



Wilmot Case Study

NARRATIVE REPORT | 2021



FARM FACTS

ENTERPRISE: Cattle Trading, Grass-fed beef, Soil Carbon sequestration and monetisation

PROPERTY SIZE: 1854 ha

LOCATION: Hernani, New England NSW

30°19'23.92"S, 152°24'13.74"E
(Google Earth)

ELEVATION: 1080m -1270m

AGRO-CLIMATIC REGION:
Temperate Cool Season Wet

ANNUAL RAINFALL: 1180mm

SOILS: Uniform texture earths (Kandosols), texture-contrast non-sodic soils (Chromosols), structured soils (Dermosols) and structured, iron-rich soils (Ferrosols)

MOTIVATION FOR CHANGE:

- The need to find better ways of farming, particularly for drought resilience
- The desire to demonstrate the potential of well-managed grazing for financial, production and environmental gains e.g. carbon sequestration
- The need to find a stable and rewarding livelihood with a sense of agency

INNOVATIONS:

- Converted from set stocking under conventional grazing practices to time controlled rotational grazing practices.
- Development of cloud-based grazing management tool
- Marketing of carbon credits, from sequestering soil carbon

SOCIAL STRUCTURE:

Trades as 'Wilmot Cattle Company', with a remote owner (Alasdair Macleod) and on-site General Manager (Stuart Austin)

KEY RESULTS:

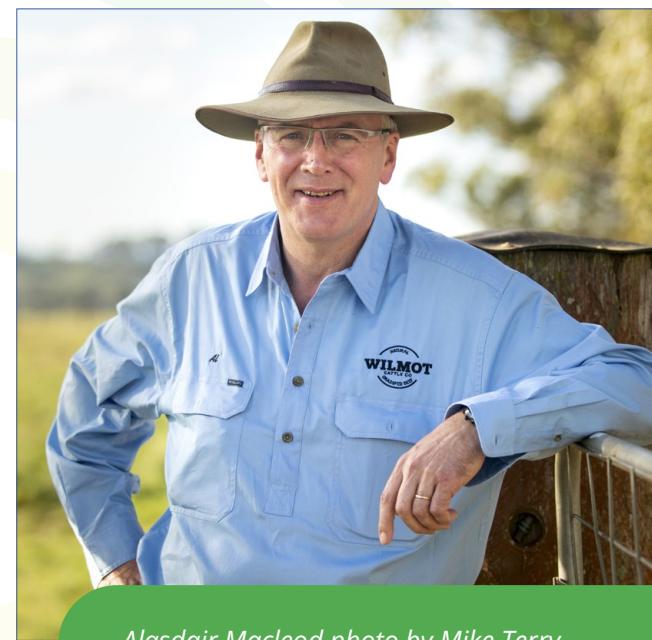
- Returned a profit in 7 of the 8 years studied, versus 3 for the average farm.
- Exposure of bare ground is 90% lower than that of surrounding area.
- Reached broad audiences including more than 1,500 visitors to Wilmot, numerous mentees and more than 5,000 followers on Facebook.

Alasdair Macleod purchased Wilmot, in the New England region of NSW, with the dream of finding a better way to graze. Working in finance, and coming from a farming family, he saw the huge potential to trial and demonstrate techniques that could withstand the ravages of both natural disasters and market fluctuations. Alasdair worked closely with on-site manager Stuart Austin to develop strategic, innovative and efficient methods to manage the cattle farming enterprise.

This case study summary shares the transformation experience of the decision-makers of Wilmot as they converted a conventionally managed cattle farming enterprise into a highly efficient demonstration site.

