SoilsforLife

Overview Report

Working Together to Regenerate Landscapes: A case study of the 8 families group.

2022

Acknowledgements

This project is supported by the *Department of Water, Agriculture and the Environment*, through funding from the *Australian Government's National Landcare Program*.

Soils for Life also gratefully acknowledges the generous contributions of the following people and organisations: *The 8 families group.*

We acknowledge that the contents of this document do not necessarily reflect the views of these contributors.

About Soils for Life case studies

For more than a decade, Soils for Life has been producing case studies of farmers' inspiring stories of transition to regenerating their soils and landscapes. It is the largest body of regenerative farming case studies in Australia.

Each Soils for Life case study is an interwoven story supported by evidence about innovative, ecologically-informed land management. The case studies are holistic, documenting ecological, social and economic factors and change, with a strong focus on peer-to-peer support.

The case studies have been used by farmers, researchers and policy makers around the country to inspire and inform new ideas and approaches in agriculture.

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.

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Published by Soils for Life
Canberra, ACT, December 2021

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Australian Government

National Landcare Program

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Contents

Preface

Soils for Life exists to support Australian farmers in regenerating soils and landscapes: to build natural and social capital and transform food systems. We have conducted case studies over the past eleven years to showcase and highlight successful farming principles and practices for soil and landscape regeneration.

The Soils for Life case study program provides integrated, evidence-based accounts of practice change from the landholder's perspective. These case studies help to document how innovative landholders have made decisions and undertaken activities that have regenerated their properties, through building and revitalising their soils and landscapes, and creating sustainable businesses. We use our case studies to underpin our mentoring and outreach programs.

The 8 families case study is Soils form Life's first group case study. This report documents the development of the 8 families group and the process of collaboration amongst the group. It contains detailed accounts from four of the members, and includes an assessment of how new approaches to management have impacted on them, their properties, and their businesses. Central to this is how being a member of 8 families has helped them, and what they hope to achieve as a group in the future.

We have written this report for a wide and varied readership. This report integrates social, economic, and production and ecological analyses and findings. You will find links in the report to the following supplementary documents: *Social Inquiry, Supplementary information: the 8 families group case study* (referred to in this report as *'Social Inquiry')*; *Economic Inquiry, Supplementary information: the 8 families group case study* (referred to in this report as *'Economic Inquiry'*); *Production and Ecological Inquiry, Supplementary information: the 8 families group case study* (referred to in this report as *'Production and Ecological Inquiry'*); and *Methodology and Methods, Supplementary information: the 8 families group case study* (referred to in this report as *'Methodology and Methods'*). These supporting documents provide greater technical detail and more specific information about individual members and their properties.

Key insights

- The 8 families case study demonstrates the strength of peer support for individuals who are undergoing personal and landscape transformations. Not only have the group become a Community of Practice but they are a community of *place,* providing insights into how landscapes can be transformed beyond the farm fence.

- There are many reasons why landholders seek alternatives to business-as-usual approaches. Our research framework has allowed us to explore multiple triggers across the group, including the Millennium Drought, farm debt, poor animal welfare, biodiversity loss, climate change, and inspirational ideas and approaches. The framework also explores different facets and processes of transformation, including shifts in thinking, reassessment of values, and in-turn practice changes.

- The experience that seems to have generated the strongest motivation to implement change was Holistic Management training. It was the shared experience during this training in 2007 that inspired the ongoing contact which led to formalising the group in 2009.

- Holistic Management also gave the group a shared framework through which to undertake both mental and practical shifts through an assessment of what they value and how their farming aligns with their values. In this framework the farm is seen as a system that involves family, community, as well as animals and ecosystems.

- The 8 families have formed a Community of Practice facilitated by the Holistic Management framework. Their Community of Practice shares many of the elements of a common culture previously identified in a Community of Practice of grazing eco-innovators (Cross & Ampt, 2017, p. 593), including: being aligned through Holistic Management; farmers' belief that they are making positive landscape changes; decision making involving experimentation and monitoring rather than set formula; a letting go of the belief we can control nature; the association of profit and production with increased financial stability and increased quality of life and satisfaction.

- All members were strong in their conviction that the group was instrumental in their progress through the phases of practice change. What is also clear is that there is a long way to go from initial training to consolidated practice change. All of the members of 8 families that we worked with adopted and adapted theory and ideas to make it work for them, and talking about their experiences with the group helped.

- What works well for the group is that it is both a Community of Practice and a community of *place*. With like-minded people close by many more interactions are possible. The longevity of the group has meant that as trust has grown, the complexity of the interactions has increased. This sort of cross property planning is rare and has huge potential for generating landscape scale improvement.

- Our findings suggest improvements in resilience across social, economic, production, and some ecological areas, and that these improvements are connected to shifts in the ways in which members approach and practice farming within the landscape.

    - Social: our findings support other studies which conclude that regenerative agriculture contributes to farmer wellbeing by developing farmers self-efficacy, adaptive capacity and social connectedness (Brown et al. 2021, p.4). Our case study has added to these other studies by focusing on change over time and the role of the group in practice change.

    - Economic: Available evidence also indicated that management changes led to improved financial performance in relation to internal profit targets, expenses and debt. The long-term studies also suggest that profit is repeatable and that their management adapted to poor seasonal conditions avoiding significant impacts on profit. Importantly, members are successfully balancing internal profit targets with other personal and farm goals

    - Production and ecological: Available empirical evidence supports the group members' perceptions of ecological improvement due to practice change. Our analysis of groundcover of four focus farms suggested that group properties were generally performing better than 5km buffers around them, and that for some properties, the differences were greater since practice change occurred. Significantly, from this analysis, one thing that the properties have in common is the ability to have a greater resilience to drought in respect to ground cover.

- Looking at these social, economic, production and ecological areas together, we can see that the 8 families are building resilience into their landscapes, farming systems and communities.

- This case study points to two possible next steps, which may of relevance not only to the 8 families but broader farming communities and policy makers: Firstly, the development of appropriate monitoring regimes that could be used across the landscape and over time; secondly, the development of policy that backs the kind of group learning and support that we have seen in the 8 families.

Introduction

Purpose

This case study focusses on the 8 families group based around Holbrook and Gundagai in south-eastern NSW. This is the first time a Soils for Life case study has focussed on a group, rather than an individual. We have done this because the achievements of this group are highly significant, not just for the members, but also as a model for what is possible when regenerative farmers sharing the same landscape come together to support each other.

The 8 families group

The 8 families group formed in 2008 when a number of people, who had been to the same Holistic Management course, decided that they wanted to turn their friendship group into something much more. As a result, they have supported each other through their individual regenerative journeys. Being a part of the group has helped individual members to make major changes in how they manage their landscapes and do business. The group now comprises nine families who produce a range of products using a regenerative management approach that aims to restore soil and landscape function (Table 1). The groups properties are located around the Mundarlo Valley, Holbrook, Book Book, Sandigo and Wymah Valley (Figure 1).

Table 1: Producer and property information for each of the families within the 8 families

Producer	Property	Enterprise(s)	Desired outcomes
Gooden	Willowlee	Angus cattle stud, trading and agistment of cattle and sheep.	Improve soil, groundcover and biodiversity through time controlled cell grazing practices and multi-species cover cropping, improve water infiltration and water holding capacity. Ecological Outcomes Verification monitoring conducted by Land to Market.
Pincott*	Bellevue	Production of paddock eggs; trading and agistment of cattle and sheep.	Improve soil, ground cover and diversity of grasses including native perennials through using moveable sheds (chickens) and running livestock in a flerd using time controlled rotational grazing. Tree planting and fencing of wetlands areas through Landcare 'BushLinks' program.
Austin*	Mundarlo	Cattle and sheep trading and off-farm health and wellness business and pilates studio.	Improve soils, groundcover and biodiversity through using holistic time controlled rotational grazing practices and tree planting. Ecological Outcomes Verification monitoring conducted by Land to Market.
Gorman	Yabtree West	Beef cattle trading and off-farm work in journalism and policy.	Improve groundcover, halt erosion and increase water infiltration through Natural Sequence Farming and using time controlled rotational grazing. Build habitat for wildlife through tree planting. Ecological Outcomes Verification monitoring conducted by Land to Market.
Sanbrook	Bibbaringa	Trading cattle, tourist accommodation, farm tours, art studios and	Improve soils, groundcover and biodiversity using time controlled rotational grazing management, Natural Sequence Farming and tree planting.

Producer	Property	Enterprise(s)	Desired outcomes
		conferences room hire.	Ecological Outcomes Verification monitoring conducted by Land to Market.
Lawson	Trewalla	Beef and lamb production.	Improve soils, groundcover and biodiversity through using time controlled rotational grazing management and tree planting.
Wearn	Yammacoona	Beef and lamb production.	Improve landscape and animal health using Holistic Management and Natural Sequence Farming principles.
Heijse	Spring Creek	Beef production.	Improve soils, groundcover and biodiversity using time controlled rotational grazing and habitat management.
Coughlin	Tarabah & Mt Narra Narra Station	Beef production.	Improve soils, groundcover and biodiversity using time controlled rotational grazing and habitat management.

* Focus farmer.

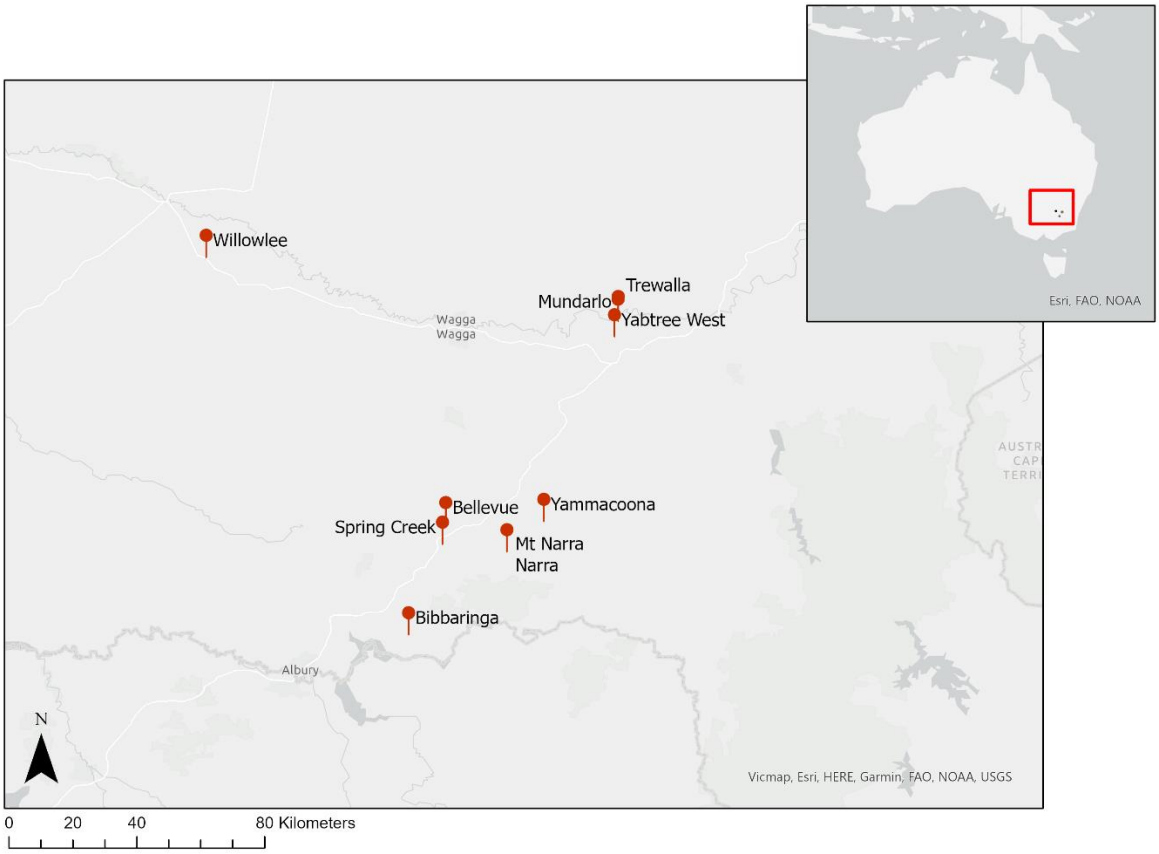

Figure 1: Location of the 8 families group

The landscape

The Gundagai/Holbrook area in the Eastern Riverina, NSW has a warm temperate climate and is dominated by temperate eucalypt woodland (Lindenmayer, Burns, Thurgate, & Lowe, 2014).

