



WICCNews

WICC Newsletter April - May 2022



Djeran

Autumn April - May

Season of adulthood - Cooler weather begins



In memory of Rob Underwood

Inlet Update

We are at the end of Bunuru (February-March) and Wilson Inlet is still connected to the ocean. However, the channel is slowly silting up as sand is transported in by waves and tides. The water between Prawn Rock Island and the Nullaki Peninsula is now very shallow but high tides are still bringing blue ocean water into Prawn Rock channel, making it a pleasant site to swim. While it is not too unusual for the sandbar to remain open until the end of Bunuru, this opening will be one of the longest. It is already the third longest opening on record – the longest was 334 days in 1988.

Dr. Elke Reichwaldt from the Department of Water and Environmental Regulation said that Bunuru is

the season of the lowest river flows and this year has been no exception: river flow during Bunuru has been about one tenth that of Birak (December-January). While nutrient and algae concentrations in the inlet are low at the moment, this will change once the river flows increase towards the end of Djeran, because nutrients from the catchment will once again start to flow into the inlet.

[Click HERE to see the latest inlet monitoring data](#)

Waste to Net Zero



Biochar

WICC is partnering with Murdoch University's Dr Xiangpeng Gao, Prof Parisa A. Bahri, and Dr Gloria Rupf from Engineering and Energy at the College of Science, Health, Engineering and Education on the 'Green waste towards net zero' project. The 'Future Carbon' project is co-funded by the Department of Primary Industries and Regional Development (DPIRD) and Denmark Shire. The project aims to safely convert Denmark's green waste into biochar and explore using it on-farm to sequester carbon and improve farm productivity.

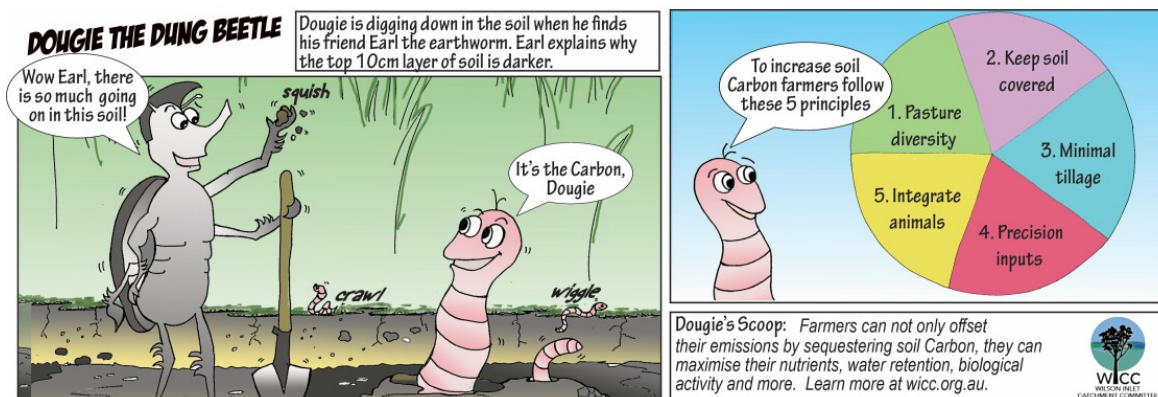
The research team lead by Dr Gao at Murdoch University is leading the research, process design, and techno-economic analysis of the proposed project. Dr Gao said, "Our research team has experience in experiments and techno-economic analysis to assess if the proposed concept is achievable technically and economically, and meet safety and carbon sequestration standards while reducing costs of waste disposal."

Instead of transporting or burning the green waste brought to Denmark's Waste Transfer Station, WICC has sought solutions that benefit farmers and the community. The benefits include a local supply of quality biochar, reduced costs to the Denmark Shire for green waste processing, and reduced carbon emissions. Farmers profitably using biochar to improve their economic and ecological credentials is under research investigation globally. The wide-ranging uses of biochar include binding more fertiliser to paddocks and not in local waterways, improving dairy milk production when fed in milker rations, and even better pasture and tree growth. What often prevents biochar from being used on farms is a sustainable supply of quality low-cost biochar.

