



# Ian Moss at Alaringa

Building soil and landscape function for profitable farming and enhanced well being

*Part of a wider research project investigating the benefits of regenerative agriculture.*

**May 2024**



### Acknowledgements

This case study explores the holistic benefits of a regenerative approach to farming. It is one of six case studies prepared as part of a wider research project investigating the benefits of regenerative agriculture.

Soils for Life's contribution to the project is the development of case studies, which provide insights drawn from a diverse mix of Australian farmers.

Soils for Life gratefully acknowledges the generous contributions of Ian Moss.

### About Soils for Life

Soils for Life is an independent, not-for-profit organisation that works across Australia to support Australian farmers in regenerating soil and landscapes, to build natural and social capital, and transform food and fibre systems.

**Front image:** Ian Moss with a crop of sunn hemp.  
**Image source:** Courtesy of Ian Moss.

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## About the Case Study Series

This case study series explores the holistic benefits of a regenerative approach to farming. This case study is one of six that are part of a wider research project investigating the benefits of regenerative agriculture.

It is important to ensure that farmers' perspectives are heard, valued and used to inform research findings and outputs. And so, these case studies have been developed by interviewing each farmer to understand their perspectives, their context and their approaches to new practices. This was done in order to understand their views on the benefits of a regenerative approach to farming.

These case study farmers were selected following an expression-of-interest process calling for farmers who self-identify as 'regenerative.' The project did not include any new on-ground testing or analysis of existing monitoring data by Soils for Life.

# Farm Facts

## Location

Jagera, Giabal and Jarowair Country | Southbrook, Queensland

## Climate

Hot dry summer, cold winter

## Average Annual Rainfall

658 mm (recent, 1993-2022)

## Agro-ecological Region

Sub-tropical sub-humid

## Property Size

100 ha

## Elevation

543 m

## Social Structure

Family owned and operated

## Enterprises

Dorper fat lambs with the occasional grain crop

## Landscape

Rolling basaltic uplands, flat-topped hills and knolls, grading to longer, gentler slopes and narrow valley plains. Vegetation includes mountain coolibah open woodland, Queensland bluegrass, and multispecies forages. Evidence of prior cultivation on the slopes and creek flats.

## Soils

Mostly black and grey cracking clays ([Vertosols](#)), including shallower versions associated with other soils on the flat-topped hills and knolls and higher elevations. Deeper, black and grey cracking clays on the creek flats and long gentle slopes.<sup>1</sup>

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<sup>1</sup> [The Australian Soil Classification](#) (Isbell and NCST, 2021).

## The Highlights

### Practices and strategies

- Keeping living roots throughout more of the year
- Reducing paddock sizes and increasing density of livestock
- Increasing ground cover and sowing multispecies forage crops
- Reduced chemical use depending on seasonal conditions
- Transition away from cropping to livestock grazing
- Partnering with neighbour to extend available grazing area
- Building community with informal networks, mentoring and designing experiential learning opportunities for others at Alaringa
- Experimentation and learning from mistakes

### Observed benefits<sup>2</sup>

- Higher carbon levels indicating better soil health
- Improved animal health
- Preservation of top soil and water retention
- Increased profitability
- Health benefits from reduction of synthetic chemicals
- Biodiversity increasing across the farm
- A healthy mix of humility and confidence
- Stronger, more resilient community
- Low production costs with minimal outlays

### Monitoring progress

- Tracking paddock performance and animal health using MaiaGrazing, FarmLab and AgriWebb
- Quantifying the productivity of paddocks
- Soil lab tests and regular soil infiltration tests on site
- Photography and video monitoring to track changes to pasture.