The region is in the Murrumbidgee River catchment, with the Murrumbidgee River flowing from north-east to south-west, joined by many tributaries including the Tumut river which flows north from its headwaters in Kosciusko National Park (ACT Commissioner for the Environment, 2006).

The Gundagai Shire embraces a variety of climate characteristics, landform, soil conditions and flora and fauna, from the hilly areas around Gundagai to the gentler slopes towards Junee and Wagga Wagga in the west. The landscape of the Holbrook region broadly consists of undulating hills of Ordovician metasedimentary rocks and Silurian granites in the east, and flat to gently undulating alluvial floodplains of the Billabong Creek and its tributaries in the west.

Before European settlement the vegetation would have been characterized by wet/damp sclerophyll forests and box/ironbark woodlands covering an extensive area of the South West slopes. The Eastern tip of the Gundagai shire is in the South Eastern Highlands bioregion and are dissected by steep rugged ranges with wet and dry sclerophyll forests, woodland, minor cool temperate rainforest and minor grassland communities (Thackway & Cresswell, 1995). There are also rocky outcrops in the Gundagai/Holbrook landscape which have ecological values as they often represent specific habitat that support native flora and fauna (Michael & Lindenmayer, 2018).

Despite the historical and ecological importance of temperate eucalypt woodlands, the Gundagai Shire has been extensively cleared and highly modified. More than 80% of the Shire is used for cropping and grazing, with less than 1% managed for conservation (ACT Commissioner for the Environment, 2006). Consequently, there is minimal remnant examples of original vegetation.

The soils over the Gundagai /Holbrook region vary. In the Holbrook region, major soil types are Kurosols (strongly acid duplex soils), Chromosols (duplex soils), Kandosols (structureless soils) and Dermosols (structured soils) on the slopes; Sodosols (sodic duplex soils) in the drainage depressions and on the older alluvium of Billabong Creek; and Chromosols and Dermosols on the more recent alluvium. Swamps and minor areas of gilgai[1] on the floodplain consists of Grey Vertosols (cracking clays). Around Gundigai the major soil types are Kurosols (strongly acid duplex soils), Kandosols (structureless soils) and Dermosols (structured soils) on the slopes; Sodosols (sodic duplex soils), alluvial rudosols and to the east Ferrosols. The major soil constraint affecting productivity in pasture and cropping systems in the region is acidity, in particular subsurface acidity.

[1] Aboriginal Australian word for small water hole.

Methodology

In this section we briefly describe the approach to developing the group case study, and some of the ways in which the 8 families and Soils for Life have collaborated. A detailed discussion of the approach can be found in the supporting document, *Methodology and Methods*. Below, we define and describe many the technical words used here, so you can follow the links between this and the supporting documents.

Collaborative action research

Soils for Life's **Collaborative Action Research** methodology recognises and seeks to bring together the knowledge of both farmers (called local knowledge) and researchers (called technical knowledge) to inform the research process, exploration of issues and direction of activities.

Action research is a label that applies to a number of approaches to inquiry that draw on knowledge from both theory and practice in a cyclical process. Many landholders use this form of research informally and intuitively as part of understanding how their management impacts their land and production. All of the interviewed members of 8 families described using some form of action research on their own land without necessarily applying the label. For example, they often began their stories with how they reflected on issues that had arisen from previous farming practices or experiences. Then, to support their exploration they drew on experience, insights and theory from other members of the 8 families. They sought knowledge and wisdom through participation in many joint activities. All of this information was then combined to design changes to make on their land and farming practices. The cycle continues and results in ongoing change and sometimes a total transformation in thinking and how the land is managed.

Soils for Life sought to build on this foundation of substantial action research. For Soils for Life the action research cycle starts with disciplinary knowledge rather than on-farm experimentation but similarly the process leads to specific actions, including outcomes and outputs. Outputs include things like reports, podcasts and other forms of documented learnings. The outcomes are the less tangible, such as changes in Soils for Life's networks and relationships with the broader community or the ways in which the team explore issues or develop activities.

For the group case study, the 8 families and Soils for Life groups joined in partnership, adding an additional **collaborative** element to their independent research activities. In practice, this partnership ranged from close collaboration to independent work (see Figure 2).

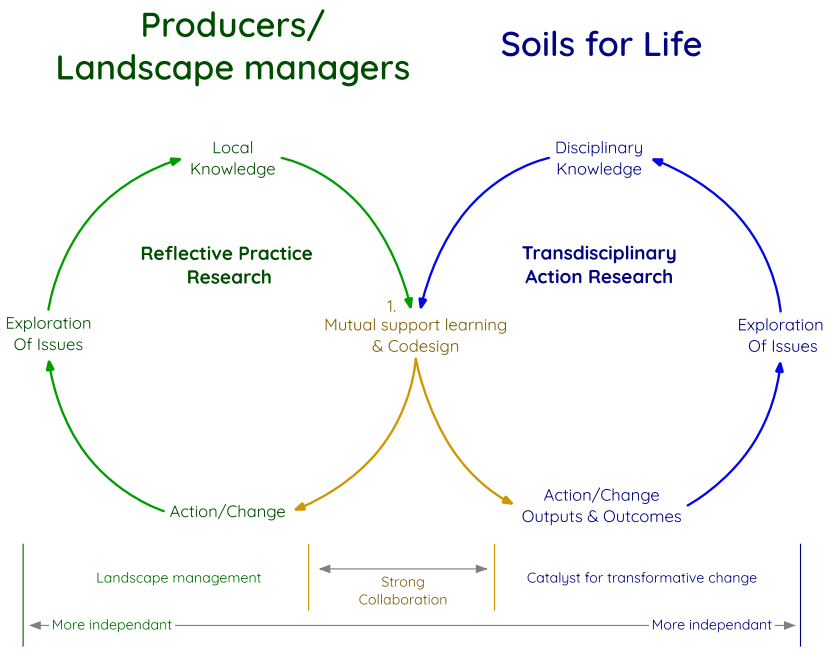

Figure 2: Complementary action research cycles

Figure 2 illustrates the combining of the two cycles of inquiry, highlighted by the two coloured circles being joined in the centre of the diagram. The mutual support, learning and co-design stage becomes the new starting point for a collaborative research cycle. Each collaborative activity allowed members from each group to influence each other in support of their own goals, creating new and more refined ideas than existed previously, resulting in changes to the original objectives and goals of the project. Two examples include: 1/ the development of key themes (a holistic approach, land stewardship, peer support, shift in worldview); and 2/a stewardship program workshop. These examples are described further in the *Methodology and Methods* document.

Case study methods

We have included multiple methods in our holistic and interdisciplinary case study approach. The core methods included:

- Three Workshops: the first to co-design the case study; the second to establish the group story and timeline; and the third focused on environmental stewardship, an interest arising from the previous workshops;
- Interview (1.5 hours): with four focus farmers, which integrated the following: an oral history approach; four chronological phases; themes arising from workshops (land stewardship, holistic approach, peer support); and the trigger, action, outcome process (described below).
- Virtual Field Walk: farmers chose key locations to talk about significant management decisions and illustrate themes that had arisen from workshops;

- Farm records, including financial, soil monitoring, time-scale photos of fields, and grazing records (voluntarily contributed by farmers).

We have taken a holistic approach to designing the methods in conjunction with two additional frameworks: Key Narratives of Transformation and chronologies, both of which are described below.

Key Narratives of Transformation

We adopted a Key Narratives of Transformation model to provide an easy-to-follow framework for conceptualising 'narratives of agricultural transformation'. Using this model, we can interpret and tell the story of the rich and complex transformation process of the 8 families. Each family had their own story and when these were explored together they created a multilayered and holistic narrative of how a community has worked collaboratively to regenerate their land, sharing their hardships and successes.

This Key Narratives of Transformation model has four elements:

- **Key Theme:** These themes were uncovered during the early workshops and validated by individuals during interviews.
- **Trigger:** Incidents, ideas and events (triggers) were identified in each theme, that provoked a start to change.
- **Activity:** This element describes the actions taken by the land managers to support their goals for change.
- **Outcome:** Each narrative is concluded by noting the results of the actions taken. These outcomes were not always positive but were consistently used to plan future change.

This model draws on the work of a number of researchers from different disciplines (Clarke, 2016; Klein, 2013), and is described in more detail in the supporting document.

Chronology

Additionally, we used chronology to structure many of the methods (described above) and to guide the narratives of agricultural transformation. Members were asked to recall their regenerative agriculture journey through four chronological phases:

- **Phase 1:** the original enterprise;
- **Phase 2:** the first stage of practice changes;
- **Phase 3:** the second stage of practice changes;
- **Phase 4:** and now and the future.

We decided on these phases based on trends within many previous Soils for Life case studies. The specific timing of these phases was jointly determined for each participant during their interview. Based on information from the workshops and interviews, we developed 'chronologies of change' for each person and for the group (see Figure 3 for the group chronology). These chronologies outlined progress through the four phases.

In sum, the combination of these four methods and two frameworks offered opportunities for various Soils for Life experts to draw upon the information to contribute to the case study, depending on what is most relevant to their area of specialty (social, economic, production or ecological areas).

Soils for Life used additional *discipline specific* methods outlined below.

