

» Harriet, Graham and Cathy Finlayson.
Image: Nviro Media.

Rain ready in the rangelands



NSW producers, the Finlaysons, are using two simple and reliable tools to be ‘rain ready’, by harnessing their plants and livestock to help rebuild soil health and animal productivity on the rangelands.

In the 20-plus years Graham and Cathy Finlayson have owned their Brewarrina property, ‘Bokhara Plains’, they’ve experienced significant variations in rainfall averages – ranging from 100–850mm.

“Early on we had the Millennium drought, and we thought that was about as bad as it could get, but then this most recent drought was statistically worse, with a consecutive 96 months well below the average rolling 12-month rainfall,” Graham said.

They learned hard but valuable lessons during the Millennium drought, and planning for the inevitable dry spells is now part of the Finlaysons’ overall strategy.

When droughts last beyond 2–3 years, their focus is to minimise damage so their country can respond when it does eventually rain.

The Finlaysons attribute their ability to weather this latest drought to their ‘rain ready’ strategies for the ecology, and business diversification for their resilient economic position.

When they bought Bokhara Plains, Graham and Cathy were at first daunted by the amount of hard bare ground, so set out to address degradation to develop healthier and more productive land.

They drew on their knowledge gained from holistic management programs (such as Resource Consulting Services) to increase overall ground cover and create maximum diversity.

They initially used mechanical strategies by ripping lines to catch water and stimulate the seed bank, but in recognition of the beneficial role of livestock, they combined the two methods to drive their long-term progress forward despite tough seasons.

They manage cattle to provide strategic ‘disturbance and rest’, in which animal biological processes can be used to disturb and fertilise the soil, and trigger plant growth to fill the moisture void in dry landscapes.

“It’s not just the drought, but it’s the land’s capacity and ability to be able to respond after the drought,” Graham said.

“The best and most economical way to create positive change in these dry, brittle environments is to utilise biology, and the most consistent biology we have available is in the rumen of domesticated livestock.”

Grazing strategy

The Finlaysons have developed about 170 paddocks, in a traditional cell grazing wagon wheel design, with the watering points in the centre. Paddock size ranges from 20–400ha and averages 50–60ha.

They move their cattle – which most of the time run as one mob – through an extensive paddock system according to feed growth and availability, in conjunction with their 8–12 month grazing plan.

With such regular movement of cattle, ease of handling is critical – they use low-stress stock handling, select sires with calm temperament and cull any

SNAPSHOT



GRAHAM, CATHY AND HARRIET FINLAYSON,
‘Bokhara Plains’,
Brewarrina, NSW



AREA
9,300ha

ENTERPRISE
Cattle and sheep

LIVESTOCK
1,400 cattle (half on Bokhara Plains, half agisted on a similar grazing system), 1,000 sheep

PASTURES
Open native summer-dominant grasslands, with a wide range of seasonal herbage. Some lightly timbered areas and saltbush/chenopod belts.

SOIL
Heavier deep cracking black soil floodplains through to lighter clay areas

RAINFALL
385mm average but can range from 100–850mm

animals which do not match their goals for grass efficiency and good handling.

An added benefit of the resulting calm herd is that paddocks can be fenced using single electric wire.

Graham said a flexible approach – as long as it aligns to his principles – is key to what could appear to be a complex grazing system.

These principles boil down to:

- plan, monitor and manage: watch what's going on and change if you need to
- match stocking rates to carrying capacity
- ensure pastures have adequate rest.

To plan, monitor and manage, the Finlaysons use graze charts, including MaiaGrazing software, to accurately monitor feed utilisation, as well as physical and theoretical budgeting of grass and time available ahead of the cattle.

Allowing perennial grass plants time to fully recover (rest) is crucial in their goal to build resiliency back into the landscape.

“You want to make sure the cattle only have one graze of a plant. Herbivores didn't evolve to out-compete grasses, if so, they wouldn't have evolved very far,” Graham said.

He believes well-managed livestock are the key to reversing many environmental problems, particularly in the rangelands.

“What's good for increasing plant health and diversity is also good for the animals in our production system.

“The best investment to be made in any grazing business is ‘wire and water’ infrastructure, second only to investing in our own education.” ■

Case study supplied by Soils for Life.

Collectively learning with Rangelands Living Skin project

The Finlaysons' on-property experimentation and learning is evolving through a new phase with the MLA-supported Rangelands Living Skin project.

This project aims to measure the impacts of a variety of practices on four rangelands production systems to understand the impacts on productivity of soil, pasture and animals, and then the subsequent impacts on business and ecosystem sustainability.

Lead researcher, Suz Orgill, said the project is about identifying practical, cost-effective practices that regenerate the rangelands to support production into the future.

“This means more reliability from year-to-year, improved pasture health, improved ground cover, more feed for livestock and recovery of plants after dry conditions.

Over the coming year, the Finlaysons will explore additional practical and non-expensive methods of becoming rain ready, including planting old man saltbush, pasture cropping, and building on their experiments and



▲ New trees growing during the most recent drought at 'Bokhara Plains'. Image: Katie Ross.

comparisons between ripping and high-intensity livestock disturbance.

The Finlaysons are interested in the rangelands' soils biota and how micro-biomes can help continue to support regrowth and rehabilitation, so will experiment with the impacts of composted worm cast brew in rip line regrowth.

The Rangelands Living Skin project will share learnings through training, field days, fact sheets and other case studies, to equip producers to monitor soil and vegetation to adapt grazing management to manage plant species and pasture composition, and improve business resilience under a changing climate by slowing drought onset and speeding up drought recovery.

The Rangelands Living Skin project has been co-designed over two years in collaboration with producers (including the Finlaysons), researchers, education and extension specialists, and carbon aggregators. This collaborative project is being undertaken in partnership with NSW DPI, RCS, Carbon Link, Select Carbon, ANU, Western LLS, Western Landcare, and Soils for Life. ■

LESSONS LEARNT

- ✔ Disturbance and rest are critical in brittle, dry environments.
- ✔ We have the capacity through our management to reverse degradation and create healthy land and production systems.
- ✔ It's critical to use objective measurements to accurately assess, monitor and manage flexible stocking rates.



▲ An example of strategic soil disturbance with cattle to stimulate plant growth and support productivity at 'Bokhara Plains'.

- Rangelands Living Skin project soilsforlife.org.au/rangelands-living-skin and mla.com.au/rangelands-living-skin
- To get involved in the Rangelands Living Skin project, contact susan.orgill@dpi.nsw.gov.au or claudia.bryant@lls.nsw.gov.au
- Graham Finlayson bokharaplains@outlook.com ● Andrew Morelli amorelli@mla.com.au