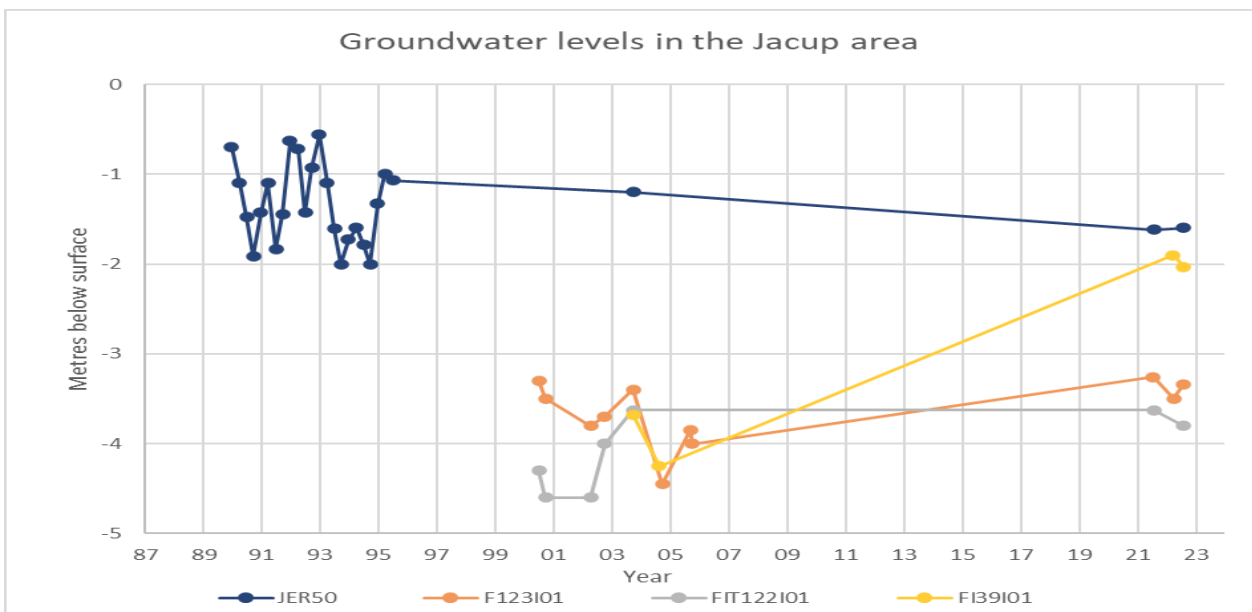
Monitoring groundwater can help you estimate salinity risk, detect changing water quality, monitor the effect of management practices, track trends, and inform your understanding of your farm's hydrological processes. Stand-alone measurements do not assist with this; a series of measurements over at least five years is required to establish trends. Groundwater is best monitored in autumn and can be done as little as once a year.

See the below figures for representations of groundwaters trends across the Jerramungup Shire, based on historical data and FBG's recent monitoring.

*This monitoring program was supported through funding from the Western Australian Government's State NRM Program.*