Highlights

- The combination of Alasdair's big-picture business-savvy thinking and Stuart's on-the-ground know-how resulted in a strong partnership and the creation of a strategic shared vision.
- Wilmot was pivotal in the development and trial of innovative new ways to manage the enterprise such as the development of a cloud based grazing management tool, 'Maia Grazing'.
- After more than half of Wilmot burnt during the disastrous bushfire season of 2019/20, the pastures recovered, producing 6 months of feed within 6 weeks of the rain. This increased resilience reduces the 'pain' during challenging times and allows the management team to enjoy their work and safely plan for the longer term.
- Wilmot successfully demonstrates the huge potential of well-managed grazing operations to reduce the strong "ups and downs" of conventional agriculture and offer secure long-term investment and livelihood opportunities.



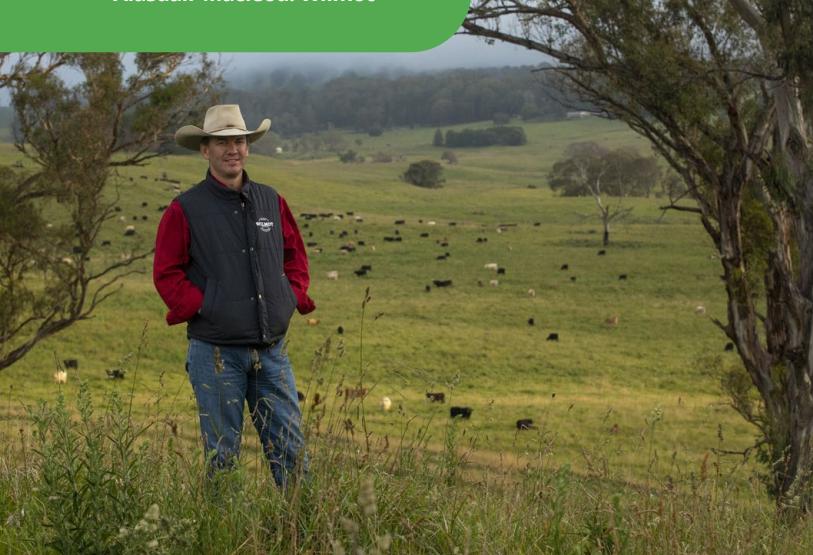
Alasdair Macleod photo by Mike Terry



The Wilmot Story

*"The evolution...
to a more
enlightened
way of grazing"*

Alasdair Macleod. Wilmot



The Vision

Taking over the management of a family property in Yass, during the worst period of the Millennium Drought, gave Alasdair a sudden and shocking insight into the high-risk of conventional grazing.

Having spent the better part of his career working in the financial sector, Alasdair became determined to demonstrate that grazing could be done better, and that a well-managed, resilient, grazing enterprise could be an excellent and secure investment.

Alasdair purchased Wilmot, in the New England region of NSW, with the vision of creating a demonstration enterprise. While the property had favourable soils for a wide range of agricultural crops and pastures, they had become compacted under the conventional farming practices of potato cropping and set stocking of cattle.

Photo by Mike Terry

"As a pure financial investor you're not making a very good financial investment if the way you're farming is buggering up your main asset, which is your farm. You're going to be thinking about how you farm it in such a way that you're not just maintaining the efficacy of your asset, but you're thinking about how you improve it"

Alasdair Macleod, Wilmot

The Approach

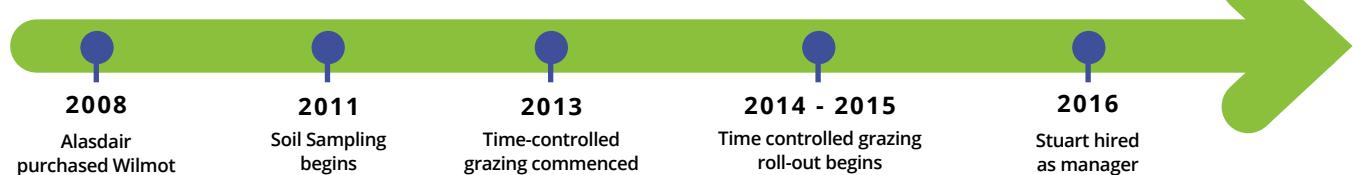
Alasdair initially kept the existing farm manager on, and allowed Wilmot to be managed conventionally, while he researched regenerative practices and sourced consultants who could advise on the best approach going forward.