Methods and analysis: social inquiry

All nine families were invited to complete a wellbeing survey, which included two sets of questions. The first set was the widely used Personal Wellbeing Index 11 (Australian Centre on Quality of Life, 2020). The personal wellbeing indicators are also used in the long term broadscale Regional Wellbeing Survey conducted by the University of Canberra (2020), for example in 2015 (Schirmer, Yabsley, Mylek, & Peel, 2016). These wellbeing indicators are considered important for measuring the sustainability of farming systems (Brown, Schirmer, & Upton, 2021). The second set of questions explores farmers' relationship to farming. These questions aim to uncover a farmers' sense of resilience, optimism and self-efficacy (a person's belief that they can perform the actions needed to achieve desired outcomes).

To contextualise and frame the wellbeing surveys we asked all nine members to rate satisfaction with their lives at each phase (outlined above) of their journey with regenerative agriculture. For the first set of questions they were asked to remember how they were feeling at each phase on a scale of 1 (extremely unsatisfied) to 10 (extremely satisfied). For the second set of questions they were asked how they were feeling at each phase on a scale of 1 (extremely unsatisfied) to 7 (extremely satisfied).

Methods and analysis: economic inquiry

Vanguard Business Services analysed the finances of three farmers' businesses. First, the goals of the individual landholders were determined by completion of Vanguard's 'On Track Goal Indicators'. Farm decision makers were asked to prioritise 24 statements related to profitability, social and environmental aspects (see *Methodology and Methods* for a list of the 24 priority statements). Each participant is required to nominate their top five goal statements[2] from the list of 24, and then to rate these in descending order of priority. Using this as a context for the business analysis, Vanguard was able to understand how the business is performing according to the manager's own goals.

[2] One member nominated eight priorities and used a scale of 1-6. The other two members nominated five and used a scale of 1-5.

Vanguard then looked at farm financials examining costs, revenue, production figures and business records. Earnings Before Interest and Tax (EBIT) over a meaningful time interval was a standard measure of financial security. The analysis also included equity and return on investment over time.

A report on each of the three properties is available in the *Economic Inquiry*.

Methods and analysis: production and ecological inquiry

Soils for Life ecologists worked with LandSat data (satellite imagery) managed by VegMachine® to provide some analysis of how members' properties appeared compared to surrounding areas. The four focus properties provided GIS polygons. Using VegMachine® (CSIRO, 2016), we compared groundcover and greenness since 2010 between members' properties and a 5km radius around each. We also assessed the data across a chronological timeline incorporating the periods pre- and post-practice innovation and change.

We also extracted rainfall data for the property if available from the producer or from a Bureau of Meteorology (BOM) weather station within 5km of the property. We then linked groundcover data from members' properties and a 5km radius with rainfall to generate figures attempting to show whether members' properties performed better, including during periods of low rainfall and drought. We plotted the mean % groundcover for the property and the buffer with the rainfall since 2010 on the same graph. We note, however, there are limitations to solely using spatial data as it cannot represent holistically the overall health of an ecosystem.

Further details of this methodology can be found in *Methodology and Methods*, and a more complete discussion of the findings, including the complete set of heat mapped images generated, is included in the *Production and Ecological Inquiry*.

Findings

In this section we present integrated findings from the 8 families case study with an overview of their story, approach, vision and future. This is followed by key social, economic, and production and outcome findings.

The 8 families' story

The 8 families case study demonstrates the strength of peer support for individuals who are undergoing personal and landscape transformations. Not only have the group become a Community of Practice but they are a community of *place,* providing insights into how landscapes can be transformed beyond the farm fence. The case study also shows how changes to worldviews can lead to changes in landscape, business and social wellbeing.

Over the past decade, their shared journey has seen an improvement in profitability, animal health, and the environment. Members of the 8 families noted improvements in their social wellbeing, including improved sense of achievement, feeling part of a community and life satisfaction. These improvements are outlined in sections 3.5 to 3.7 below and detailed in the supplementary documents – *Social Inquiry*; *Economic Inquiry*; and *Production and Ecological Inquiry*.

The group believes that it is the changes in worldview as well as their strong friendship and peer support that have led to the production, ecological, economic and social improvements. That is, there has been a change of mindset about agriculture amongst group members. Acting as long-term stewards, rather than extractive owners, they take responsibility for the landscape, livestock and family legacies while at the same time 'let nature take control'. As one member said, 'once you understand the complexity you are embedded in, you lose the arrogance and stop trying to push and pull'.

Below is an overview of the group's story of coming and working together as it relates to the four chronological phases, followed by a deeper look into their vision, approach and plans for the future.

	Phase 1 - farming individually
1994- 2007	• Gill and Nick experience landscape degradation and financial difficulties. • Some future-members begin to consider themselves as landscape *stewards*. They are inspired by thought leaders such as Alan Savoury, Mark Gardner, Terry McCosker, Brian Wehlburg. Some undertake Holistic Management courses. Others view the landscape as something to 'control'. • Individuals begin to look for alternatives to “industrial agriculture” and find Holistic Management e.g. ‘Always interested in biodynamics, permaculture but finally Holistic Management offered frameworks that I could easily use’.

	Phase 2 - forming the group
2008- 2014	• Gill, Sam and Prue, Anna and Michael, Pete and Bundle, Michael and Ellie, Nick and Deanna attend a HM course led by Bruce Ward. He helps them to design their individual Holistic Context and emphasises the importance of finding peer support. • Course attendees meet casually and appreciate finding a ‘safe space to talk about regen ag’ and decide to form a group. • Jocheim moves from the Netherlands, takes a Holistic Management course, joins the group and then finds a property. • Rebecca takes on a property that neighbours both Nick and Dea and Pete and Bundle and is invited to join. • The 8 families branding is created along with the group’s first Holistic Context, in an effort to trial joint beef marketing.

	Phase 3 - working together
2014-2020	• 8 families operate as a 'brains trust' with a group of ‘likeminded individuals’ offering different perspectives and experiences but sharing the same ‘sense of responsibility’ and Holistic Management frameworks. • Guest speakers and annual field trips provide exposure to complementary ideas e.g. composting, natural sequence farming, biodynamics. • When socialising begins to overtake the group and the focus on grazing becomes less relevant to some, the group refreshes their agenda. They rotate hosts for each meeting. Host uses the group to work through issues and ideas with a shared framework that includes Monitoring, seven Testing Questions and DSE/Ha decisions.

	Phase 4 - now and into the future
2021>	• Resources such as contractors, machinery, agistment, bulls, workers are shared. Neighbouring members are considering collective farming and others are considering sharing products and production. • The exposure to different ideas and perspectives has resulted in numerous ‘Ah Ha’ moments that have enabled transformation across the individual farms of their shared landscape. • 8 families members have built lasting friendships and they ‘live in a thriving community’. • The entire group now considers themselves as landscape stewards and foster an ‘acceptance of letting nature/ the ecosystem take control.’ They are currently navigating access opportunities to ‘support a more nuanced idea of stewardship’ and ‘avoid rewarding bad farming’.

Figure 3: Chronology of the 8 families group

The 8 families' vision

Many members of the 8 families have always felt a deep sense of belonging to the land and of responsibility for the future of the landscape, their livestock and the legacy of their families. Well before they had met the farmers who would become their 'brains trust', many of the individuals were being inspired and influenced by thought leaders such as Alan Savoury, Peter Andrews, Stan Parsons, Terry McCosker and Bruce Ward. They felt committed to leaving a legacy and felt inspired by the idea that agriculture had the potential to make a positive impact on the world.

However, several future members did not initially feel this way. Coming from an engineering background, Nick Austin of Mundarlo had always seen the world as mechanistic and had a 'total control focus' until he realised that he was 'on a treadmill' of constant work with no time for thinking through decisions or enjoying time with his family.

> We had very early thoughts about what we wanted from life… All I wanted was enough money to be comfortable and do what we want to do and have time to work on the business and have time for our own pursuits... And we've got a vision of our landscape… a utopia, you know, robust grasslands with, with the healthy mineral cycle, healthy water cycle, great community dynamics with bio-diverse pastures. Scattered trees, maybe a few more trees along the riparian zones, along creeks, along rivers. That's it, really in a nutshell. – Nick Austin, Mundarlo

For others, such as Sam and Prue, the failure of their high input/ high output family farm during the drought and subsequent land degradation and debt encouraged them to look 'beyond the boundary fence'. They realised that the older farmers who 'took their foot off the pedal' fared much better.

> The millennium drought was kicking in… we were starting with very little, backing financially behind us, but we were full of youth, and passion, and enthusiasm, and ready to go, and within that first year, we were finding ourselves, containing animals, and carrying a really hefty feed bill…. and we pretty quickly identified that… the farmers that weren't trying to push the boundaries like we were…holding on to all our stock… they just seemed to have the foot off the pedal… I don't know what their reasoning behind that was, but what was really clear was their properties still looked fantastic. – Sam Pincott, Holbrook Paddock Eggs

While they were initially driven by different reasons, all of these individuals found that they needed to find a 'useable' alternative framework to 'industrial agriculture', leading them to enrol in Holistic Management courses.

Coincidentally, many of the future members of 8 families enrolled in the same Holistic Management course or shared a mentor in the convenor Bruce Ward. The course invited the trainees to create their 'holistic context' – which guided them in defining their current resources and constraints as well as visions and aspirations for the social, environmental and economic context they would like to work within in the future.

The Holistic Management training also emphasised the importance of peer support in realising the visions: 'If you want to succeed in doing this, you need support'. As one of the members of 8 families now reflects, 'Holistic Management is predicated on being part of a group – the broader ecological improvements will only work if the social connections are there as well'.

Peer support is a vital ingredient for the 8 families. In rural communities there can be a sense of isolation, and support groups create a 'safe space' of like-minded individuals to work through challenges and ideas. Some members had been part of peer support groups in the past, and found that a key ingredient for success is shared commitment with people in the same geographic area.

The 8 families' approach

After meeting casually for a couple of years after the Holistic Management course finished, six of the attendees met at a local café in Holbrook and committed to starting a more formal peer support group. As a group, they began to explore a holistic approach that aspired to support all functions of the enterprise and landscape rather than targeting elements in isolation.

Together, the group developed a shared understanding that took responsibility for their landscape, livestock and family legacies while at the same time 'letting nature take control'. They built 'trust in the process' and began to consider themselves as 'managers' rather than 'owners'. Their actions and decisions were considered in terms of its impact over lengthy several generations, 'beyond the current management cycle' and they developed strong relationships with their landscapes and livestock leading to highly responsive and adaptive management.

> I allow myself time to observe, I'm always looking at the landscape, seeing what's going on; looking for different grasses, looking at what's recovering, what's not, looking for birds, looking for bugs…if you see a cowpat, asking yourself questions like, 'what's going on?' how come there's no dung beetles?'… you're getting that feedback loop. – Michael Gooden, Willowlee

Initially the members of the group were so excited to spend time with other like-minded individuals that the time spent socialising began to creep up and sessions were having limited actual value. They addressed this by setting a clear agenda and introduced the idea of a 2min 'WIFLE (What I Feel Like Expressing) not a waffle'.