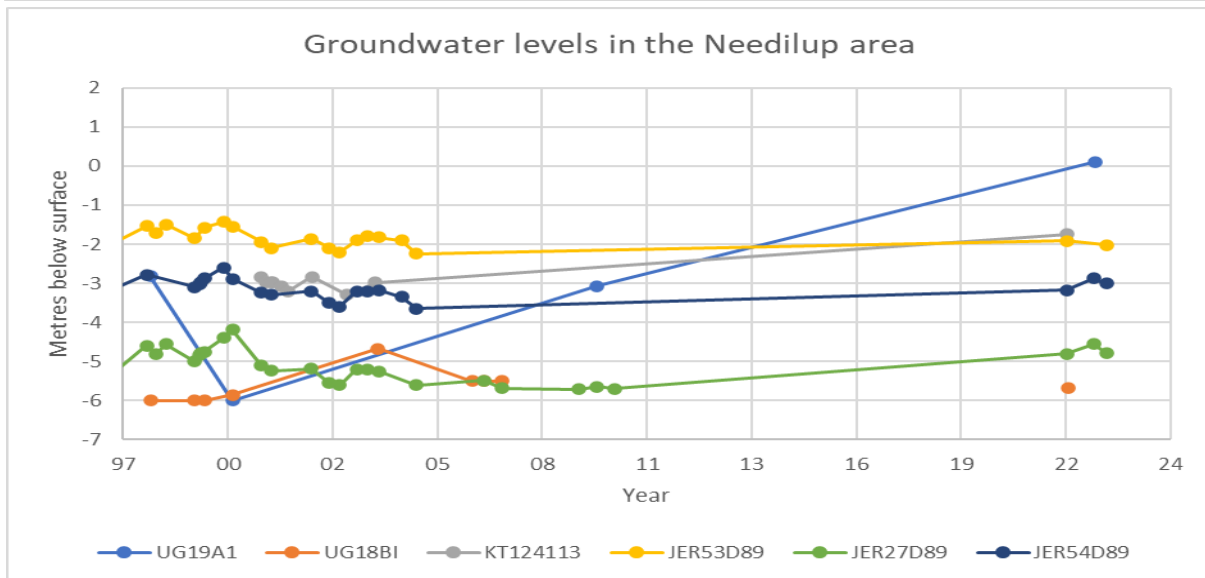
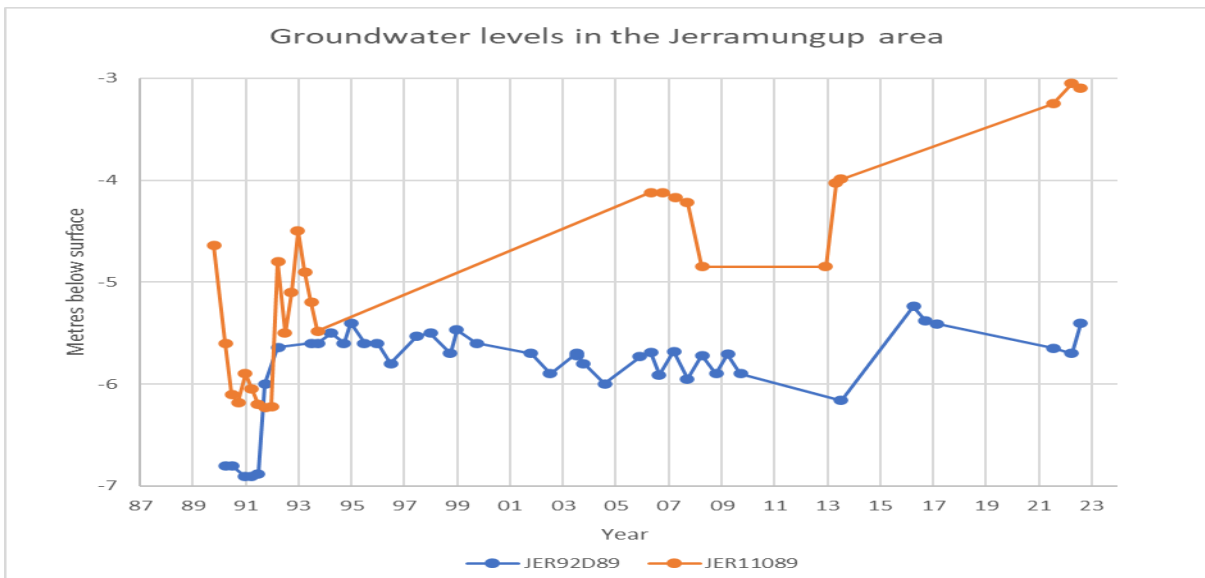
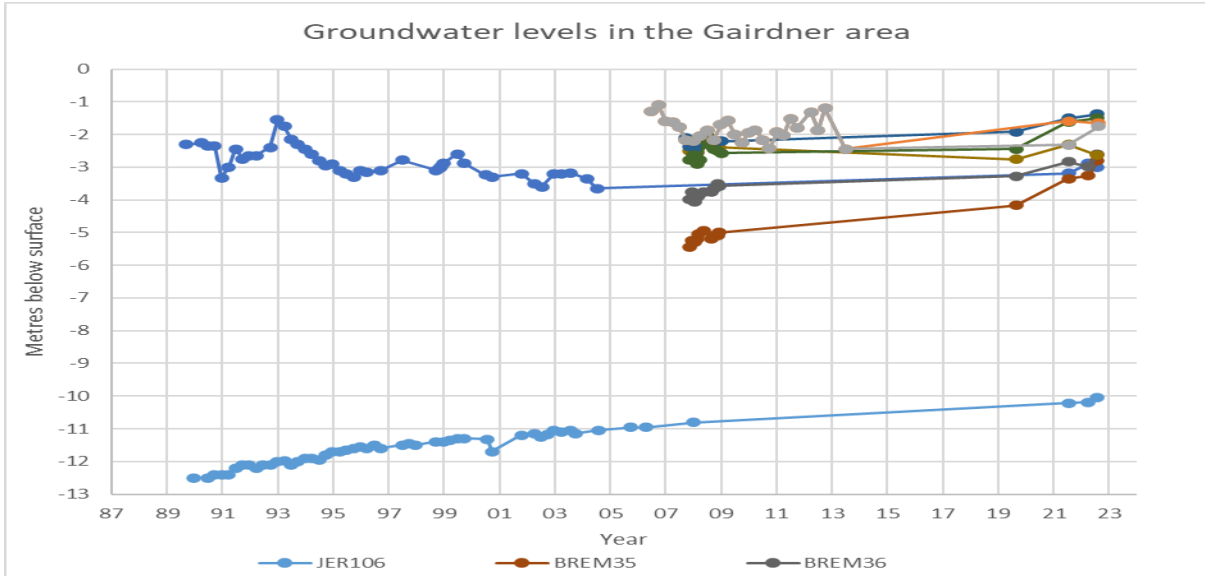