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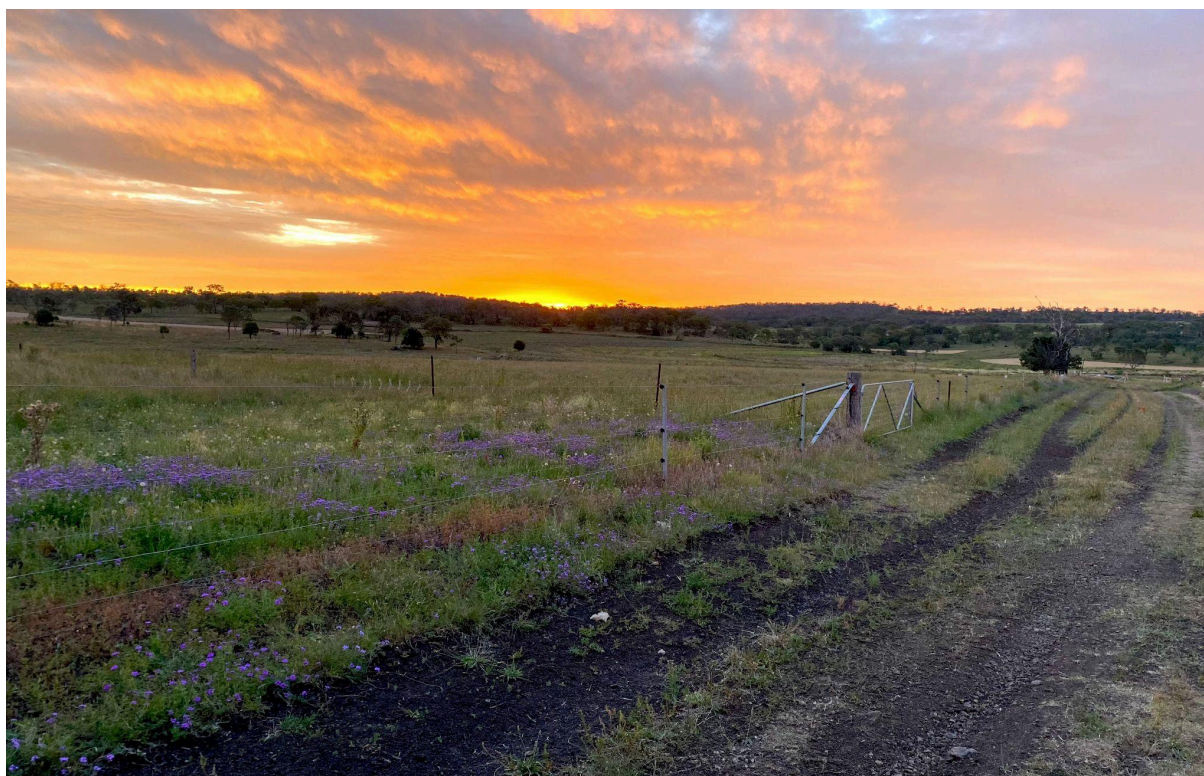
<sup>2</sup> These benefits are based on farmers' observations, except where noted otherwise. No additional testing or analysis has been undertaken for this case study.

## Landscape and Soils

Alaringa is located in the Pittsworth Shire of the Central Darling Downs region of south-east Queensland. The climate is subtropical with average rainfall of 650 mm, but ranging from about 450 mm to 950 mm. The climate, including incidents of extreme weather such as droughts, floods, and frosts, has a significant influence on agricultural production.

The landscape includes undulating rises and rolling low hills of volcanic origin, with some minor alluvial plains. The soils are dominated by black and grey cracking clays (Vertosols), and include the Charlton (moderately deep, self-mulching, dark brown to black cracking clays) and the Craigmore (deep, self-mulching, dark greyish brown to black cracking clays with reddish brown or brown basalt-derived subsoil) clays.

Vegetation associated with this region include mountain coolibahs (*Eucalyptus orgadophila*), narrow-leaved ironbark (*Eucalyptus crebra*) on the Charlton soils and Queensland bluegrass (*Dichanthium sericeum*) on the Craigmore soils. Like many land areas under agriculture across Australia, the vegetation of the Central Darling Downs has been impacted by agriculture, ranging from the extensive clearing of trees to the modifying of the natural grasslands.<sup>3</sup>



**Image 1.** Alaringa at sunset. Source: Ian Moss.

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<sup>3</sup> Much of the soil and landscape information in this section is sourced from the Central Darling Downs Land Management Manual (Harris, et al., 1999).