The 8 families began to invite guest experts, such as Holistic Management educator, Brian Wehlberg, to help them refresh as a group, and sharpen their focus. Apart from guest speakers, the 8 families also began to organise annual field trips across Australia and to the US to continue exploring new ideas and approaches. Every year, they try to do a trip together to visit a new place. These trips are not all about work and learning, but the group enjoys the new experience, interactions and companionships of these trips.

Many of the trips led to 'lightbulb moments' for the group. The field trips and guest speakers introduced the group to a wide range of different techniques such as Natural Sequence Farming, Provenir on farm meat processing, Time Controlled Rotational Grazing, compost and biodynamics. The group took an adaptive management approach to trialling the new ideas and found that many fit well in the Holistic Context. To the 8 families, Holistic Management is the philosophy, not the method of farming, but a way of thinking and deciding that is not prescriptive.

They have drawn from these experiences and have taken an adaptive management approach to trialling the new ideas and found that many fit well with their holistic approach.

For example:

- Nick and Dea Austin of Mundarlo ran with the Holistic Management idea of creating a single large rotating herd and created a large 'flerd' of combined sheep and cattle. They found that the two species improved grazing coverage with sheep preferentially grazing the higher ground and cattle the lower. Similarly, shared access to water points was not an issue as they each drank at different times in the day.
- Rebecca Gorman of Yabtree West used 'whole farm planning' to integrate Natural Sequence Farming water contours with Holistic Management grazing cells to improve groundcover by improving water infiltration. She feels that this has been so effective that it is like 'the whole property is set aside for biodiversity... with the long recoveries...the grass is so high...quails are nesting in the grasses.'
- Sam and Prue Pincott of Holbrook Paddock Eggs took the idea of Rotational Grazing to the next level by introducing chickens into the mix. They run a 90- day rotation centred around flocks of free -range chickens working their way up and down grazing strips behind a small herd of cattle and followed by lengthy rest for the pasture to absorb and process the nutrient load – resulting in 'incredible' and 'ethical' eggs.
- Michael and Héloïse Gooden of Willowlee found that while Holistic Management provided essential overall context and decision-making frameworks, the principles of 'RCS Grazing For Profit' and the 'Maia Grazing' tool provided much needed practical guidance for on-the-ground changes.

While there is huge value in their business-focussed agendas, the group never forgets to socialise. The whole family, including young kids, are welcome and 'morning tea is very competitive'. The entire group looks forward all year to the 'very expensive' annual Christmas party where 'you try not to talk about grass or the weather' and have 'a lot of fun'.

The resulting tight knit nature of the group fostered trust and openness, and enabled them to quickly to notice potential concerns, such as the limited relevance of cattle grazing focussed discussions for Sam and Prue of Holbrook Paddock Eggs. The group agreed that 'meetings have to be meaningful, relevant structured and [to] revise this regularly [and] hear when the meeting isn't relevant'. They developed a roster of meeting hosts, with each host organising the agenda for that meeting. Sam found that having agenda's and speakers helped 'nine times out of ten'.

Every six weeks the group meets at a host's farm. They check in with the farm using shared decision-making frameworks from their Holistic Management training (Monitor, 7 testing questions, DSE/ Animal). The 7 Testing Questions relate to grazing management, decision-making, a planned future, rest (landscape, people and soil/plants), increased ground cover and change in plant species. As a result, the group effectively operates as a 'brains trust' for creative problem solving and opportunities as well as accountability to the shared framework.

When Rebecca Gorman was returning to the land after a career as a journalist, she found the group invaluable for keeping her on track while she developed a holistic approach for her property:

> It's just so easy to roll along doing the things that you've already done, reacting to the pressures that come along. In my case, it was having that group there regularly asking you to reflect on your decisions and making you go through the process, in a really fun, supportive, jovial, and… just a genuine way. I think we all feel very confident to be honest and if…you have someone saying… don't get distracted, get back to this square… then you have the kind of, the peace and understanding of how to use that feedback loop well. – Rebecca Gorman, Yabtree West

Even seasoned farmers Sam and Prue found that the group provided essential support when they were shifting to an innovative model of farming and creating Holbrook Paddock Eggs. They found that only two farmers in Australia were doing rotational grazing using free-range chickens and these were unwilling to share their knowledge. The agendas and frameworks helped the group members to step back and stay focused on, and accountable to, their visions; and avoid focusing on the small issues, e.g. 'majoring in minors'. Together, they learned new approaches and troubleshot designs and decisions.

Similarly, Michael and Héloïse of Willowlee turned to the group for guidance when they found that debt was beginning to overwhelm their enterprise:

> I don't think the group really realizes how much they've helped the individuals along… the input that these guys gave was invaluable because you knew that they had your best interest at heart. And that was really important, to be able to talk about it. Not, with our accountant, not with our bank manager, not with my parents or my siblings, but to people who care about you and understand your situation, as well… that's a pretty powerful position to be in. - Michael Gooden, Willowlee

With this support, they were able to make the difficult decision to sell the homestead property with their first attempt at Holistic Management Infrastructure and start over on a satellite property.

The 8 families' future

The group now comprises nine families with a range of products and enterprises – including beef, lamb, stud cattle, eggs, agistment, training and agri-tourism – all taking a 'regenerative' management approach that aims to restore soil and landscape function. The '8+ families' are excited to see the effects of their actions over the coming year.
The group's interactions have developed into increased collective marketing of produce and sharing of resources. The group now shares contractors, bulls, agistment, and machinery. Neighbouring members of the group are actively considering combining herds to collectively farm and others are considering creating products together.

To quantify and gain value from the changes they've made and continue to make, the group is looking at how they can collaborate to provide evidence of their collective environmental stewardship, 'beyond the boundary fence'. This sort of cross-property planning is relatively rare but has the potential to create landscape-scale improvement in connectivity of the type needed to address species loss in production landscapes. They are investigating ways to be rewarded for the improvements they've seen and expect to see in the future, including for soil carbon, organic matter and biodiversity; the properties' natural capital.
They also want what they learn to help other producers make the most of land stewardship programs and opportunities. As a collective, they recognise their voice is bigger, and they would like to use their collective voice to change things for the better, for example by advocating for incentive schemes to recognise the benefits of holistic stewardship. A holistic approach which seeks to concurrently improve biodiversity, soil carbon, ecological health,

wealth and personal development can be hard to fit within the more siloed context of current government incentives. The 8 families are 'all interested in the future of land stewardship and how this will add another enterprise to our business now and into the future'.
To support progress and change, the group, with the help of Soils for Life, recently ran a collective workshop exploring how to access rebates and rewards for more holistic approaches. The workshop was structured in a way that turned the usual process on its head. Rather than producers coming to hear specialists present their programs and expertise, the 8 families presented their particular vision, concerns, obstacles and experiences to the specialists. It was an opportunity to discuss issues and questions on stewardship schemes to suit their regenerative agricultural approach. Group members want to encourage premiums for regenerative produce of provenance. The 8 families are now engaged with a carbon aggregator to help realise this vision. A discussion about the workshop and land stewardship schemes can be found on the article Navigating Land Stewardship Incentive Programs on the Soils for Life website.

The group believes that 'the pendulum is swinging' on regenerative agriculture. Previously, the term 'regenerative agriculture' was 'almost a swear word', but now it is a subject that can be discussed at the pub. The 8 families find that people who once would not be interested in visiting properties and field days and talking about regenerative agriculture are seeking them out to find out more. The group will also continue to support other people to get involved in regenerative agriculture, including through Local Land Services, Farm Owners Academy, Earth Canvas, Landcare, RCS and others.

Social inquiry

Below is a discussion of the value of the group, findings from the wellbeing survey and a summary of the key findings from the social analysis.

The value of the group

The 8 families is a strong supportive network that has lasted for more than a decade and has resulted in genuine friendships as well as a thriving Community of Practice that reaches well beyond the nine families that now make up the group. They are looking forward now to 'see [the] second generation of 8 families'.

By working in a group, the individual farmers have access to a 'brains trust' of likeminded people with a shared decision-making framework but different perspectives and experiences. They are 'respectful of others' opinions and journey' and are continually learning together through field trips and guest speakers. For many, this has meant that they 'never go to a meeting without an 'Ah Ha!' moment' which translates to improved practices on the farm. For Nick and Dea Austin (Mundarlo), this helped provide the strength to implement changes in the face of truisms such as 'the 1st generation makes it, the 2nd generation expands it, and the 3rd generation loses it'.

For some, this has given them the courage to follow their convictions in the face of scepticism and even opposition from family and neighbours. For example, Michael Gooden (Willowlee) received support from the group when he was making difficult decisions about

selling family properties. Further, they have felt a level of accountability as they collectively assess and comment on a member's management each time they visit their property as a group. Rebecca Gorman, who was new to operating a property, used the group as a source of experience and long-term wisdom in making changes to Yabtree West.

As mentioned above, the mutual trust that has built up, together with their shared perspective and similar approaches, has meant that the group has been comfortable enough to share resources such as contractors, bulls, adjustment, machinery and more. Neighbouring members of the group are actively considering combining herds to collectively farm and others are interested in beginning to create products together.

With this has been an improvement in profitability at least for some. The Austins (Mundarlo) started 'making good money' in Phase 3, and the Pincotts (Bellevue) finally saw a reliable weekly income in Phase 4. (See section 3.6 for a summary or the *Economic Inquiry* document for more details.)

The interviews and workshops reveal numerous instances of individual members taking a holistic approach to decision-making, enhanced by support from the group. Nick Austin recognised that he was on a technology treadmill and embarked on Holistic Management training which opened his eyes to different ways of managing his country. Support from the group kept him going until he was ready to share his new perspective with his family.

Overall, the 8 families group has learnt to 'trust in the process'. The entire group now identifies themselves as stewards who have been sharing the responsibility of caring for their landscape and 'letting…the ecosystem take control' for more than a decade. They have found this to be an experience of 'liberation with responsibility'. Their success is reflected in the landscape results, summarised below in section 3.7 or detailed in *Production and Ecological Inquiry*.

The 8 families are excited to see the effects of their actions over the coming years, especially along their fence lines and catchments. To support this continued impact, they are now pursuing avenues to access schemes that support 'a more nuanced idea of stewardship', 'thinking beyond the boundary fence' and 'avoid rewarding bad farming'. They also hope to see acknowledgement of the decade of work that they have already put in place, so that they can 'influence others to have confidence to make changes as we have done'.

Personal Wellbeing Indicators

Six members rated their satisfaction with eight aspects of their lives relating to personal wellbeing at each practice change phase. Some of the group results are presented below in Figure 4 through to Figure 7.

Overall there was a pattern of increase through the four phases for most of the measures.

Life achievements

As a group, the six respondents all felt an **increase** in their **life achievements** through their regenerative agriculture journey (Figure 4).