natural resource management program





**Groundwater continues to rise in Jerramungup Shire, stabilisation likely decades away.**



# Living and Learning OUR Fitzgerald Biosphere

By Annie Leitch, Communications and Events for the Fitzgerald Biosphere Community Collective (FBCC)

During National Science week in August, the FBCC and UWA Walking together project team came together to showcase research alongside UNESCO Biosphere principles for the local community.

Merningar Bardok Elder and UWA Research Associate Auntie Lynnette Knapp welcomes and shares with us personal stories from her childhood, endorsing research and sharing her lived experiences as she teaches us; *'..Country evokes the story'*.

Nathan McQuoid, Chair of the FBCC, shows us where we sit geologically and socially *'..to get our heads and hearts around the place'* and begin to *'..get the dogma out this stuff and start knowing Country.'* Providing FBCC updates and valuable take homes for us all as community members within the FB.

Professor Steve Hopper follows *'you have anywhere between 10, 15, 20, 30 endemics depending on how you define it (East Mt Barren)..people get excited about the Fitzgerald (National Park), but it ain't half the story. It's your properties in the buffer and transitions zones too'*

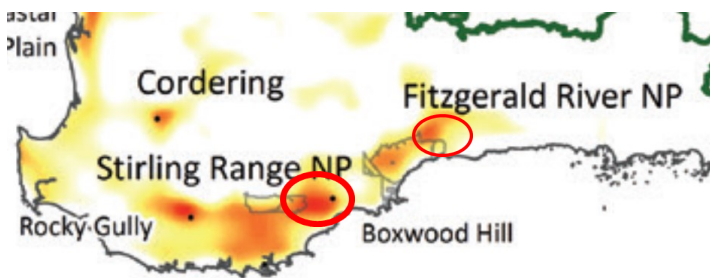
Wirloimin and Wudjari Custodians and their Elders. By utilising Two-way science methodology, engaging with Biosphere principles of reconciling sustainable development alongside conservation of biodiversity and looking at how we can understand these landscapes together, we as a community can celebrate OUR Fitzgerald Biosphere. Following on from the 11th WNICBR conference held at K'gari earlier this month - WE are ALL Connected.



Auntie Lynnette and Professor Hopper discussions with School students around the Biosphere and Noongar Culture



Dr Alison Lullfitz discussing Two-Way science projects



Gioia & Hopper 2017. Botanical Journal of the Linnean Society 184, 1–15

Dr Alison Lullfitz and PhD Candidate Ursula Rodrigues compliment the narrative by highlighting the two-way science approach to research that underpins the Walking together project work. One catalyst to demonstrate this was looking for the gaps between the National Biodiversity Hotspots (places of which needing the most attention within the nation) and overlaying the use of Traditional Ecological Knowledge (TEK) when informing these conservation areas/projects and what it is required to achieve good regenerative, cultural and ecological outcomes.

As the Fitzgerald Biosphere region lays at a Noongar nation crossroads we acknowledge the Menang, Goreng, Merningar,



Group photo in front of East Mt Barren



# NAIDOC Week—Jerramungup Highschool

By Annie Leitch (Fitzgerald Biosphere Community Collective) Photos by Annie Leitch FBCC

NAIDOC (National Aboriginal and Islander Day Observance Committee) Week celebrations are held across the nation to celebrate and recognise the history, culture and achievements of Aboriginal and Torres Strait Islander peoples. NAIDOC Week is an opportunity for all Australians to learn about Aboriginal and Torres Strait Islander cultures and histories and participate in celebrations of the oldest, continuous living cultures on earth. (<https://www.naidoc.org.au/about/naidoc-week>)

As we approached the end of August, those within the Jerramungup community of the Fitzgerald Biosphere and the Yarramouup Aboriginal Corporation (YAC) gathered for their NAIDOC recognition celebrations on a beautiful clear day during Djilba.