Dr Gao explains, “In addition to farming there are many opportunities for reducing pollution by producing biochar from green waste in Denmark. A good example is the coproduction of biochar and heavy bio-oil pellets of excellent mechanical structure, and green chemicals extracted from light bio-oils from pyrolysis of the green waste. The biochar-based pellets can be used to produce green hydrogen via gasification because of their excellent fuel properties of high energy density and low inorganic content. We will investigate what is most suitable for the Denmark region and the Wilson Inlet.”

“This project is an excellent example of collaboration between universities and communities to help translate the creative and novel research ideas into real life and practical applications” Professor Bahri said.

Farmers in focus



Benefits of increasing Soil Organic Carbon

The Wilson Inlet Growers Group (WIGG) recently caught up to explore soil carbon with carbon consultant Jennifer West. Jennifer is the founder and managing director of Carbon West, a Perth-based carbon farming consultancy.

Farmers have a big role to play when it comes to capturing atmospheric carbon. They manage an extensive portion of Australia which has been largely cleared of trees (therefore carbon). This presents an enormous opportunity for them to help restore the balance.

The Australian Government has also provided a financial incentive. The Clean Energy Regulator generates Australian Carbon Credit Units (ACCU) through Emissions Reduction Fund (ERF) projects. Each ACCU represents one tonne of carbon dioxide equivalent (CO₂e). ACCUs can be issued for above ground projects (tree planting) and below ground projects. Currently one ACCU sells for around \$30.

Below ground projects are all about the soil organic carbon (SOC). SOC represents the carbon fraction of soil organic matter (SOM), which includes the living and decaying matter in soils derived from microorganisms, plants, and animals. A below ground project involves managing your land to encourage increases in SOC.

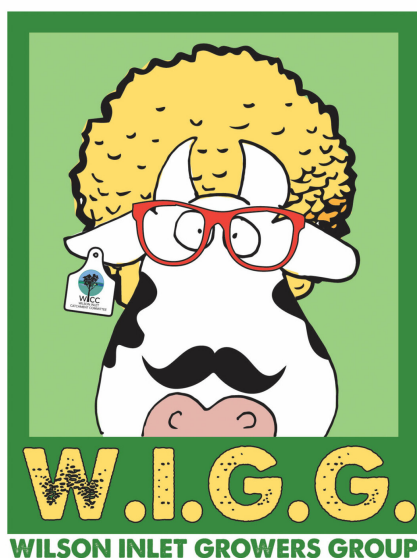
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Jennifer explained that with below ground ERF projects, a proponent's SOC baseline (or starting point) is calculated using lab analysis of soil core samples. The project area is then remeasured every few years (at least every 5 years) in the same way. Projects must run for at least 25 years as carbon must be stored for a long time, not just for a short while. The proponent can generate ACCUs (a tradable financial unit) by increasing their SOC during the project period. If SOC increases and generates ACCUs, proponents are responsible for maintaining the new levels until the project ends, or be liable to return some of the ACCUs issued.

Jennifer said, "SOC in agricultural soils across the world has fallen over the past century. Land use change, tillage, overgrazing and synthetic biocide applications are believed to have caused this decline in many instances. Depending on their physical and chemical properties, and the amount of rainfall received in that area, soils have an ability to hold organic carbon within their structure. That ability to hold carbon ranges in the top 30cms from as low as 1% (let's say Eneabba), to as high as 10% or more (probably nowhere in WA!). Some soils, with a low capacity to hold carbon, have fared very badly under intensive agricultural production and may have lost more than half of the carbon it once held..."

Jennifer explained to WIGG that the benefits from increasing SOC are often more about the increase in farm productivity than generating ACCUs. By increasing your SOC you retain more nutrients, water, and biological activity. Farms become more resilient to drought and can increase their stocking rates due to better pasture production through increased SOC levels. Jennifer said that one of the best things farmers can do is diversify their pasture species. More species across more families of plants supports healthy, well-functioning microbial communities. Keeping your soil covered year-round also delivers benefits, protecting soil microbial populations from temperature extremes to enable their survival. This can be achieved through soil testing for adequate pasture nutrition, rotational grazing, and diverse-species pastures which contain both winter and summer-active plant varieties.