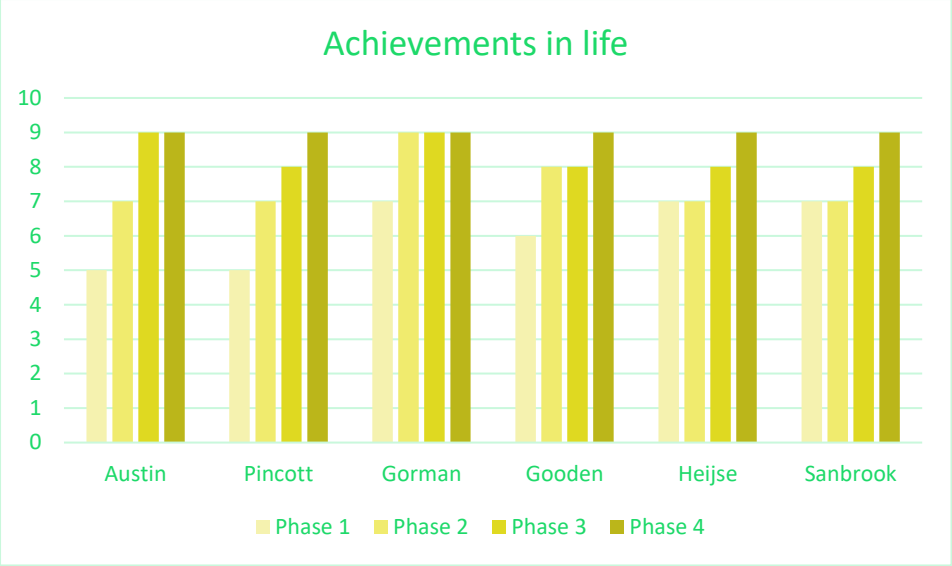

Figure 4: 'Achievements in life' (scale of 1-10)

Life satisfaction

All of the respondents felt an overall increase in their life satisfaction during the phases of transformation (Figure 5).

Only two respondents (Gooden and Gorman) had a decrease from one phase to the next (both in Phase 3), but now, both are more satisfied than when they started.

One farmer had a significant change from feeling **very unsatisfied** to **extremely satisfied** (Sanbrook).

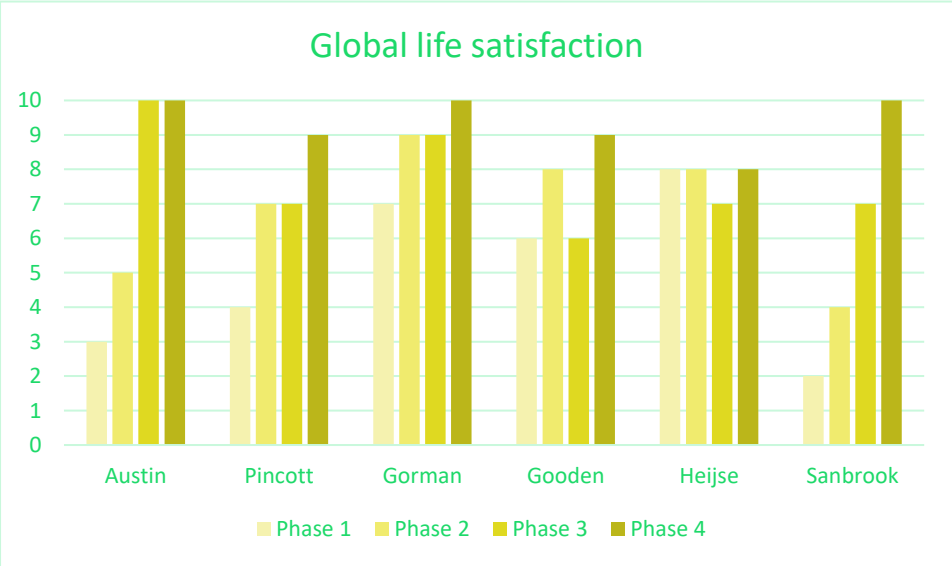

Figure 5: 'Global life satisfaction' (scale of 1-10)

Feeling part of a community

Interestingly, three of the respondents experienced a decrease in feeling like they were part of a community when transitioning from traditional practices (Phase 1) to regenerative farming practices (Phase 2). However, as the 8 families group developed and strengthened, all respondents experienced an overall **increase** in feeling **part of a community** (Figure 6).

At the time of the case study, most of the respondents were **very** or **extremely satisfied**. Again, one farmer had a significant change from feeling **very unsatisfied** to **very satisfied** with their **community connections** (Sanbrook). Another farmer had very little change over time, which could be explained through her joining the group soon after Phase 1 when she commenced farming (Gorman).

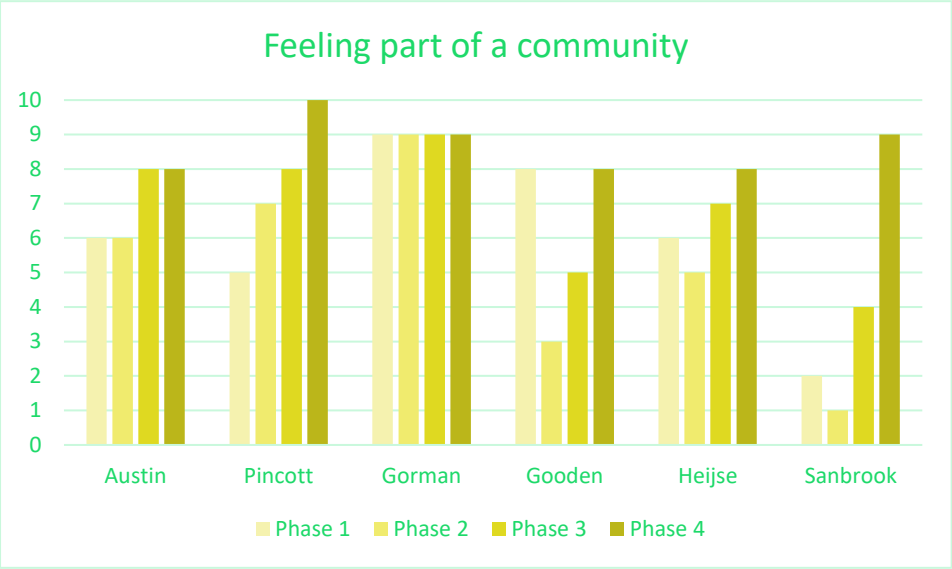

Figure 6: 'Feeling part of a community' (scale of 1-10)

Future security

Interestingly, the level of security for some respondents took a few phases to increase from insecure to very secure, with one respondent even feeling greater insecurity in Phase 2 after starting the regenerative practices (Heijse). These trends might indicate the necessity of trust-building for regenerative processes, and the lag-time between practice change and their socio-environmental-economic benefits.

Compared to before beginning their regenerative practices, with three of the respondents feeling quite insecure, the majority of the respondents are now feeling **quite secure** about their future (Figure 7).

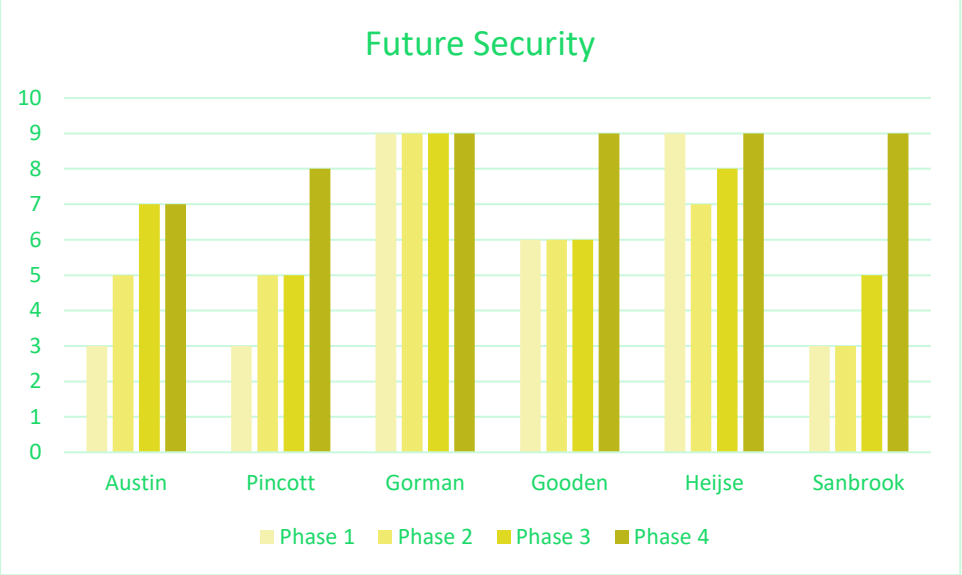

Figure 7: 'Future security' (scale of 1-10)

Remaining indicators

For other wellbeing measures, including their standard of living, health, personal relationships, and sense of safety, there was a less obvious pattern of improvement and some families experienced fluctuations in these areas. A few families, before the formation of the group and the transition to regenerative practices, marked these indicators as unsatisfied (3 out of 10), whereas most of the families were already satisfied to varying degrees in these areas.

Significantly, the group is currently feeling, across all of these indicators, very satisfied (marking at least an 8 or above, out of 10), indicating a slight increase for most members. Figures for these indicators and further analysis can be found in the document *Social Inquiry*.

Relationship with Farming Indicators

Six members rated their satisfaction with four aspects of their lives relating to their relationship to farming, at each phase of their journey with regenerative agriculture. Some of the group results are presented below in Figure 8 through to Figure 11.

On all four statements, all respondents indicated increased satisfaction over time.

Ability to cope with most difficult conditions on the farm

All of the respondents experienced an **increased sense of being able to cope** with challenging conditions on the farm by Phase 4 (see Figure 8). Their individual experiences of being able to cope varied prior to practice changes and in the first stage and second stages of practice change (see Phase 1, 2 and 3 in Figure 8).

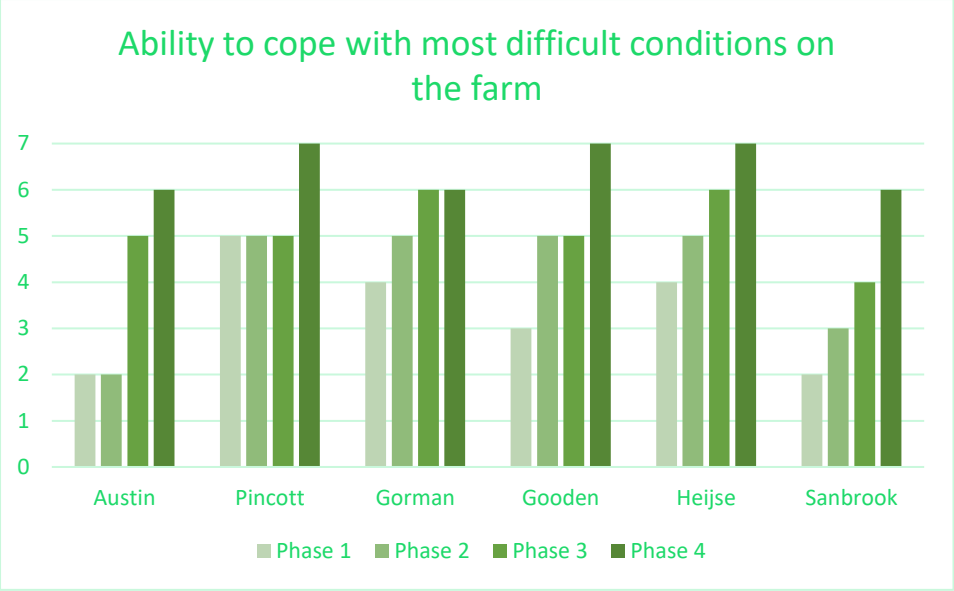

Figure 8: 'Ability to cope with most difficult conditions on the farm' (scale of 1-7)

Ability to achieve what they want

By Phase 4 all respondents felt like **they could achieve** what they wanted on their farm (Figure 9), a sign that respondents felt that their vision for their farms were being realised. For some this sense of agency occurred in the third phase (Austin) and for others it was gradual.