Having come from a business background and believing strongly in innovation and efficiency, he was surprised to notice that his manager was using pen and paper charts and that his consultant continued to use excel to manage the enterprise. When a computer malfunctioned and lost all of the grazing charts, Alasdair and his consultant became inspired to create a cloud-based tool for time-controlled grazing management, called 'Maia Grazing'. They initiated trials on Wilmot, along with several other properties, and noticed impressive results.

The existing farm manager was unwilling to shift to a more innovative approach and a new manager, Stuart Austin, joined Wilmot, along with his family. Stuart brought on-ground experience to the role and shared Alasdair's vision, resulting in a strong partnership. Together, they began to roll out time-controlled grazing across the enterprise, using the 'Maia Grazing' tool. Paddock sizes were decreased to enable effective grazing at a controllable density, reticulated water points were established, and small herds were aggregated into larger herd sizes.

Continuous monitoring of the condition of the pastures, soils and livestock was integrated into management, using the Maia Grazing tool. This enabled Stuart to match the grazing intensity with rainfall and pasture growth. This meant that he was able to estimate the available feed and adjust cattle numbers accordingly, avoiding the need to rely on dry feed during difficult conditions such as drought.

Wilmot Case Study



The regular resting periods involved in the time-controlled grazing method enabled the paddocks to recover, thereby maintaining soil structure and high levels of ground cover resulting in the continuous availability of feed, and the ability to finish 100% grass-fed beef. Linking in with the Landcare 20 Million Trees program, Stuart began to revegetate the property, planting more than 20,000 tube stock native trees and introducing dung beetles across the site.

In 2019, disaster struck. Huge wildfires ripped through more than 50% of Wilmot, destroying the revegetation works and significant pasture reserves. The managers of Wilmot had been encouraged to consider themselves as 'pasture managers', and losing so much carefully saved pasture was 'bloody devastating'. However, the excellent condition of the pastures paid off, and once it rained, they grew 6 months of pasture in 6 weeks, with several native species appearing for the first time in recent years. Replanting of the native trees began in 2020.

The ability of Wilmot to cope so beautifully with difficult conditions such as bushfire and drought, meant that Stuart and his family felt secure and relaxed in their life at Wilmot. Seeing the continuing pain suffered in the conventional farming community during hard times, Stuart, like Alasdair, became determined to use Wilmot to demonstrate the potential of well-managed grazing. Stuart has since hosted more than 1,500 visitors to Wilmot, mentored farmers looking to change and reached more than 5,000 followers on Facebook.

The Result

The time controlled grazing method has increased soil resilience and minimised the risk of soil loss and land degradation. This has resulted in less bare soil and more consistently available pasture, enabling Wilmot to finish their cattle as 100% grass-fed beef. The demonstrable improvements to soil condition have also allowed Wilmot to enter the carbon market, recently making a large sale of carbon credits to Microsoft.

The increased resilience of the landscape has resulted in reliable and resilient production and revenue. As a consequence, Alasdair, Stuart and his family have found great joy and security in restoring Wilmot's spectacular landscape and are very optimistic about their farming futures.