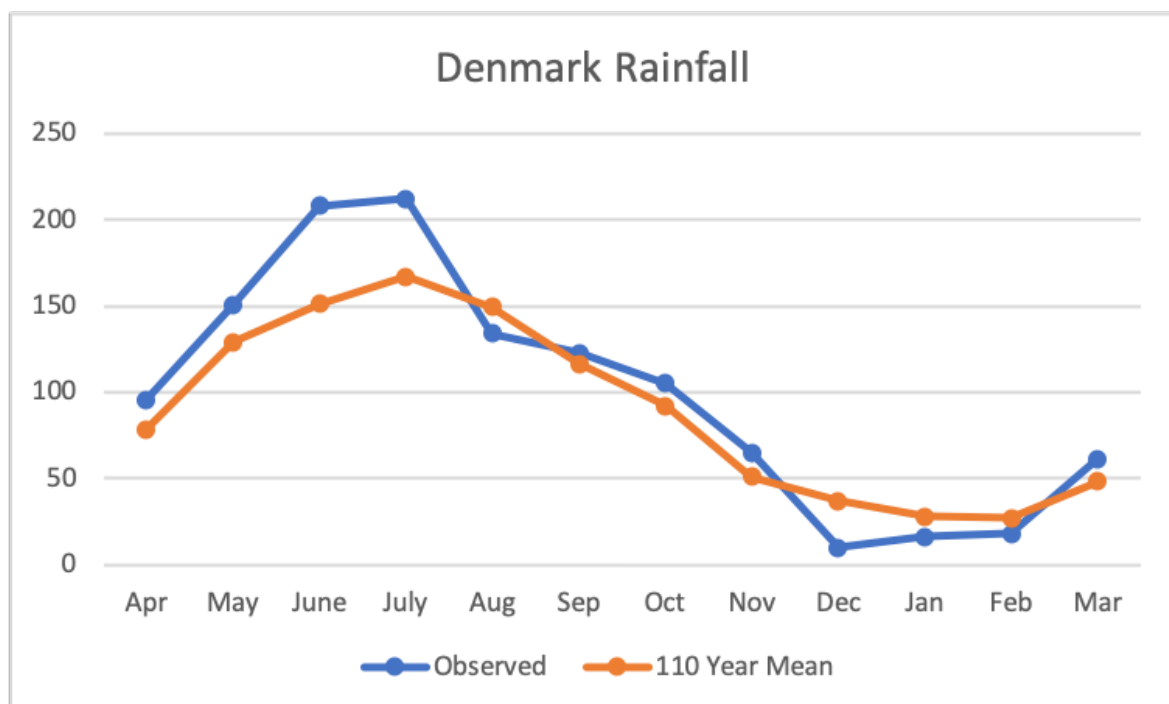
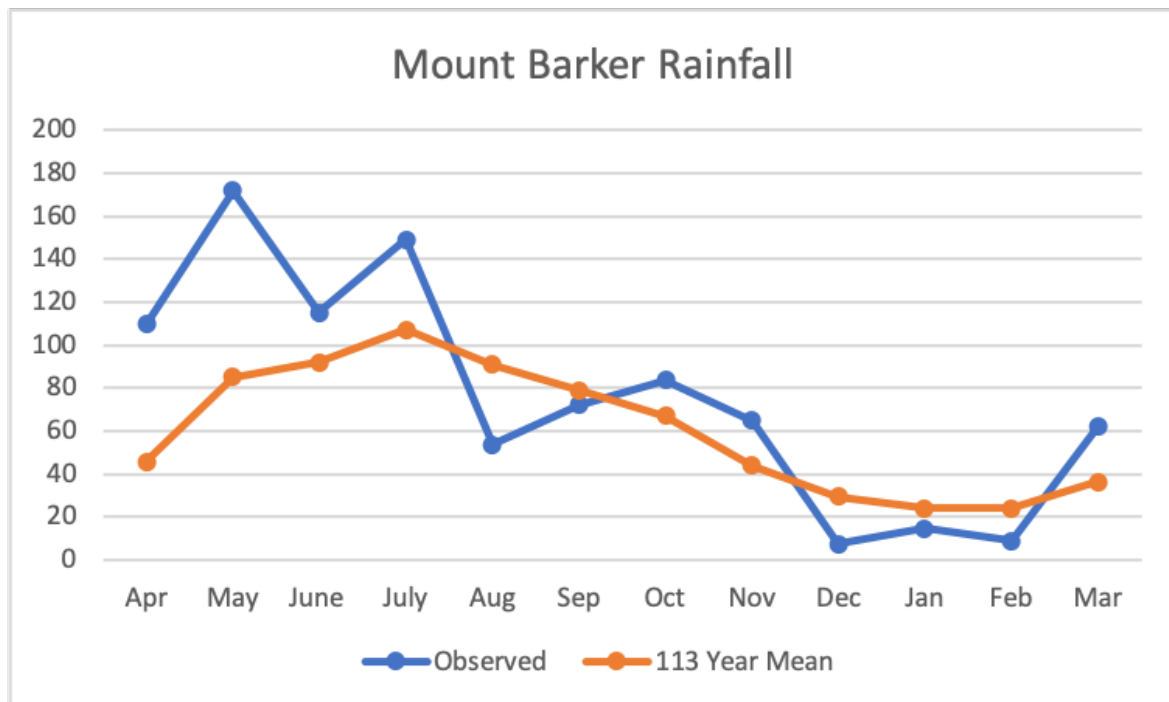
If you would like to learn more you can contact Jennifer at Carbon West on 042168055 or visit www.carbonwest.com.au, or visit www.wicc.org.au.