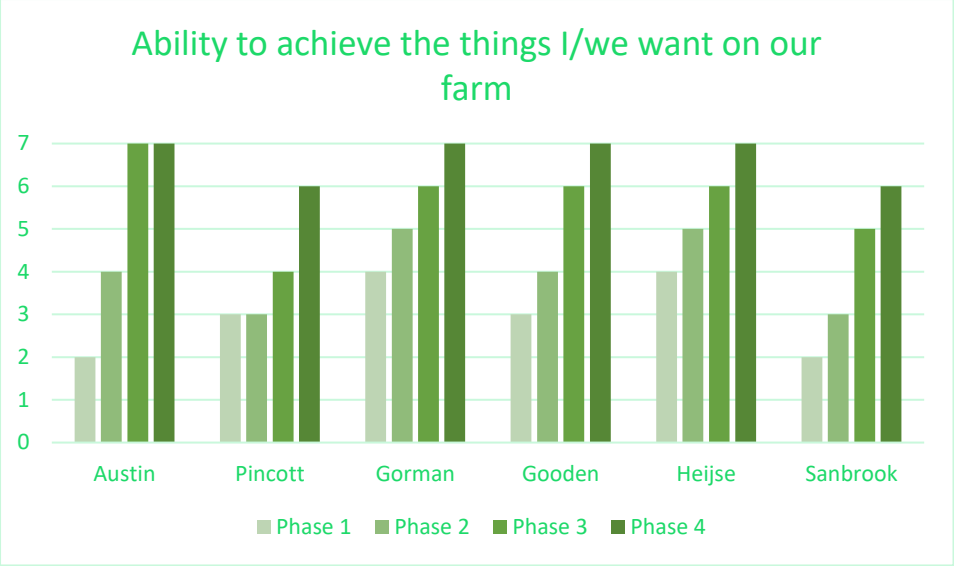

Figure 9: 'Ability to achieve the things I/we want on our farm (scale of 1-7)

Ability to make more helpful decisions

Respondents had an overall **increased** sense of making **appropriate farm management decisions** by the final phase of practice changes (see Figure 10). For some this only began to change after Phase 2 (Austin and Heijse). Other respondents began to feel better about making decisions as soon as they started to make practice changes.

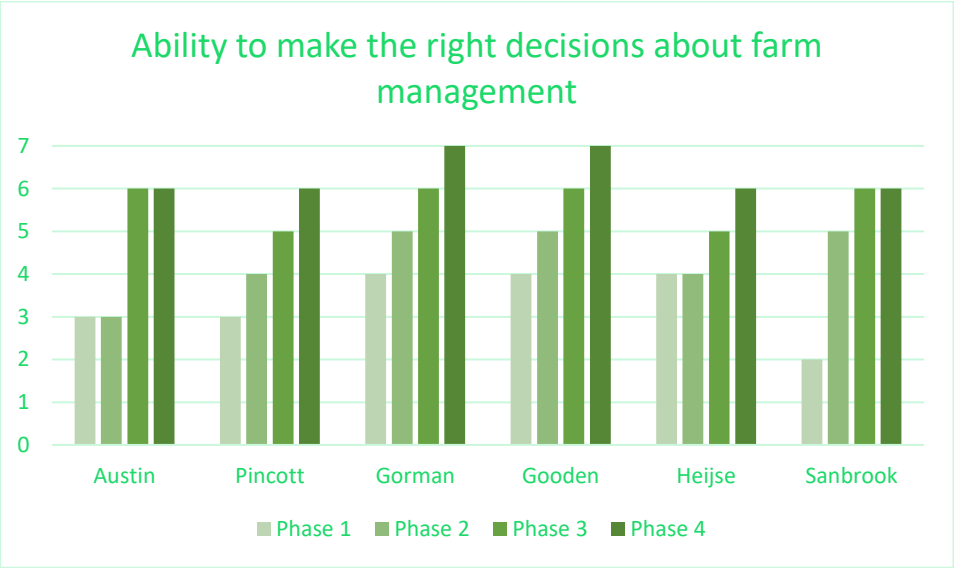

Figure 10: 'Ability to make the right decisions about farm management' (scale of 1-7)

Optimism about the farming future

Compared to before making practice changes, all respondents were **more optimistic** about their farming future (see Figure 11). One farmer had a significant change from feeling a very low level of satisfaction to a very high level across the phases (Pincott).

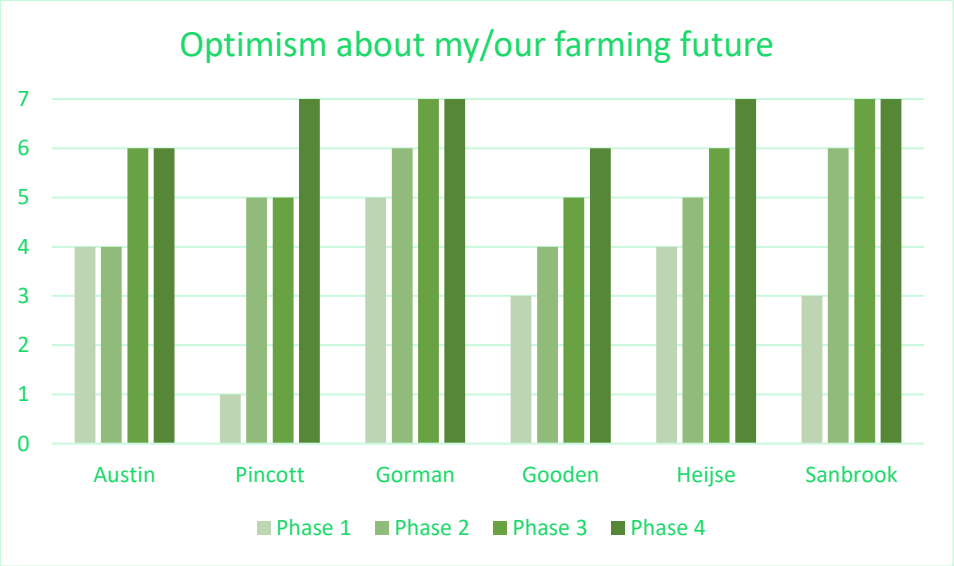

Figure 11: Optimism about my/our farming future' (scale of 1-7)

Key insights

Below is a summary of the findings from the *Social Inquiry*. This supplementary document can be viewed to better understand the context of these findings.

A Shift to Holistic Thinking and Practice

- Triggers that have led to experimentation and adaptation, included the Millennium Drought, farm debt, poor animal welfare and biodiversity loss, climate change, and inspirational ideas and approaches. From these catalysts, members have forged a pathway of change which involved shifts in thinking, a reassessment of values, and in-turn changes to farm management.

- Overall the shift involved the adoption of a holistic approach to farming, in which the farm is seen as a system that involves family, community, as well as animals and ecosystems. In this holistic view profit is important but so are other social and ecological outcomes.

Wellbeing through a Community of Practice and of Place

- The 8 families case study have formed a Community of Practice facilitated by the Holistic Management framework. The Community of Practice shares many of the elements of a common culture in regenerative agriculturalists identified by Cross and Ampt (2017, p. 593).

- The personal wellbeing survey results show a pattern of increased satisfaction through the four phases for many of the measures. These findings support other studies that have shown that regenerative agriculture contributes to farmer wellbeing

by developing farmers self-efficacy, adaptive capacity and social connectedness (see Brown et al. 2021, p.4).

- There are a few nuances to this pattern of increased satisfaction. Most interestingly are the results relating to members' sense of community. Three participants had a decrease in their satisfaction before an overall increase, and one member was very satisfied and experienced no change over time. These results relate to the evolution of the group in the context of each farmers' transformation process.

- Individually and collectively the group have experimented with practices, had failures and successes, and overall improvements across production, economic, social and ecological areas. Importantly they have shared these experiences. It is likely that the group has played a role in building self-efficacy, resilience and optimism as individuals are a part of their own as well as the groups process of facing and overcoming challenges and witnessing successes across a landscape.

Economic inquiry

The findings from the Vanguard 'On Track Goal Indicators' survey results and key findings from the economic analysis are presented below.

On Track Goal Indicators

We have summarised the top ranked goals statements for group members in Table 2 Income related priorities are coloured blue, and ecological priorities in green.

Interestingly all members prioritised **satisfactory income** rather than maximum income. All members also had at least one environmental priority on the list. Financial and environmental priorities were listed amongst family and personal priorities. The survey findings indicate that each family had a holistic approach to their goals and a range of priorities that shaped their management and decisions.

Table 2: Prioritised goal statements of the 8 families group*

Rank	Pincott (Bellevue)	Austin (Mundarlo)	Gooden (Willowlee)
Highest			Healthy outdoor life
	Being own boss	Improving biodiversity	Keeping out of debt Farm in good/better condition
	Satisfactory income	Children in worthwhile occupations	Enjoyment of work Satisfactory income
	Pride of land ownership	Satisfactory income	Working with family members
Lowest	Farm in good/better condition	Farm as a business	Improving biodiversity
	Important to the community	Healthy outdoor life	Safeguarding income

*Note: Pincott and Austin nominated five priorities and used a scale of 1-5. Gooden nominated eight priorities and used a scale of 1-6.

Key insights

A balanced view of the future:

- Each family had a range of priorities that shaped their management and decisions. They managed towards a set of **multiple priorities**, often involving environmental social and profitability objectives. They didn't have one single priority; it was a balanced view of their future.

- Each family was motivated towards achieving a **satisfactory level** of net income, as defined by their own internal profit target. None of the families scored maximising net income as of highest importance. It would appear that each family has a clear profit target and that the business is shaped towards achieving this on a repeatable basis.

The regenerative profit journey and repeatability:

- The Austin family undertook a long-term analysis (15 years in total). The period before and after a change to more regenerative management is evident in a number of financial metrics particularly a reduction in costs. The business has created positive Earnings Before Interest and Tax (EBIT) in 13 of the 15 years, including every year since 2011-12 many of which were drought years. The average EBIT profit of the business for the 15 years, after deducting a standard allowance for owner operator labour and management is $97/ha peaking at $400/ha. This yearly average exceeds the owners internal profit target and is highly repeatable.

