

Rangelands Living Skin

Project update
June 2023

What's been happening this year?

February and March were busy months with many field days and workshops held throughout the region as part of the Rangelands Living Skin project.

In February Resource Consulting Services (RCS) hosted two field days near Wilcannia (Kalyanka) and Wentworth (Oakbank) covering topics including looking after your country, managing livestock, regeneration of palatable perennial grasses, maintaining perennial overstorey regeneration and soil carbon management

On the 9th of March we held a field day & workshop at Bokhara Plains where we heard from the Finlayson's on their management and trials across their property, Dr Karl Andersson on monitoring soil health and Dr Craig Strong on ground cover

On the 14th March we held another day in the field near Wentworth with workshops on soil monitoring, ground cover management and soil biology with presenters Dr Karl Andersson (NSW DPI), Dr Craig Strong (ANU) and Kim Deans (Reinventing Agriculture)

On the 28-30 March RCS hosted a 3 day Grazing Clinic in Broken Hill which with costs heavily subsidised for Observers in the Rangelands Living Skin project. Participants learnt about practical grazing principals, strategies and tools to make the most out of their land and livestock businesses.



Talking all things grazing, soil and cover at Bokhara Plains.



In-field learning at the RCS Broken Hill grazing clinic.

Upcoming – Save the Date!

RCS business fundamentals – If you find it challenging getting off farm to attend a face-to-face program or course, and would like to increase your knowledge and develop your skills further, then come join RCS their upcoming online Business Fundamentals Workshop. The RCS online Business Fundamentals Workshop starts 9:30am Monday 31st July and runs for 12 weeks. Each week, attend a one-and-a-half-hour live webinar session. Observers in the Rangelands Living Skin project can access this course for a significantly discounted rate of only \$150. Click this link for more information or to register! [RCS online Business Fundamentals Workshop](#).

Lunchtime discussion sessions – These are informal discussions for Observers with an expert over lunchtime – so far we have ecologist Eren Turak on 28th July, Terry McCosker on September 19th and Hugh Pringle and Greg Curran (dates not set yet) coming up. Luke Beange will be sending out details directly to Observers closer to the dates.

Carbon Farming Workshops – Two workshops focussed on soil carbon and carbon farming will be held in the week of 4th-8th September. Locations will be Cobar and Broken Hill. Great speakers with Western Division experience and the opportunity to ask questions – keep an eye out for more information!

Australian Rangeland Society Conference, Broome, 18-22 September. If you're planning to attend the biennial conference this year, be sure to say hi to Gus Whyte or Sarah McDonald who will each be presenting on outcomes of the Rangelands Living Skin project.

Reminder – monitoring & free soil

- **Why?** Looking at both field condition and chemical analyses is a great way to check on soil health. The monitoring tests are making observations about the physical and biological conditions in the field. The lab tests help explain those observations. You can use them to compare what is happening in better and worse performing areas, understand fertility levels down the profile, and guide management decisions.
- **What?** There is a range of physical observations you can take to understand how the soil is performing, how water moves into the profile, how roots explore the soil, and how active organisms are in the soil. You can pick which are most relevant to you from a range of standard tests. The observations can all be done quickly, and you get more from them the more you do them. The chemical tests are for pH, electrical conductivity, exchangeable cations, carbon, nitrogen, phosphorus and sulphur. We are seeing some interesting results that explain limitations various sites that producers have selected which will help decide what suitable next steps might be.
- **How?** The 9 observations can be made quickly at locations you choose. All of the observations can be done in half an hour at each site, or within a few minutes each. LLS have kits and a manual available to do the tests, record information and interpret the results. We have also recently developed an app to help with data collection and storage. The soil samples can be taken with manual hand corers, or with a post driver and coring tube, available also from LLS.

For more information

These lab tests are available for a limited time. With only moderate uptake so far from within the project we are opening the invitation to other producers in the region who have show interest. Get in touch with your local LLS (Christine Plummer, Buronga, 0408 241 200; Courtney Lallard, Broken Hill, 0499 924 501; Casey Harrison, Cobar, 0460 634 538) if you would like to participate.

Research Update

Bokhara herd impact and ripping trial

At Bokhara Plains, the Finlayson's are trialling the use of intensive animal impact over short durations to restore claypans, comparing with deep ripping and no disturbance. The research team revisited the trial sites in late April to record changes in ground cover, biomass, plant composition, infiltration rate and surface roughness. Differences were already apparent at some sites (see photos below) with the data analysis ongoing.



Comparison of the control (left), Herd Impact (centre) and ripped (right) transects of the third replicate (installed in May 2022). A compositional and cover difference between the treatments is apparent – data still being analysed.

Cotton strip analysis for the biostimulant & biochar trial

Dr Simon Clarendon (soils researcher, NSW DPI) has been analysing degradation of cotton strips that were buried in the trials comparing use of biostimulant and biochar products across our four core properties. Higher amounts of decomposition indicate higher levels of soil microbial activity. We'll also have laboratory results of soil microbial indicators returned soon to compare across our treatments. This photo shows an example of the samples collected at one property.