## Meet Ian Moss

Ian Moss is an agronomist and a farmer. He spends a lot of time supporting other farmers 'making sustainable farming profitable' and began his own agronomy business, Farm Agronomy and Resource Management (F.A.R.M), in 2009. Since then, Ian has grown the business, supporting his clients across Queensland and Northern NSW. His regenerative approach is informed by and informs his work as both an agronomist and as a farmer at Alaringa.

Alaringa was purchased as a rundown dairy farm in 1999. At that time, Ian didn't have a grand vision for the farm apart from raising his daughters, tending a veggie garden and running chooks. For several years the small property was a place to relax after long working days. The big drought of 2017-2019 was a 'wake up call' that shifted Ian's priorities. He was 'looking out the window and basically seeing zero grass and just dust. I'd run out of excuses.' As an agronomist Ian knew that something was drastically wrong because the farm was a mess. There was no pasture and he was hand-feeding sheep, and when rain finally came, the erosion was severe. The discomfort and embarrassment he felt catalysed major changes in his life and on the farm.

The property is now a test case where Ian combines his knowledge of agronomy and his passion for regenerative farming. The decision to 'walk the talk' and stop treating Alaringa as 'a big backyard' has led to a more resilient, biodiverse farm. Ian trials practices on a small scale before confidently taking them to clients. His team of agronomists hosts regular events including field days in collaboration with the Mulloon Institute and Resource Consulting Services (RCS), where visitors can learn and share information in a collaborative and supportive environment.



**Image 2.** Ian Moss at work delivering a training session in collaboration with RCS. Source: Ian Moss.



## Practices and Strategies

### Livestock management is 'the greatest tool'

Once Ian made the decision to transform Alaringa, he put his focus on improving 'water and wire.' He applied his understanding of the water cycle to prevent runoff and to minimise evaporation, and to improve how water moved through the landscape, increasing ground cover and improving mineral cycling. This all came back to grazing management and working with fencing because as Ian sees it, 'livestock is our greatest tool.'

Improving grazing management at Alaringa was critical. Ian focused on addressing issues resulting from poor grazing practices and applied the information he had given to other farmers for many years as a consultant. He notes that 'the majority of degraded land in Australia is understocked and overgrazed,' so coming out of the drought in 2020 Ian knew he needed 'more density' and to allow his grasses to recover during the growing season. He began dividing Alaringa's paddocks into smaller cells in order to rotationally graze his Dorper flock. Ian increased the number of paddocks from 12 to 35 across 100 ha, 'getting his numbers up' and only grazing a paddock four or five times a year for short periods, while making 'sure we had enough paddocks to move around, and prioritising rest periods based on the season and grazing numbers.'

'Overgrazing happens from staying too long in the paddock or coming back too soon during the growing season.'

**Ian Moss**

Ian summarises his management practices now as, 'keeping living roots more of the year, reducing paddock sizes and mobbing up, with minimal or nil use of herbicides or pesticides.' He has a sound understanding of soil science and the key drivers of soil health, and has commissioned soil testing at Alaringa in 2013, 2018 and 2023. With the decision to change his management practices, Ian began paying closer attention to his own soil data and refined his approach to the flow of water and use of fencing across the property. The soils at Alaringa are inherently fertile and there has been very little fertiliser used on the farm over the years. However, like many other farms in the region, a lot of carbon has been lost at Alaringa due to past poor management practices. Ian believes it is 'frightening how low the carbon levels are in soils in the centre of the Darling Downs - supposedly some of the best "country" in the state.'

### Working with neighbours to improve outcomes

In 2021, Ian purchased an adjoining 56 ha block, which amalgamated the original dairy farm. Now Ian and his neighbour and colleague, Craig Foreman, have partnered up to maximise the potential of grazing across their farming properties. Craig and Ian have developed a close working friendship and once Ian decided to improve management at

Alaringa, they began to co-join grazing rotations. Now 'we just treat it as one farm, and that's what we want to do.' Their partnership supports the health of livestock and the landscape and has led them to develop a new business proposition that they are currently trialling in the region, bringing together small landholders to create better opportunities to regeneratively manage small blocks of land.