- A six-year analysis of the Pincott family shows that EBIT has been positive for all six years of the study with an average EBIT of $451/ha after deducting the standard allowance, exceeding the owners target each year. This case study shows that even on a smaller farm, a highly profitable regenerative business can be created.

- A shorter-term analysis of the Gooden family will benefit from adding future years. The analysis compares 2014-18 (when the management focus was strongly on regenerative production) to the 2020/21 year (after a focus on regenerative and financial performance was introduced). After making changes the business achieved an EBIT of $348/ha after deducting the allowance. The financial and business skills that have been developed from the RCS Grazing for Profit programs and support gained through membership of the 8 family's group have been key contributors to the changes evident in their business performance. The changes in profit are substantial.

- **Repeatability** of profit, through a range of seasonal conditions, is a feature of the longer-term case studies. For example, in the Austin and Pincott Family case studies it would appear that profits are quite repeatable, considering the range of seasonal conditions experienced over the study. Management of these businesses seems to adapt to poor seasonal conditions in a way that does not impact profit to the extent that could be expected.

A detailed analysis of the economic outcomes of the 8 families case study can be found in the document *Economic Inquiry*. This supplementary document can be viewed to better understand the context of these findings.

Production and ecological inquiry

Below is a summary of production and practice changes and some ecological outcomes for four farmers, with a focus on ground cover.

Production and practice changes

The Holistic Management training has provided the members of the 8 families with a decision-making framework, which aligns with their personal and/or collective context (e.g. values, goals). This process has allowed each family to confidently explore production and management system options. Below is a summary of key production and practice changes and on-farm experimentation.

- Enterprise diversification: Although there is enterprise diversity within the 8 families, there is the common desire to build resilience into their systems, from a social, economic and ecological perspective. One of the ways the 8 families achieved this is through their holistic approach, incorporating various enterprises into their farming business and in some cases, the addition of off-farm enterprises to complement on farm activities.

- Cattle and Sheep Grazing: Good grazing management is important not only for animal welfare but for the regeneration of degraded pastures and soil. All members of the 8 families manage their pastures and animals using holistically planned time controlled rotational grazing practices. The group utilises a range of tools to assist their grazing management, budget their grazing pastures, prevent over or under grazing, maintain ground cover, avoid compaction and promote diversity among many other ecological and animal health benefits.

- Poultry: On Bellevue, the grazing system incorporates cattle and paddock chickens, which are rotated around the property within portable sheds. The chickens are moved to follow the cattle as the shorter, grazed grass is better for the chicken's health but the chickens also provide a service by producing manure and breaking up and "raking" around the cattle manure.

- Multispecies cropping: On Willowlee, Michael has been trialing multispecies cropping for grazing on irrigated areas for a few years with various levels of success. He'll continue trialing multispecies cropping with experimental broadcasting of summer crops and using cattle to trample the seed in.

- Water infrastructure: Each of the producers have put a lot of thought, time and money into their water infrastructure to aid time controlled grazing.

- Slowing the flow of water: A functioning water cycle requires the soils' ability to absorb, store and retain rainfall and prevent erosion. Ecological assets which assist the function of the water cycle within a system includes maintaining ground cover and litter abundance in order to decrease decompaction, bare soil, soil capping (soil surface hardness), wind and water erosion while increasing sub-surface health and building the soils capacity to hold and store water. Land adjustments such as those in Natural Sequence Farming also slow water movement across the landscape, preventing soil movement and loss through erosion and increasing the amount of water that can be stored within the soil. Water absorption in the soil has been a key focus for members of the 8 families.

A detailed analysis of the production and ecological findings of the 8 families case study can be found in the *Production and Ecological Inquiry* document.

Production and ecology: focus farms

In relation to water and soils, all of the focus farms spoke of **observed improvements**, for example:

- On Willowlee, Michael Gooden described how little or no water ran off during storms compared to their neighbours. This was a big difference from before practice change. He also spoke of 'growing soil', that is developing a layer of organic matter to the existing topsoil;

- On Mundarlo, the Austins had a similar experience, capturing photographic evidence of the creek that flows through Mundarlo running clear after a storm while neighbouring property's run-off was filled with eroded sediments. Nick also spoke of the sponginess of the soil and the presence of dew feeding soil moisture;
- On Yabtree West, Rebecca Gorman described how Natural Sequence Farming banks were spreading out the water reducing gully erosion;
- On Bellevue, Sam Pincott talked about building soil and having more worms.

In relation to ground cover, all members of the 8 families have observed increases in ground cover. To complement these observations, a spatial desktop assessment was completed for the four focus properties. The results are summarised in Table 3 and support their observations. Interestingly, since practice changes, all properties maintained a higher ground cover than the surrounding 5 km buffer.

Additionally, although all focus farms experienced below annual average rainfall throughout the chronological period, all properties maintained a higher greenness index than the 5 km comparison buffer areas since practice change was implemented.

The analysis of the four producers demonstrates their ability to have a greater **drought resilience**. The heat maps of ground cover during the peak of the recent drought (2018-2019) demonstrated that ground cover was reduced on all four farm properties during the drought however these properties had **less bare ground** than the surrounding area.

Table 3: Comparison of ground cover outcomes between properties of four members and 5km buffer

Ecological outcome	Bellevue (Pincott)	Mundarlo (Austin)	Willowlee (Gooden)	Yabtree West (Gorman)
Groundcover. Better in drier seasons since:	2013	2007	2010	No difference
Bare ground	Consistently less in all seasons and years			
Green cover	No clear differences	Greener in some years and seasons	No clear differences	Difficult to assess as buffer is different land type to property

While there are limitations to solely using spatial data to represent overall health of an ecosystem (see *Methodology and Methods* for details), ground cover is one element which can be used as an ecosystem function indicator. Grazing management is a vital tool for maintaining constant ground cover by ensuring the required rest periods which allows each plant to build energy stores. In addition to grazing management, many of the group have been focusing on increasing perennial species to promote year-round capture of the suns energy and building overall pasture diversity to promote and increase nutrient cycling.

These results also demonstrate how practice changes are leading to changes to important aspects of the ecological health on the four focus farms. The results also point to future changes that may be possible when managing on a landscape level beyond the farm.

Key insights

- Members of the 8 families all have seen visual **increases in ground cover** since making practice changes on their properties. The spatial mapping results support these observations with all properties maintaining higher ground cover than the surrounding 5 km buffer since practice change. However, we have not undertaken exploration (e.g. soil mapping) into the surrounding areas and so it is difficult to know whether the two areas are comparable.

- The lack of a constant approach to soil testing and monitoring highlights the gap in knowledge many farmers face when knowing what soils measures are fit for their needs.

The document *Production and Ecological Inquiry* provides additional findings and context.

Integrated property stories: focus farmers

The members believe in the value of their shared holistic approach to managing their properties. While they believe they can do better, they see signs that they are improving their landscapes and their profitability through better management of grazing and a range of other strategies.

There was plenty of anecdotal evidence within the group that practice change and group membership was helping to generate **social**, **economic** and **ecological benefits**. We attempted to triangulate this perception with available evidence. In the following sections we integrate different types of data for each property.

Bellevue (Pincott)

The Pincotts have arrived at a successful integration: their personal and financial goals of independence, satisfactory income, pride in their land and place in the community are linked successfully with their ecological goal of having their farm in a good and improving condition. Evidence from this case study clearly backs their perceptions.

This favourable situation, following some very difficult times, has clearly flowed from how they have embraced what they have learnt from their holistic education. Firstly, it helped to provide a path forward from their difficulties, then to be monitoring the right things to continue to adapt in the right direction.

Having the 8 families group has helped them to have the courage to make some really big decisions, such as sale and purchase of properties and adoption of pastured egg production. The latter is a stunning example of stacking an enterprise on top of good landscape management. Like any new endeavour, they have had to work very hard on the paddock egg enterprise and have the courage to take on challenges in the face of lack of knowledge and the unknown. Despite the lack of similar enterprises in the group, the Pincotts received a sounding board and encouragement from members that helped them to persevere.

A fascinating observation is that the Pincotts started the paddock egg enterprise to improve the condition of the degraded property, and it soon became the most important enterprise from an economic perspective. In addition to providing financial benefits, it has given them a valued place in the local community.

From the production and ecological inquiry, we made the following observations:

- Since purchasing property in 2013 ground cover has progressively increased, despite the potential for chickens to create bare patches;
- The property responded better to summer conditions than the surrounding 5 km buffer, and groundcover has been maintained at a higher level since 2017;
- In wet years, ground cover is similar to the buffer, but in dry conditions ground cover is maintained longer on the property than the surrounding area. In particular, high ground cover was maintained better during 2018-19 drought.

This ecological progress comes as a result of the combination of time controlled rotational grazing of the cattle coordinated with the movement of the mobile chicken sheds.

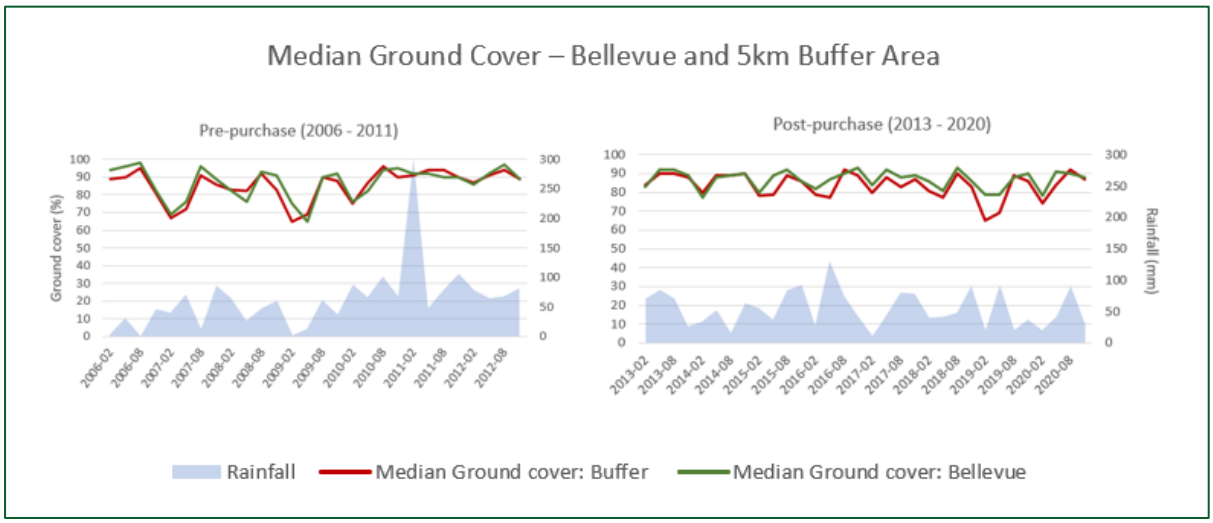

Figure 12: Median ground cover (%) comparisons between Bellevue and the 5 km surrounding area during periods of pre and post-purchase (VegMachine®).