The Gray family members/YAC - Menang Elders

Aunties Carol Pettersen, Val Swift, Roni Forrest, Liza Kerley Gray, Uncle Kimberley Gray and their niece Belinda Swift - shared their delight to be able to meet for these 2 days to showcase and celebrate their historical connection to this area – citing love and connection for this place since 1938 with 11 of the 17 siblings attending school here. Furthermore noting ‘Every year there is a theme, this year’s is about celebrating our role as elders in the community, as nurturers, nurses and carers to lead everything in our community’.

Wellstead Primary students, teachers and Principal arrive to join the festivities, beginning with the Aboriginal and Torres Strait flags raised under the guidance of Uncle Kimberley Gray.

Multiple bus trips take us to the original Gray family camp area, today, transformed by refining a series of paths and breakout cleared areas through the woodland into a custom made bush classroom for all-aged Noongar learnings. The Gray siblings take turns with various classes to contribute their knowledge, lived experiences, and creativity through art, language lessons, story telling, ochre facepainting, music with tapping sticks, song, and dance.

This event was presented by Yarramouup Aboriginal Corporation, Jerramungup District High school in collaboration with Wellstead Primary and the Fitzgerald Biosphere Community Collective (FBCC) and is thanks to support from Department of Local Government, Sport and Cultural Industries, Lotterywest, CBH group and our BBQ lunch was, provided by WA Landcare Network



The senior grades broke off to learning at the Burial memorial, a collaboration of local landholder Rex Parsons, the Yarramouup Aboriginal Corporation and the Jerramungup Shire to acknowledge the area as culturally significant.



# Weekend in the Fitzgerald Biosphere – A National Science Week event.

By Annie Leitch and Sarah Comer

We join Uncle Eugene Eades (Uncle Euy) in the meeting place *mia mia* at Nowanup Reserve after a quick morning tea and begin heartfelt discussions to welcome, introduce, heal and reconcile. We learn about ‘court to country’ programs that has seen young fellas making their way to Nowanup for Bush school, eco-restoration efforts that have placed Nowanup on the map for the whole world to see, using family members’ Totems planted in art form as a show of respect, using the ‘*Wadjula way of restoration to tell 2 stories on 1 land.*’

We look over the escarpment discussing the future of walking trails and other collaborative projects with like-minded stakeholders, Bush Heritage Australia (BHA) and Greening Australia – Nowanup Caretakers’ helping with trail works and planting projects.

*Dr Alison Lullfitz, a local community and friends’ member shares her experience with not only the Eades family, but helping us to understand the importance of Noongar inclusion in University projects. Uncle Euy, himself an Adjunct Associate Professor with Curtin University.*

Sarah Comer - BHA Ecologist and Friends’ member showed us around Monjebup North Reserve – an ecological restoration project delivered by BHA, implementing the high-grade restoration practices using direct seeding and infill planting to restore native vegetation on previously cleared paddocks. Matching appropriate local plant species with soil types, plantings have become productive enough for animals to move on in. We hear Crested Bellbird and Emus as we navigate vegetation to find an active Malleefowl mound - and hopefully in time, vegetation recruitment will eventually reduce the tell-tale lines of human machinery intervention within this reserve. Sarah spoke to us on many topics – Felixer grooming traps which have been designed to specifically target feral cats and how they work, Bush Heritage’s integrated predator management work, vegetation and fauna monitoring, technology and song meters, Yate swamps with cultural and ecosystem significance and getting a closer look at empty pygmy possum nest boxes!

We were fortunate to book the whole Red Moort Field station accommodation and kitchen facilities for this weekend, referencing plants found that day with their BHA herbarium and Friends’ members expertise. It was a great way to spend a few days in the Fitzgerald Biosphere.

Presented by the Fitzgerald Biosphere Community Collective and Friends of the Fitzgerald River National Park for National Science week on the 19<sup>th</sup> and 20<sup>th</sup> of August. We thank Lotterywest for funding this weekend, Uncle Eugene and Rocky Eades from Nowanup Enterprises LTD and Sarah Comer from Bush Heritage Australia for guidance through BHA projects.