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

Rainfall Update

We had quite a dry February. This improved towards the latter half of March with above average rainfall which brought some welcome relief following one of our hottest summers ever. This trend of above average rainfall is anticipated to continue for the latter half of April. This outlook shifts to below average for May and June. Both of our primary climate drivers remain relatively neutral for the next couple of months.



Nullaki Update

Our fauna monitoring cameras on the Nullaki routinely capture our local wildlife in action. Sightings have become more frequent which we attribute to our feral management efforts. Here are a few recent pics...



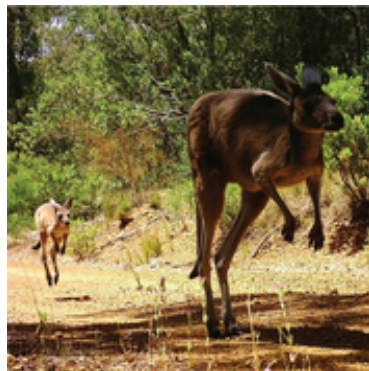
Quenda



Echidna



Goanna



Hawk



Kangaroos



Ringtail Possum



Raven chasing feral Cat

Quenda

Ringtail Possum

Photos courtesy of David Barr

WICC is Growing!

WICC welcomes aboard our newest Project Officer, Kylie Cook. Kylie is a scientist and local farmer, operating the family farm with her husband in Scotsdale. Kylie will be overseeing our dung beetle program and assisting WICC Board Member, Dr Mark McHenry with our biochar program.



The Wilson Inlet Catchment Committee is helping to

The Wilson Inlet Catchment Committee is helping to protect and maintain the ecological assets within the Wilson Inlet Catchment area

Your donation will help support these vital projects



All donations over \$2 or more are tax deductible



Denmark Livestock Feed Appeal

WICC would like to give a big thanks to the gracious farmers who donated livestock feed in support of those affected by the recent Denmark bushfires. Also a big thank you to Mark Bailey and Ken Zambonetti who donated their time and trucks to deliver much of it. About 220 bales was delivered throughout the firezone. We still have a few growers who will need assistance with feed. If you can spare some bales please contact Shaun at info@wicc.org.au.