Other trials: A demonstration trial is planned to be established on Gurrwarra in the next month. Glenn Humbert & Julie Conder are looking to explore the viability gypsum to restore claypans, comparing two different rates of a locally sources product and the cost/benefits of these applications. At Etiwanda, Andrew and Megan Mosely have taken the opportunity to sow a variety of hard-seeded annual legumes to monitor the establishment and persistence of these species in the semi-arid environment. In addition, the team are monitoring the productivity, nutritive value and soil health changes as a result of mix-species annual cropping on Etiwanda. Over at Wyndham, we are continuing to monitor changes associated with the water ponds across a claypan area that were established last year – keep an eye out for an update on the results of these after we next visit!

What are we working on behind the scenes?

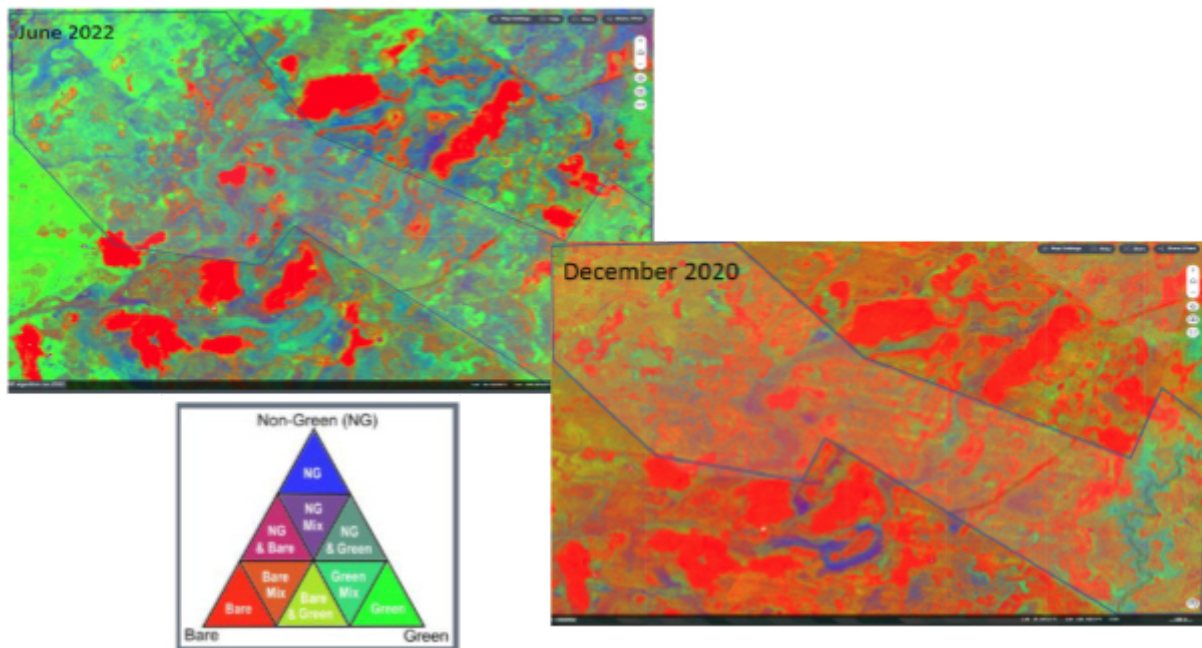
Soil carbon monitoring

Between September and January last year, 630 soil cores to 1m depth were taken across seven properties throughout western NSW all managed with forms of rotational grazing. Cores were taken by Carbonlink using a Geoprobe and have been scanned for spectral analysis of soil carbon. We are awaiting lab analysis of samples from these cores to calibrate the models to then determine carbon stocks across our sampling sites. Results of this monitoring will provide a baseline of soil carbon across western NSW and provide a better understanding of relationships of carbon with above-ground land condition in western NSW rangelands.



Remote sensing analysis of ground cover and plant biomass

To understand changes in ground cover and plant biomass as a result of changed grazing management or other management changes such as ponding or clearing we are using remote sensing technology with the help of Cibo Labs. This technology allows us to look back in time, across multiple seasons and over a larger area to better understand changes that may occur as a result of the management changes. We are looking forward to sharing our results soon!



In case you missed it

Check out these articles on the Living Skin project written by our project partners

[Waterponding for Rangelands Repair & Rehydration](#)

[Farmer Researchers -Herd Impact trial](#)

[Experimenting with bio-stimulants in the rangelands](#)

[Above and Below Ground Monitoring in the Rangelands](#)

[Investing in the southern rangelands – the Rangelands Living Skin project](#)

[Profitable Rangeland Landscapes](#)

[Water ponding rehydrates landscapes](#)

Got a question or would like more

For updates and info

To receive project updates, results, useful resources and information on field days, contact luke.beange@dpi.nsw.gov.au.

For more general information

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