*Uncle Euy making us ‘Yarn carrier’s’.. in the meeting place Mia Mia – he notes ‘Noongar are the biggest story tellers out they reckon’.*



*Walk through the bush to the second meeting place, along the way we stop for views and calendar plants flowering – indicating goannas preparing to lay their eggs in the termite mounds.*



*Ecologist Sarah Comer introducing us to Monjebup North*



# Migratory shorebirds - World-champion fliers

A small flock of Red-necked Stints on the far side of the Wellstead Estuary were the stars of our recent shorebird identification workshop in Bremer Bay. They were blissfully unaware of the scrutiny through myriad telescopes and binoculars, and of their status as the only migratory shorebirds currently in residence on the estuary.

World Migratory Bird Day was on Saturday 14th October, and by sheer luck, it was also the day we held our shorebird identification workshop with Dr Jeremy Ringma, the Shorebird Project Coordinator for BirdLife WA.

He took us on the journey flown by millions of shorebirds annually along the East Asian Australasian Flyway - one of seven flyways used by migratory birds around the planet to travel more than 10,000 km from their southern homes to their breeding grounds in the Arctic. To succeed, they have evolved extraordinary adaptations.

- They build up significant reserves before they go (their body weight increases from between 28% to 72%, depending on the species).
- They don't eat during the flight so their digestive organs (stomach / gizzard) shrink.
- Their flight muscles get larger and their non-essential leg muscles get smaller.
- Their hearts increase in size to supply more oxygen to their blood and their blood thickens.
- Females store extra calcium before they go, so they can lay eggs shortly after arrival.
- They do a complete moult before departing. Males moult into breeding plumage (which completely transforms the way they look).
- Larger shorebirds like Godwits make longer uninterrupted flights and smaller shorebirds like Red-necked Stints make several stop-overs.

The migration is long, arduous and dangerous and many birds die en-route each year. This begs the question why? Why would these species develop such extreme adaptations just to breed so far from their homes?

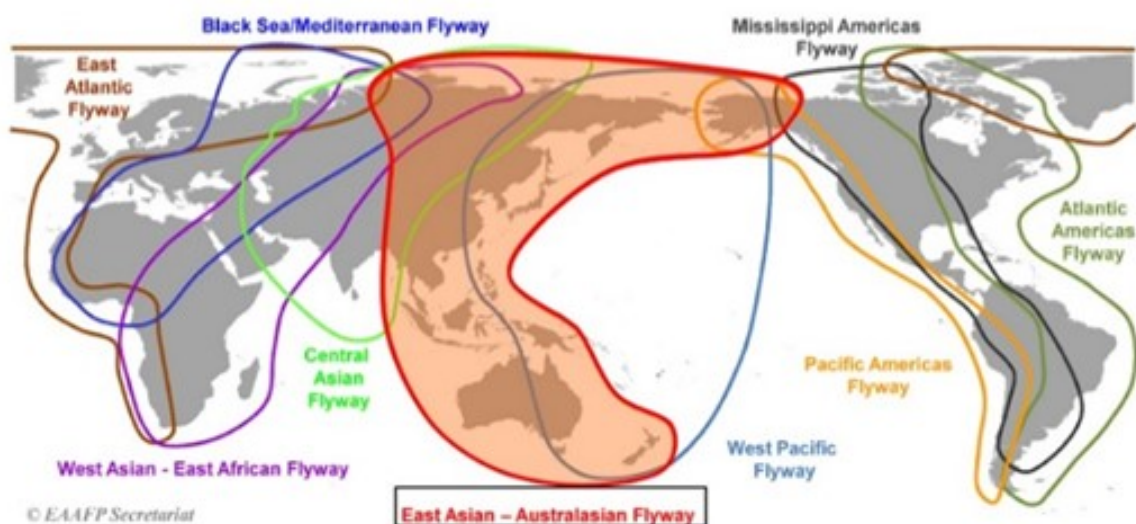
The answer lies in the extraordinary richness of life that flourishes in the grasslands of the Arctic Tundra over the brief Arctic summer. The migration of millions of shorebirds coincides with the mass hatching of insect larvae: the perfect food for the chicks, who hatch with very soft, undeveloped beaks. In time, their beaks lengthen, strengthen, harden and develop unique adaptations that will enable them to mine the mudflats back in Australia for prey such as molluscs, worms and shrimps – but they can't do this as hatchlings. The Arctic Tundra is a forbidding frozen environment for most the year so there are also fewer predators when the shorebirds breed, giving vulnerable chicks a chance to fledge.