## A shift to multispecies

Ian already had a regenerative approach prior to the drought, but it was directed towards other farmers through his agronomy business. The business was 'one of the earliest ones in Australia to work with farmers on multispecies forage and multispecies covers in cropping scenarios.' F.A.R.M focus on crop sequences, paddock rotations and 'the big levers and the low hanging fruit' to improve soil and get better at capturing more rainfall and nutrient cycling.

Ian notes that incorporating a multispecies base 'is a big one' and that it has made a significant difference for his farming clients and now at Alaringa. In 2020 Ian started growing forages and perennials into what had been predominantly monoculture paddocks, and put an old seeder into action to sow the various blends and mixtures of forage crops.

'Where traditionally all the neighbours would be planting oats, we would be planting an 8-way mix and bits of that are perennial. We are in a pretty dry spell now, but I've got green in most of my paddocks, which are the deep tap rooted lucernes and chicory.'

**Ian Moss**

## A 'change between the ears': Respecting and valuing the land

Looking back, Ian recognises that a change in his own perception was key to driving change in his own farming practices, alongside the farms he works with through his business. As he sees it, 'the change had to happen between my ears first.' He knows this may be a bit cliché now, but for him 'it's a fair thing,' and meant that he 'had to respect and value the land, and have a pretty good idea of what I wanted this place to look like in the future.' As a consultant, Ian has worked closely with farmers for many years at the 'kitchen table' level to help them become clearer on what they want their farm to look like in the future and strategies to help them get there, but he hadn't done the same for his own property.

Another driver shifting Ian's focus and perception was a major health scare he had eight years ago that left him questioning his priorities. It led him to 'take it all more seriously; watching the land and the animals and trying to understand.' Ian began to apply the same long-term thinking, utilising RCS and Holistic Management principles in his own

management. He recently set up a healthy landscapes Facebook group with a local farmer to encourage landholders in the local area 'to think a little bit more outside their boundaries and about landscapes as well,' and has been running informal 'farm walks on a Saturday morning, inviting people to walk around the farm and talk about what we're doing.'

## Expanding monitoring practices to include land productivity

Informed by the work of Allan Savory, Ian understands that 'ecosystems are never static. They're either degrading or regenerating.' Ian's general approach to regenerative agriculture is informed by the Savory Institute, and he applies the same basic principles to Alaringa and to other farms through his business. Ian is working to keep track of his ongoing actions and inputs, and knowing 'when we have stock in paddock and when we don't, when we plant what we plant and trying to quantify the productivity of the paddock.' He notes that most graziers are very good at knowing animal productivity - what their weight gains are, etc - but he likes to encourage them to think about their land productivity and the concept of knowing what a stock day is worth, which he believes feeds into building a more holistic picture of productivity.

Ian does his own regular on-site infiltration tests which supplement the three rounds of lab tests he has done over the last 10 years. He uses photography and video to monitor changes to landscape function and keeps track of paddock performance via MaiaGrazing, FarmLab and AgriWebb, but notes there can be a bit of frustration, because 'no one thing does everything that I'd love it to.'

While Ian uses a mix of formal monitoring tools, he often ends up putting the data he needs into his own spreadsheets to generate the specific information he is looking for. For example, he has recently been crunching numbers on his grazing data in order to calculate what a grazing day is worth economically and to better understand the productivity of his paddocks. Ian notes that 'at the moment one DSE grazing day is worth about 15 cents' at Alaringa. He believes that having this knowledge is very powerful for a number of reasons. He can look at differences paddock by paddock and make more effective decisions on specific trials.

'... so this paddock has created twice as much income as that one. What's the difference? Well you can start to drill down and also do trials more effectively. That's been pretty powerful, and it's a great discussion point with people.'

**Ian Moss**

Another observation tool that Ian now uses to track the health of the soil comes in conjunction with making the farm more 'rain ready.' He can observe the responsiveness of his paddocks after rain and claims that they now show signs of green in 'literally less than 24 hours.'