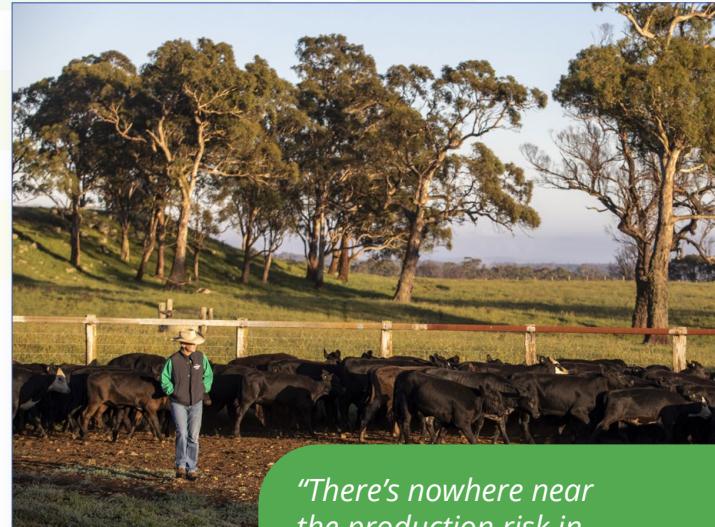
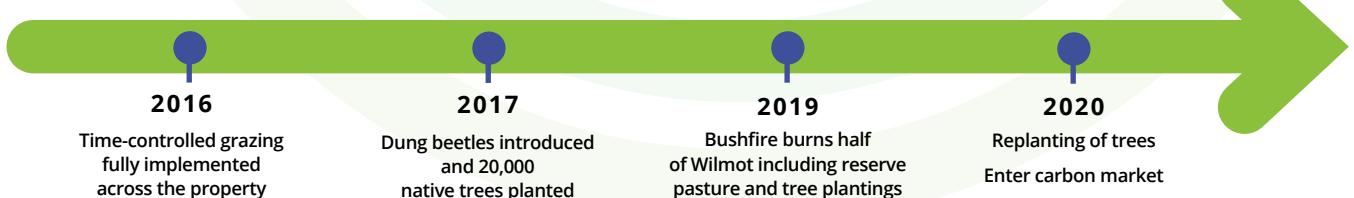


Photo by Mike Terry

"There's nowhere near the production risk in the business, so there's nowhere near the stress level....any of that stress that's created by hard times is minimised"

**Stuart Austin,
General Manager, Wilmot**





Key Indicators for Wilmot

Key Ecological Indicators

After a stark loss of trees and shrubs in the decades before Alasdair purchased Wilmot in 2009, 143 ha of woody cover has since been restored (fig. 1). Ground cover also performs well under the new management regime with Wilmot demonstrating ten times less bare soil cover in 2019 than the surrounding properties, despite low rainfall that year (fig. 2).

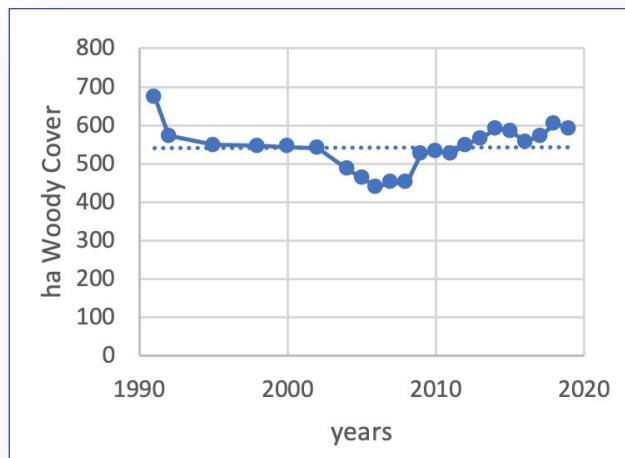


Figure 1 Area of woody vegetation on Wilmot over time, recorded using Landsat imagery.

