

Drought and climate adaptation program

GrazingFutures Case Study:

Banking on banks in Morven

Summary

Southern Queensland Landscapes (SQL) Senior Project Officer Glenn Landsberg and Project Officer Lucas Mackie hosted the *Pasture and Weeds Field Day* in Morven on 21 October 2020. Morven was selected as an appropriate location to host the field day as landholders in the surrounding areas had displayed keen interest in learning about soil hydration works promoted in Glenn's NRIP (Natural Resources Investment Program) project. The day featured presentations from Cameron Wilson and Bec Brayley from the Department of Agriculture and Fisheries (DAF) and SQL's own Glenn Landsberg. Fifteen keen local landholders were in attendance, representing nine properties.

The morning segment of the day focused on identifying and controlling weeds of the Morven area. Representatives from DAF, Cameron Wilson and Bec Brayley presented during this segment.

Cameron's presentation educated landholders on weed identification and control methods—focusing on local invasive species, including Mother of Millions (*Bryophyllum delagoense*) and African Thorn Bush (*Lycium ferocissimum*). Bec's presentation discussed the management of the Pimelea (*Pimelea microcephala*), as some species are toxic to stock. Her presentation focussed on practical implications of the plant on productivity, including its effects on livestock, and how landholders can combat it. The crowd found both presentations very engaging and asked questions throughout both, mainly regarding control methods, and the effect of Pimelea and other common weeds on livestock such as goats.

SQL's Glenn Landsberg presented an informative and practical presentation on pasture management and soil hydration. The presentation covered how to manage your pasture during dry times to make the most of rain, keeping the pasture, and ensuring sustainability and productivity in drought. The crowd enjoyed this and asked questions regarding plant diversity, and the effects specific soil types have on pasture biodiversity.

The informative presentations were followed by a practical field exercise led by Glenn Landsberg at the property Glenbar where he demonstrated low profile spreader banks on a working property. Glenn used this site visit to better demonstrate the results of trial spreader banks and showcase grazing management techniques that utilise goats ahead of cattle in rotational grazing to control woody weeds and enhance ground cover. This visit also allowed landholders to see a low-profile contour bank in person and better understand how they work to enhance soil hydration, improve pasture growth and sustainability, during and after drought.

Previous interactions with GrazingFutures

Some the landholders in attendance had been to past GrazingFutures events, but for many, this was the first event attended. Participant feedback as passed on to SQL's RALF (Regional Agriculture Landcare Facilitator) Project Officer, Kate Percival a week later included:

- “Rejuvenated and inspired by listening to the day—gaining more ideas for simple changes we can make to (reduce) bare ground.”
- “Everyone in the district should have been there.”

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On-property practice change

In the months following the event, five properties have reported making changes:

- 'Ellwyn' Morven Queensland
- 'Muriah' Chinchilla Queensland
- 'Moriah' Morven Queensland
- 'Wetlands' and 'Glenbar' (demo site) Morven Queensland
- 'Alice Downs' Morven Queensland

Ellwyn:

The landholder stated they saw the appeal in spreader banks to combat erosion and promote pasture regrowth. Since the field day, they have put in around 100 meters of spreader banks around eroded gullies. They are unsure exactly how many spreader banks they will end up constructing. Still, once the repairs on the required machinery are complete, they hope to focus on building banks in areas with erosion to improve water infiltration, ground cover and pasture growth. As part of their efforts, they will also do deep ripping and seeding in the spreader banks barren regions.

Muriah:

This grazier is in the Chinchilla area (formally from Glenbar) and is surrounded by croppers. Their property has a very different landscape to Morven. Due to this difference, they do not think spreader banks would be suitable but are looking more into water retention and "spreading" water flow. They still think Glenn's presentation made a good point about "water retention is the most important component of pasture rejuvenation" and agree with the advice of starting at the top of the catchment, i.e., the highest point in the property and working down. In the months since the field day, they have been using a Yoemans plough (deep ripping) with wider tine spacing to promote water retention and rejuvenation. "Every property is different, and looking at mine, I don't think spreader banks would work for most of it, but I do think they have a place on other places". They have also started keeping an eye out for any Pimelea poisoning symptoms shown by livestock.

Moriah:

This landholder has started examining their watercourses, banks, drains, and creeks to discern where and if spreader banks are a good option for erosion and rehydration in those areas. They are planning on making changes that would promote soil hydration and pasture regrowth, but first, they want to have a greater understanding of their property and available options before committing to any infrastructure works, such as spreader banks and want to talk more with Glenn about soil hydration and methods of promoting it. Also, they are currently trying out "fencing off some of the flats" to help rejuvenate pasture via improved grazing pressure control. They are now more aware of Pimelea and are checking for it around their property, especially in regrowth places.

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Wetlands and Glenbar (demonstration site):

Currently have over 100 meters of spreader banks in place; these were the same banks used for the Morven pasture and weeds demonstration site visit. Since the field day, they have purchased a more significant ripping attachment for their tractor and have ripped over 3,000 ha (Figure 1). This ripping has been done along contours to assist in slowing water flow. They plan to seed these areas with Buffel grass in September, hopefully after some native grasses have taken hold. While seeding, it is hoped they will be able to extend the spreader banks and create new ones in the seeding areas.

They will also experiment with some weed control methods, as discussed at the field day. Their plans for combating *Pimelea* on the property is competition, i.e., the native grasses and Buffel are doing so well *Pimelea* cannot get established. While that is happening, they intend to increase goat numbers (conditions permitting) to help “control and clean up” woody weeds like African boxthorn and *Mimosa*



Figure 1. Recently ripped areas experiencing first rain fall (above left) on Wetlands and the same patch after further rain fall (above right)

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Alice Downs:

Overall, this landholder found the day helpful and said it had plenty of tidbits of useful information. Since their property is in a riparian area, any major water retention project is challenging and may require government approval. Therefore, they do not think spreader banks are possible/will work in their area. However, they are still very interested in soil hydration methods. They have improved their weed control methods via mapping out the weed infestations and where spraying has/will be done. Currently, they are considering, in a year or two, utilising goats to control woody weeds and possibly Mother of Millions.

Other benefits or costs

Following up with these landholders identified other benefits, including:

- Over 50% (5) of the nine properties represented on the day have confirmed making changes.
- Started taking a closer look at their property, including examining their water management practices including watercourses, and where the water is going.
- They are or will be experimenting on how they can utilise goats to help control woody weeds.

Ellwyn and Glenbar have also been identified as possible case study properties featuring the successful use of low-profile spreader banks and ripping.

All landholders covered in this case study have made changes within six months of the field day, proving the value of the event to landholders. These changes will not only benefit the landholders but will benefit the landscapes of the Morven and surrounding areas well into the future.

Landholders have reported that they will continue to utilise the knowledge and skills learnt at this event and will further expand on the changes made into the future.

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