The chicks quickly become self-sufficient and after about a month, the adult birds depart on their return migration. Several weeks later, the chicks follow along their parent's migratory routes – having never made the journey before.

When the birds return to Australia they are in an extremely vulnerable state and most urgently need food and safety to recover from their journey. At the point of



## East Asian-Australasian Flyway



© EAAFP Secretariat

Image sourced from borneobirdclub.blogspot.com

## Migratory shorebirds - World-champion fliers

return, simply disturbing a migratory bird can kill it outright, so fragile is its physical state, Jeremy said. On-going disturbance while they are trying to build up reserves prior to migration often results in death en-route because they haven't sufficient bodyweight for the journey.

Roebuck Bay near Broome and the Gulf of Carpentaria in Queensland draw the largest populations of migratory shorebirds in Australia, but as rich as these two food resources are, they can't support the entire population. Many birds continue their migration south, to Bunbury, Denmark and along the south coast.

This means the migratory shorebirds we see on the Wellstead Estuary have flown thousands of kilometres further than their Broome counterparts. They display strong site fidelity, so we most likely see the same individuals on our beaches each year.

The Red-necked Stints we saw on the workshop are regular annual visitors and one of the smallest migratory shorebirds, weighing about 50g (non-migrating weight). At the other end of the range we get Bar-tailed Godwits weighing about 300g, Great Knots, Common Greenshanks, Sanderlings, three Sandpiper and two plover species, Whimbrels and Grey Tattlers.

### Plummeting numbers

On a global scale, habitat loss, human disturbance, predation and climate change are all causing massive and unsustainable declines in migratory shorebird numbers. The Yellow Sea is a critical stop-over point in the East Asian Australasian Flyway but its shoreline has been heavily developed over many decades, greatly reducing available habitat. Long-term annual shorebird surveys in Australia have provided evidence of this decline and as a consequence, both the Chinese and Korean governments have changed their policies to improve habitat for shorebirds, Jeremy said.

### What we can do for migratory shorebirds

Jeremy's over-arching recommendation is: aim to grow the fattest, juiciest birds possible in Bremer to give them the best chance to succeed in their annual migration. How do we do this?

The birds simply need a safe place to rest and feed, undisturbed, so the main thing we can do is keep away from them. On the Wellstead Estuary we use temporary fencing to protect migratory and resident shorebirds from disturbance. Observing the signs and staying outside of the fenced area is all you need to do. It would be handy if the birds also read the signs, but as Jeremy points out, coordinating shorebirds just doesn't work. They're marching to the beat of a different drum so it's down to us. On open beaches you can help by being aware of their presence, keeping your distance and preventing dogs from chasing them.

If you are interested in participating in the annual national shorebird survey that BirdLife Australia coordinates, let us know. We will endeavour to run one in February 2024.

Many thanks to Jeremy for presenting to us and leading our birdwalk on the estuary. We greatly appreciated his time and knowledge. Many thanks also to FESA for the use of their shed.

Leonie McMahon

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*This project is supported by funding from the Western Australian Government's State NRM Program.*



natural resource  
management program



# Setting the stage: FBG's inaugural Ladies Day in review

FBG's first Ladies' Day was a certified success! Attracting 45 women from Borden to Albany, Bremer to Jacup, and everywhere in between, the event was full of captivating speakers, exquisite food, and plenty of mingling.

Following some very welcome barista coffee by The Lost Ship, Rachel North of North's Flowers opened the day. Rachel's presentation was packed with so much personality and enthusiasm that only her stunning arrays of native flowers being passed around could compete for attention. Rachel shared her experience of running a flower business and some wisdom on establishing and caring for native plants, like remembering that natives need pruning too, and highlighting the importance of soil testing and observing what already succeeds in your area.

Staying on theme with native plants, Nathan McQuoid then led the group through a landscape that demonstrated both ancient ecological processes as well as the more recent impacts of hydrological shifts and salinity. During the walk, Nathan shared many practical tips on utilising local provenance species for saltland revegetation. Of particular interest to the group was his advice to lop and place seed-laden branches of salt-tolerant species directly into puddles and natural depressions, providing ideal conditions for germination. This is often referred to as brush matting, and is ideally done in Autumn.