Mark and Lynn Bailey

Weeds in Focus



Sydney Golden Wattle



Silver Wattle



Flinders Range Wattle

Weedy Wattles

Weedy Wattles are woody perennials which have established in bushland outside their normal range. They continue to increase in girth even after they have reached their maximum height. Many land managers including local and state government bodies, not-for-profit natural resource management groups, farmers and private entities are working hard to control these weeds on their lands. You can help by replacing potential weed wattless growing on your property with native trees or with other species that have less potential to become weeds in native bushland.

Silver Wattle, Mimosa. (*Acacia dealbata*)

Spreading shrub/tree <30m. Grey bark, corrugated when old, angular powdery branches. Young growth silvery white. Silvery, hairy, fern like leaves approx. 10cm. Flowers late winter - spring, showy sprays of perfumed, golden yellow globular flowers. Less widely planted than some other weedy wattles. Has ability to sucker into thickets and out- compete native vegetation in disturbed sites.

Flinders Range Wattle (*Acacia iteaphylla*)

Bushy, spreading, often weeping shrub 2–5m; bark green on young plants; narrow silvery blue-green leaf stalks (phyllodes - not true leaves). Pale yellow to lemon yellow globular flowers autumn to spring. Very popular and widely available; planted in gardens, on farms and rural residential areas, spreading into good quality bushland, and dominating local plants - has enormous potential to spread further. Explosive germination after death of parent plant, fire or disturbance. Short lived adult plants but long-lived seed.

Sydney Golden Wattle (*Acacia longifolia*)

A small tree with dark grey bark of up to 10 meters high, the Sydney Golden Wattle originates from the eastern states. Golden Wattle prefers coastal areas and its original distribution spans from southern Queensland to Victoria.

Here in the Great Southern region, they are invasive to our walking trails, road sides and creeks of Albany, Mt Barker and the coastal areas of Denmark. They are fast colonisers that were once preferred for their wind breaking ability, including for land rehabilitation however Golden Wattle leaves are known to be toxic to animal stock. Golden Wattle is a legume from the *Mimosaceae* family, the seeds are encased in a long pod similar to peas. Golden Wattle will bloom this winter and into spring, blossoming with fluorescent yellow flowers in the shape of long cylinders. The Wattle's ability to fix high levels of nitrogen draws in invasive grasses and other broad leaf weeds.

Identifying Golden Wattle out of season to other *Acacia* wattle species is to look for two to four longitudinal veins within its dark green narrow leaf. It is best to remove weedy Wattles in their juvenile stage by simply hand pulling the plant, and removing mature plants before seeding in late spring. Chemical sprays such as Glyphosate can be applied on new germinated seedlings.

What's On!



The Knowing Nullaki Festival is coming to Denmark in May and June with art- and science-based events for local schools and the community. The festival, run by Green Skills, will start on April 30 with free events scheduled during May and culminating in an art exhibition ending in June. Throughout the festival, WA artist Angela Rossen will be the artist-in-residence at Denmark Arts House for five weeks.

For more information & to register click [HERE](#)





INTERVIEW COHORT

Do you and your family have a story of spending time at local waterways? Register and be interviewed for the Waterways films that will be placed on the Waterways website, that audiences can access via QR code plaques installed at the Kwoorabup River & Lights Beach.

Contribute to telling stories & highlighting our community's unique perspective, of a life spent in Denmark with her special water places.

Filming dates include:

Apr 9, 11, 13, 18, 19, 20, 21

Register:

shoonarts@gmail.com or call 0403 443 730 for more info.



Department of
Local Government, Sport
and Cultural Industries



WATERWAYS

LOVE STORIES OF PLACE

Do you and your family have a story of spending time at a local waterway? Denmark Arts will be recording stories of people's connection to Denmark Waterways (and surrounds) over the month of April.

These stories will be made into short five minute films that will be accessible on phones via QR codes on plaques that will be permanently erected at Lights Beach and Denmark River mouth. For more information contact Nari Lees on (m) 0403 443 730 or (e) shoonarts@gmail.com