**Image 3.** A view of the farm at sunset. Source: Ian Moss

## Managing challenges and risks - 'the risk of not doing something'

One way that Ian addressed risk in the first phase of his own transition was by focusing on livestock rather than cropping. Much of the land around him has been cropped for a long time and he knew he could crop the country he is on, but shifting to grazing was 'a deliberate choice and a way to manage risk.' But Ian also notes that there are always risks involved in farming decisions, and managing these is an ongoing challenge. Even when there is supposedly a 'right strategy,' it doesn't always work because of the many variables. Ian offers an example from South East Queensland, which has high summer rainfall, 'there may be 400 millimetres of rainfall in summer, and the best farmers keep 100 ml of it.' While farmers will try to grow groundcover in spring and maximise that moisture to get better ground cover, 'that strategy fails if we don't have the late summer rain. So there's definitely that risk aspect.'

According to Ian, more and more people are worried about the long-term profitability of farming land. This is due to declining land health, along with the volatility of commodity markets and the impact of extreme weather events. A big 'wake up call' Ian faced a few years back (and which he now equates with managing risk), was to fully reckon with 'the risk of not doing something.' He could see that if he continued as he was, 'capital value

would deteriorate, and the ability to generate income would be less and less, so I really saw the risk as the opportunity cost of not farming regeneratively.'

These days there are a growing number of farmers from diverse farming contexts looking for assistance from Ian to confront the opportunity cost of not addressing fertility and management problems on their farms. They want information on regenerative methods that will help them build resilience into farming systems.

'The phone calls I get now are often multi-generational, larger cropping and livestock farmers. They are calling and asking ... Can you help me? I don't know what I need to change. I just know I need to change something.'

**Ian Moss**

## Observed Benefits<sup>4</sup>

### Soils and landscapes

#### Increase in soil health and water retention

One of the things that has surprised Ian has been the fast turnaround in Alaringa's soil health and water retention. This has been especially noticeable throughout drier periods. Alaringa's paddocks were compact and listless a few years ago and today Ian claims that he can feel the change underfoot with a 'life-filled sponginess.'

'Driving home after a summer storm and water is running off the neighbours and you get here and it's not running off so much. I am conscious of that concept that you usually see what you're looking for, so I have to be careful of that ... but yes, the land is responding.'

**Ian Moss**

Ian notes that his recent soil tests are showing more carbon 'where I had been running the sheep, compared to the mostly cropped areas, so that certainly gives us confidence.' He has also seen the 'occasional worm,' which he believes is a big win considering the previous degraded state of the soil. At this stage, Ian can't be definitive about exact increases in soil carbon because of variability over space and time, but he estimates an increase of 10-20 tonnes of carbon per ha (0-30 cm) over five years.

#### Improved animal health

Another benefit has been the improved health of his lambing Dorpers, which Ian attributes to the nutritional and medicinal benefits provided by the diverse range of forages that are now available. Ian says that weaning rates are up over 200% per year and mortality rates are lower now than they were prior to 2020. They have been 'getting pretty good weight gains,' although Ian notes it is hard to confidently assess across the whole flock given they started with less than 100 breeders and went up quickly in their numbers.

#### Increased biodiversity

There are many benefits across the landscape that Ian attributes to the approach he is taking. He has observed his pastures becoming thick with multispecies and the air being much more alive with bees, butterflies and beneficial insects. Paddocks respond faster

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<sup>4</sup> This section presents the benefits of practice change from the farmers' perspective. It is based on the farmers' observations, and in some instances their own interpretation of data and test results. The project did not include any new on-ground testing or analysis of the farmers' data by Soils for Life.

after rain, and when conditions are good, 'we have chest-high forage, flowering turnips, brassicas and grasses.'

## Farmer and Farm

### Farm profitability

When asked about benefits of making changes, Ian immediately notes 'we started making more money is the short answer.' But he tempers this by saying it is 'all very complex because we spent a lot of that money on fencing and infrastructure. So you can't just rely on your bank balance.'

For Ian 'the DDH per 100 mm of rainfall is a great benchmarking tool' that he uses on a 12-month rolling basis. DSE days per ha (DDH) can better reflect the impact of time in the estimation of carrying capacity and stocking rate, because these units take into account both time and stock numbers. Ian notes that during the period 2020-2021, 'we were running at 350 DDH per 100 mm. For a 650 mm annual rainfall period, that's equivalent to 2,275 DDH (DSE days per ha) carried over the 12-month period.' By Ian's calculations, a DSE Day (DD) is worth approximately 15 cents per day, which creates a gross income of approximately \$340 per ha. He feels this is 'pretty good for a livestock enterprise,' while acknowledging that 'direct costs need to come out of this, including seed, machinery, ear tags, drench, etc to get to a gross margin number.'