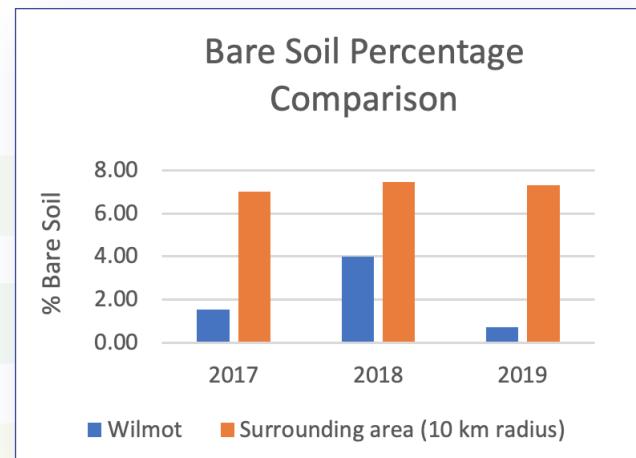


Figure 2 Bare soil comparison between Wilmot and the surrounding area (10 km radius) between 2017-2019 (Regen Network, 2019).

Key Soil Indicators

The strong structure and silty clay loam texture of the Wilmot soil allows for the movement and retention of water and nutrients, however the acidic soil pH (fig. 3) will prevent optimum microbial activity and nutrient cycling. These limitations are managed by liming and increasing soil carbon (fig. 4) and the general nutrient status of the soil through rotational grazing practices.

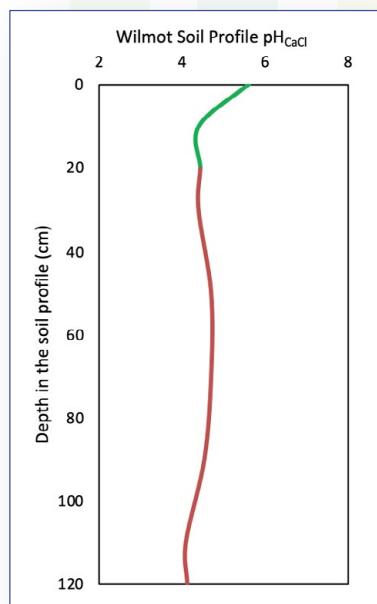


Figure 3 (left) Soil pH_{CaCl} at different depths in the Wilmot soil profile. Topsoil pH is within the desirable range, however subsoil pH is acidic.

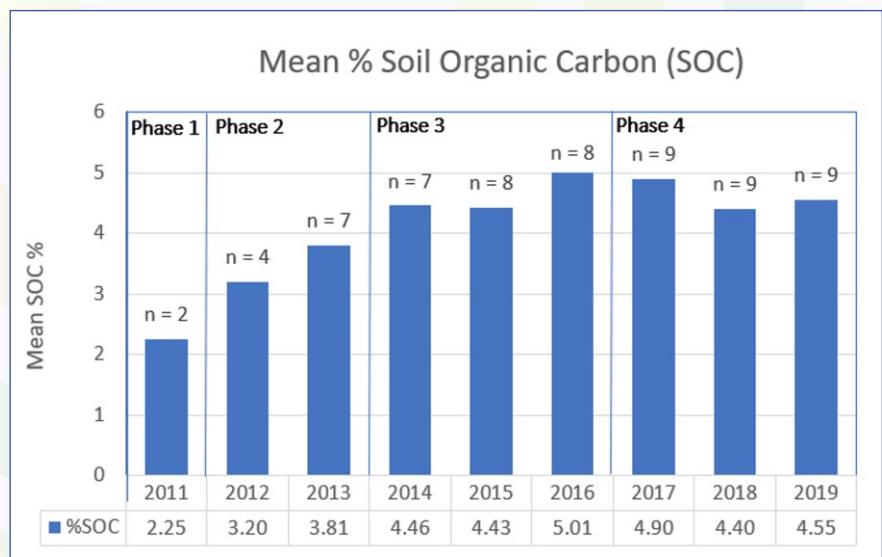


Figure 4 (above) Mean percent of soil organic carbon (SOC) from 2012 – 2019 showing the number of sites sampled per year (n) in each phase. As soil testing only commenced during Phase 1, SOC data during this period was insufficient and not included (Data source: data collected by Willmot Cattle Company and reported in Regen Network, 2020).