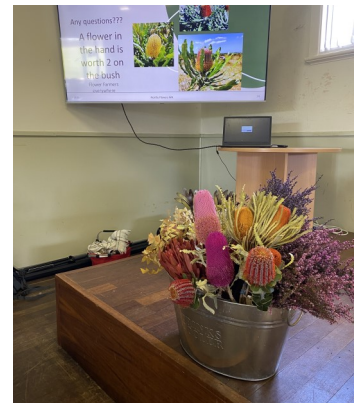
Kyran Brook was next on the lineup, transitioning us from the region's unique biodiversity to our community's economic mainstay; cropping. Kyran gave us a really insightful run down on what he looks for as an agronomist and how he tai-

lors his programs according to farmer priorities. There were some pretty tricky questions thrown in there from the audience which prompted some really good discussion as well.

Upon returning from Kyran's illuminating field walk, we were met with the irresistible aromas of Wood Fired Catering paella, seasonal salads, patatas bravas, and crusty loaves. Lunchtime presented an opportunity to both indulge in this feast and discuss the morning's insights with peers.

Karryn Duncan was tasked with rousing the audience from their post-lunch lull, and she certainly rose to the challenge. The constant scrawling of pens revealed just how needed and valued her practical advice on attracting and retaining farm staff was. Karryn shared the success her own farm has had in this area through being guided by the following questions: What sort of person do we need to complement our strengths and values and avoid the trap of thinking we need someone who can do what the rest of us can already do? How do we pitch to this person,? Where would they be most likely to get their information? How do we make our ad stand out? How do we provide an easy way for them to find out more about our farm?

Karryn's insights on advocating for our own businesses to attract the right staff lead to an equally gripping presentation around advocacy in agriculture more broadly from Blythe Calnan of the Livestock Collective.



Blythe shared the work that the organisation undertakes; to build connections and shared understanding around agriculture, to promote a collaborative and united livestock sector. Among revelations into the shockingly large number of Australians who have zero direct connection to agriculture (42%), Blythe also offered helpful advice on dealing with the ever-present naysayers; to never assume knowledge, avoid becoming defensive or aggressive, find shared values, share personal stories and experiences, and ask more questions.

Following Blythe was Wayne Pech, a Gnowangerup-based farmer who emphasised the importance of understanding on-farm emissions as we move increasingly closer to a more transparent, sustainable industry, and opportunities to access premiums for low-emission grains. While also contributing to farm credentials and sustainability, calculating and understanding carbon can also improve a farm's overall productivity, as was the case with his own. Wayne shared his experience with establishing a carbon planting project, noting that if were to do another, he would avoid partnering with a project manager and use only an investor; thereby increasing his share in ACCUs.

Adding to this conversation around identifying opportunities within a business was Kylie Douglas of Successiv, who weaved light-hearted humour and unmatched energy into her exploration of how to identify and leverage your key business parameters.



Annie Leitch, FBCC Communications & Extension Coordinator, brought us back into the natural world with her compelling presentation on all things Biosphere. Annie explained the concept of a Biosphere, and how all the topics explored throughout the day can enhance their aim of environmentally sustainable economic and social development. We were treated to photos and stories of our Biosphere's incredible flora and fauna, 79% of which is endemic, including the red-tailed Phascogale and the much loved honey possum. Annie extended an invitation to upcoming FBCC events, which include a photo stories workshop

Mae Connolly (Farmanco) was then welcomed to the stage, where she tackled the constantly looming challenges of grain marketing in a manner that instilled positivity and hope in the audience, rather than the usual trepidation. Mae's advice to accept that price prediction is simply impossible (even for an expert like herself!), be clear about your goals, focus on the big picture while utilising available data, to avoid looking back with regret and anger, and to find a system that works for you rather than being lured into someone else's way of doing things. All of this was accompanied with such gentle, helpful advice on how to actually put these into practice, that a near-audible sigh of relief from the audience concluded Mae's presentation.

Jessica Rintoul from CBH gave us a run down on her professional journey within the organisation before giving us some insights into both some logistics relevant to our port zone, as well as some seasonal considerations.

Laura Wishart rounded out the formalities of the day by taking the crowd through a tasting of her incredible Shepherd's Hut wines. With her Pinot Noir, Sauvignon Blanc, and Riesling all on offer, everyone was able to indulge in something to their liking, while learning more about the process of winemaking and running a vineyard. Laura's tasting was completed in the only way a wine tasting should be; with full-size servings immediately following, a banquet of cheese, and an opportunity for the crowd to chat, debrief, and relax.