The concept of a rolling five-year average annual gross margin for measuring economic outcomes suits Ian. He notes that it has also been difficult to confidently analyse financials coming out of 'tired cropping country.' Additionally, the past 18 months were particularly wet followed by a very dry summer over 2022 and 2023, which Ian believes has distorted his averages and outcomes. Nonetheless, he is sure that he is in a much stronger financial position than he was prior to making changes.

### Building community through sharing knowledge

There have been many benefits to integrating new farming practices with his consulting work and Ian really values the opportunity to collaborate and learn within a community of like-minded people. While he acknowledges the value of his university training, Ian credits other farmers as being the greatest source of learning and appreciates that teaching and learning is a two-way street.

'I've learned pretty much everything from other farmers. I've got the best job in the world. I go out and see farmers, kick a few clods of soil and have too many cups of tea ... I learn from them and get to pass it all on to the next farmer.'

**Ian Moss**

After consolidating the original farm in 2021, the F.A.R.M. Agronomy team moved their office into the worker's cottage. Ian's recent experiences as a farmer are now integral to his consulting business. Along with a team of young agronomists, F.A.R.M. trials practices on a small scale before confidently taking them to clients. These changes have improved staff morale and team culture. The team hosts regular open days where visitors can see first-hand results and are invited to share their own knowledge and experiences in a collaborative environment. These events are important for spreading the word about the benefits of regenerative farming in the region.

### **Making mistakes with confidence and humility**

During the dry spell of 2017-2019 when a number of long-term clients kept him on to investigate ways in which they could prepare for the next inevitable drought, Ian learnt the value of imperfection and humility. It was reassuring that they didn't expect him to be right 100% of the time and that it was okay to make mistakes. Ian came to realise that, 'it's all about progress, not perfection.' He discovered that the right strategies won't result in wins every year but they will always average out and there will be significant improvements over time, and this has been 'incredibly liberating.'



## Looking to the Future

Ian has two children who have now grown up and moved to other parts of Australia. He is enjoying spending time with his new partner Karen and her three younger children. In the next 10-20 years, he looks forward to grandchildren. He is currently mentoring a young graduate, Aaron, in his agronomy business and values the experience. He would like to continue to assist young graduates and help others in the same way he has been supported throughout his career.

Being interested in innovation and new ideas, Ian is keen to see how the implementation of new business models can support the agricultural sector. Initiatives such as Invest in Farming Co-operative (IIF), which facilitates the exchange of capital between farmers and non-landholders, is something he has his eye on. Ian is working with Craig Foreman on a new initiative in the Darling Downs region that they are calling FOMO Farming, which comes from mixing their last names - Foreman and Moss - and involves the two pairing up to offer local landholders support in regeneratively managing properties.

‘My mate Craig and I have put a business together called FOMO Farming. The concept is that we lease farms from people in the area who aren’t really utilising them because they’re either too small or they’re working in town or something. We will manage them regeneratively and get some economies of scale going.’

**Ian Moss**

They offer services including helping to support holistic grazing, growing cover crops and fixing fences. The initiative grew out of an observation that many areas in the region could really benefit from more holistic management, but that many landholders are busy - preoccupied by work and other obligations - and need assistance. The initiative is ‘picking up pace,’ and they plan to grow the business to meet demand across the region.

One of Ian’s visions for Alaringa is to get it to a point where everything is ‘working properly,’ from the fences and gates to the movement of stock. There is still some ‘bad erosion’ in a gully in the creek that he is ‘looking forward to restoring.’ He also wants to restore the old dairy. At the moment it is dilapidated, but it has the best views on the property, and the goal is to restore it to a point where it can be used for conferences, workshops and other functions. Ian would also like to have areas set aside for community members to grow vegetables and sees that stacking enterprises could lead to a better functioning and more prosperous property in the long term.

## References

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