Wilmot Case Study



Key Indicators for Wilmot continued.

Key Economic Indicators

Business profit at Wilmot is more stable and significantly outperforms the 'average farm' index. Wilmot makes a profit in seven of the eight years analysed whilst the average farm makes a profit in only three of these years (fig 5). Over the whole period Wilmot has more than 50 times the revenue and 6 times higher profitability than the Average Farm. This data does not include sales of carbon credits in 2020, which now add considerably to income.

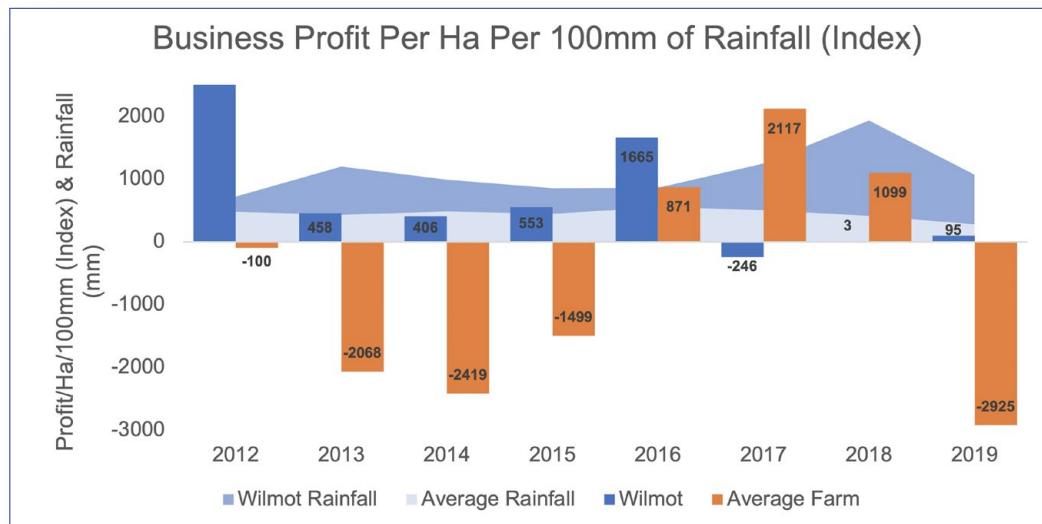


Figure 5 Business Profit per hectare per 100mm of rainfall at Wilmot compared to the index or 'average farm' - a specialist beef farm in the high rainfall zone. Assessing profit on a per Ha per 100mm basis allows farms with different rainfall to be compared, this is important here because Wilmot rainfall is higher than the index average.

Social Indicators

The development of innovative management tools have improved Alasdair and Stuart's ability to make good strategic decisions about farm management (fig. 7). This has improved the environmental, economic and social resilience of the enterprise and as a result Stuart and Alasdair's perceived ability to cope with difficult conditions on the farm has increased dramatically (fig. 6).



Figure 6 Alasdair and Stuart were asked to retrospectively rate their agreement with the statement "I/we cope with most difficult conditions on the farm", on a scale of 1 (Strongly disagree) to 7 (Strongly agree), across the phases of their transformation to regenerative agriculture. Phase 2 has been dashed to indicate that Stuart did not join the enterprise until the second stage of practice changes.