We are sincerely appreciative of the presenters, caterers, Gairdner Progress Association, site hosts, and attendees, whose collective efforts ensured FBG's first Ladies' Day was memorable and enjoyable for all.



# Future Drought Fund Demonstration site up and running; Anameka and perennials persist despite dry conditions.

Hosted by Craig and Naomi Hall, an Anameka, legume, and perennial fodder site has been established in Gairdner, aimed at demonstrating opportunities for drought-tolerant, productive pastures. At Halls' site, it may also serve to reduce salinity risk by using groundwater, which measures close to seawater EC levels and sits at around 50cm below the surface.

Six weeks after being planted, the Anameka seedlings at Halls' property in Gairdner appear to have a survival rate of 90-95%, despite very limited rain since planting. Evidently, planting into rip lines created by the Chatfield's planter, and planting both the root system and stem of each plan deep into the soil paid off! The perennials seeded in the interrow are experiencing mixed success; with messina, chicory, lucerne, and tall wheat grass currently the most prevalent.

Head to [fbg.org.au/news](http://fbg.org.au/news) for more detail on this project, including a comprehensive list of species, sowing rates, inputs, and soil test results.



*This project is supported by funding from the Australian Federal Government's Future Drought Fund Program. This project is lead by CSIRO and DPIRD.*



Department of  
Primary Industries and  
Regional Development



Australian Government  
Department of Agriculture,  
Fisheries and Forestry



Future  
Drought  
Fund



GROWER  
GROUP  
ALLIANCE  
Together we grow



South-West WA  
Drought Resilience Adoption  
and Innovation Hub

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## FBG Board

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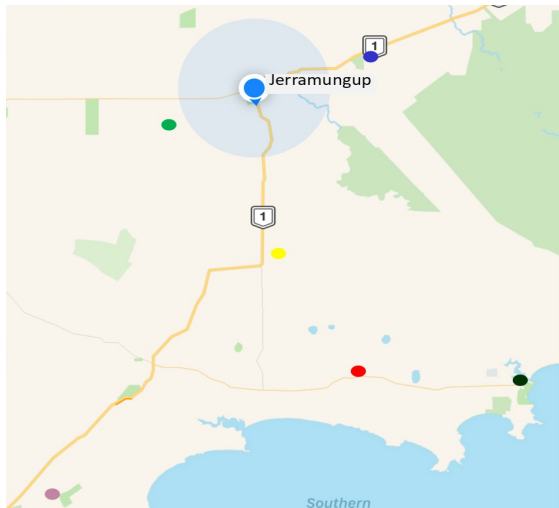
**Kyran Brooks**

Treasurer

# UPCOMING EVENTS

- Feb 16th—Fitzy Fox Shoot
- March 23rd—Dancing in the Dirt

## Jerramungup district rainfall



Location	22 Total	Total YTD 23	Aug	Sep	Oct
Jerramungup	430	301.6	60.8	23.2	5.0
Needilup Nth	393	211.5	32.5	22.5	3.5
Gairdner	607	214.8	52.2		
Boxwood (Chillinup)	506	264.5	53.5	22.2	8.5
Mettler	755	458.2	74.9	35.8	20.6

## CHANGES TO FBG OFFICE PHONE NUMBER

We will shortly be disconnecting our landline (08 98351127) and replacing it with an office mobile.

Please update your contact details for us as follows

**FBG OFFICE MOBILE:**  
0499 346 233

# WE ARE HIRING!



## expressions of interest sought - Executive Officer/Project Coordinator

Fitzgerald Biosphere Group is a member-led farming systems and natural resource management group based in the Shire of Jerramungup on the beautiful South Coast of Western Australia and within the UNESCO Fitzgerald Biosphere.

The Committee is currently seeking a skilled agricultural professional with a sound background in agricultural research, development, extension and adoption, and/or in natural resource management with a passion for rural and regional farming communities. Strong organisational, computer and interpersonal skills are required.

The position would involve a combination of leadership, governance and compliance, as well as in active project management, either as a joint or separate role

This is a unique role which affords the ability to seek and make your own opportunities, work within an innovative and exciting industry, as well as coming with a great deal of flexibility. A fantastic community to be part of and a fabulous backyard in the Bremer Bay coastline and Fitzgerald River National Park.

The role is 1.0 FTE for the joint role.



For queries or the full job description, please contact Maddy Wylie:  
M: 0421 645 410  
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Contact FBG for more details ph. 0499 346 233

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