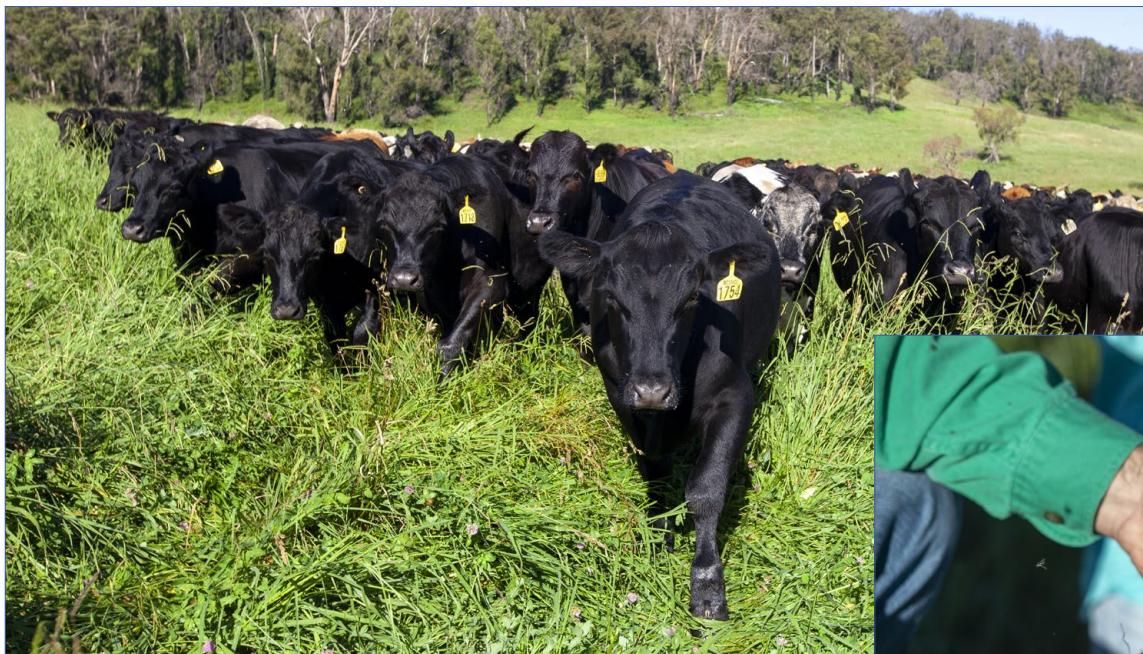
Figure 7 Alasdair and Stuart were asked to retrospectively rate their agreement with the statement "I/we can make the right decisions about farm management", on a scale of 1 (Strongly disagree) to 7 (Strongly agree), across the phases of their transformation to regenerative agriculture. Phase 2 has been dashed to indicate that Stuart did not join the enterprise until the second stage of practice changes.



Conclusions

Wilmot successfully demonstrates the huge potential of well-managed grazing enterprises to improve natural capital, reliably deliver high-quality product and consistent revenue, and reduce the pain of the farming community during disasters such as bushfire and drought.

The combination of business savvy and on-ground experience has resulted in the development of innovative technologies such as the 'Maia Grazing' tool to strategically manage the enterprise and match cattle numbers to available feed. This has resulted in improvements to soil structure and quality as well as consistent ground-cover, enabling the cattle to be finished as 100% grass-fed beef. Associated increases in soil carbon also created new market opportunities in the form of carbon sequestration.



Photos by Mike Terry

Find out more

The Soils For Life case study program provides interwoven, evidence-based accounts of land manager and landscape change and regeneration. Further information about this case study including methods, detailed results and discussions can be found in the associated full reports:

Soils For Life exists to support Australian farmers in regenerating soils and landscapes: to build natural and social capital and transform food systems.

References

Regen Network (2019). The Wilmot Project Report - GHG and Co-Benefits in Grazing Systems. <https://regen-registry.s3.amazonaws.com/projects/wilmot/Wilmot+Monitoring+Report+2019.pdf>. Accessed 15 April 2020.

Regen Network (2020). Regen Registry Project Plan. <https://regenregistry.s3.amazonaws.com/projects/wilmot/WILMOT+Project+Plan.pdf>. Accessed 15 April 2020.

FOR MORE INFORMATION SEE

[**Wilmot Soil Report**](#)

[**Wilmot Ecological Report**](#)

[**Wilmot Economic Report**](#)

[**Wilmot Social Report**](#)

[**VISIT soilsforlife.org.au**](http://soilsforlife.org.au)