The financial success of the paddock eggs enterprise is evident from the economic analysis with a high return on investment flowing from consistently high and increasing income. This has enhanced feelings of wellbeing and optimism, and increasing freedom and confidence in making decisions.

Read more about Pincott's story in the *Bellevue case study*.

Mundarlo (Austin)

After leaving the family farm to pursue a career in engineering, Nick Austin returned to the land only to witness the devastating effects of the Millennium drought and the 'treadmill of busyness' that consumed everyday life. Taking over from his parents and starting his own family, he moved beyond his 'mechanical' way of thinking and introduced a holistic approach, reducing technological interventions across the property.

When implementing time controlled grazing from 2010, the Austins reduced their reliance on fertiliser, and improved livestock health through better access to grass due to more consistent ground cover, and greater dietary diversity due to more plant species, and species at different stages. These changes significantly reduced pasture, supplementary feed and animal health expenses (Figure 13). With a more satisfactory income, the family is able to reduce their debt, and invest in the children's future through boarding school education, and in Deanna's off-farm holistic health enterprise.

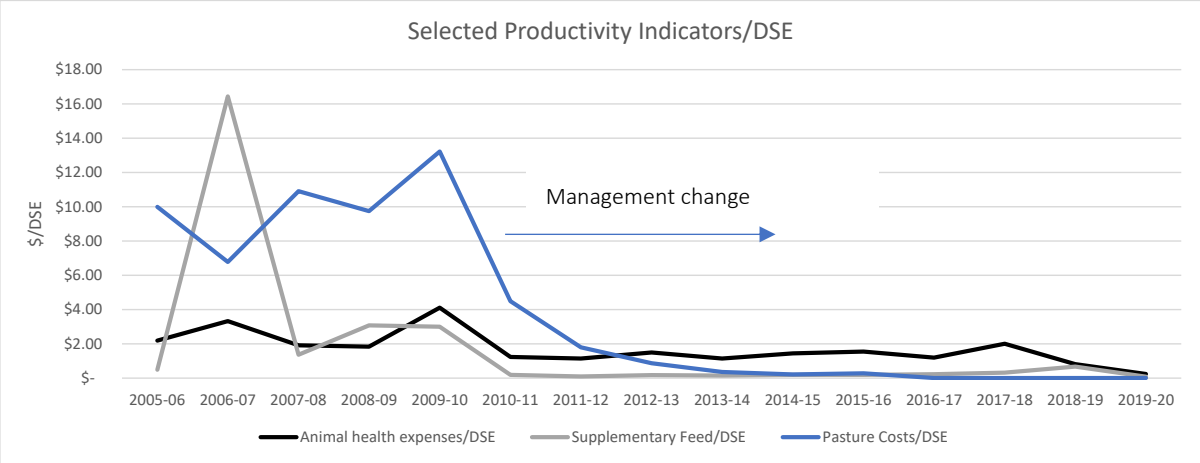

Figure 13: Selected Productivity Indicators for Mundarlo represented as costs per dry sheep equivalent. A change in management approach in 2010 saw a dramatic decline in costs.

Now the Austin's personal goals are to have a healthy outdoor life and for their children to find worthwhile occupations. Their financial goals are to have a successful farm business with a satisfactory income. Their highest-ranking goal, however, is to improve biodiversity on their property (see Table 2 prioritised goal statements of the 8 families group). Their journey has been one of personal transformation, linked to ecological improvement and increasing financial security.

We made the following observations from the production and ecological inquiry of Mundarlo:

- Groundcover has been higher than the buffer by variable amounts since 2007 (apart from August 2016 and August 2017);
- In the dry summers of 2018/19 and 2019/20 the property had higher non-green cover and less bare soil than the buffer;
- In the autumns of 2018 and 2019 the property had less bare soil and more non-green groundcover than the buffer;
- In the autumn of 2020 the property was greener than the buffer;
- Since 2017 the difference in groundcover has increased in summer with the property have 15-25% higher groundcover than the buffer.

These observations are evident in Figure 14, which shows a comparison between the groundcover on Mundarlo and a 5km buffer surrounding the property. There were 2 occasions (2007 and 2017) when the property had equal or lower groundcover than the buffer. These correspond to contrasting decisions made in response to drought. In 2007 severe drought necessitated expense of handfeeding which didn't prevent loss of stock. After changing practices, in 2017 a drying trend, and knowledge that insufficient feed was in front of the cattle in the grazing rotation, led to the decision to sell off the breeding herd.

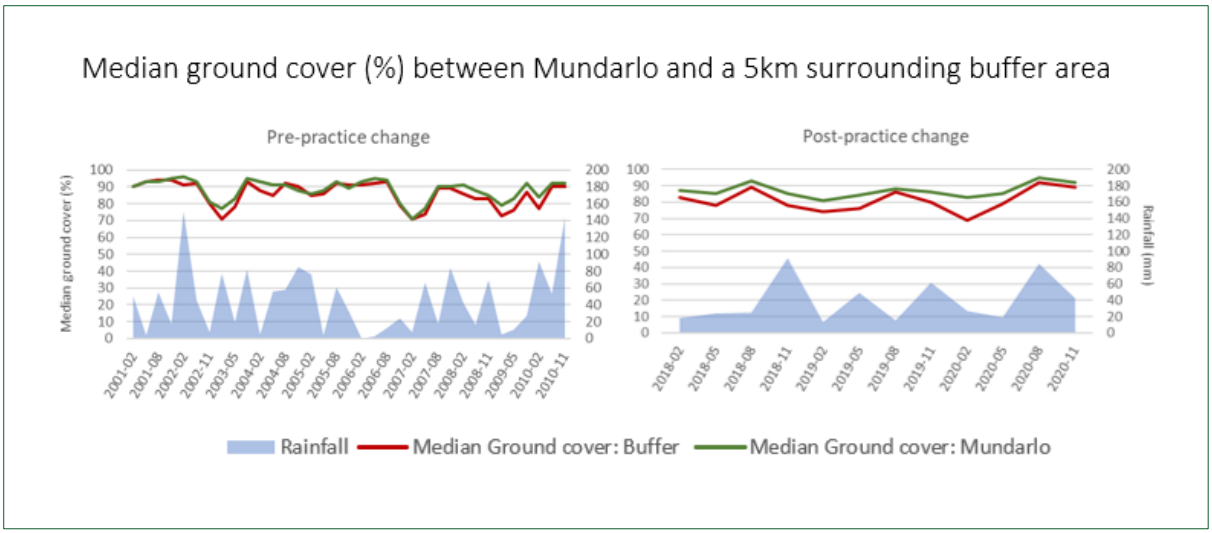

Figure 14: Median ground cover (%) comparisons between Mundarlo and the 5 km surrounding area during periods of pre and post-practice change (VegMachine®).

These events also made an impact on financial performance. The year 2007 was the only year in the past 15 where the farm had a negative 'earnings before interest and tax' (EBIT). Despite 2017-2019 being a very severe and longer drought EBIT remained positive (see Figure 15).

This improvement in groundcover corresponds to investment in paddock subdivisions and stock water up to 2017 and the sale of the breeding herd in favour of stock trading in 2018. Economically, the Austins had high costs during Phases 1 and 2. They significantly reduced their debt in 2013-14 by selling off what they could, then invested in extra paddocks and improved stock water system on the remaining land from 2017. They sold their breeding herd in 2018 and are now predominantly trading in sheep and cattle.

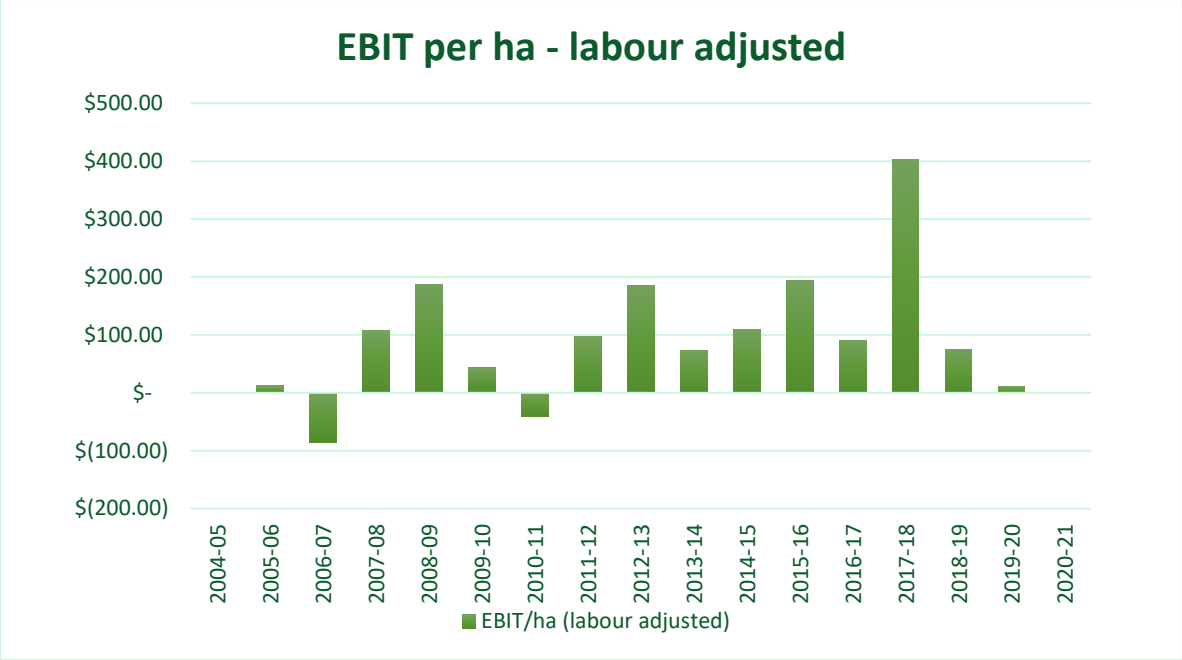

Figure 15: EBIT for Mundarlo, the figures shown represent earnings per hectare after deducting an allowance for owner-operator labour. Earnings are positive for 13 of the 15 years including a number of drought years.

These changes corresponded with improvements in wellbeing and improved relationship to farming.

Read more about Austin's story in the *Mundarlo case study.*

Willowlee (Gooden)

Michael Gooden set out on his own portion of land following a family succession during the middle of the Millennium Drought. Michael soon found himself in financial difficulties and with an enterprise that was under-performing. He turned to the Holistic Management decision-making framework for solutions and found clarity and improved on-ground outcomes. He co-founded the 8 families group and their business and emotional support was invaluable for working through difficult decisions.

Together, Michael and his wife Héloïse wrote out their Holistic Context - stating their social, economic and environmental aspirations, values and resources in the course of decision making. They ended up with a vision for, 'an abundant place that captures sunlight, utilises moisture and enhances our resources' and which is 'profitable for the business, for the people, and for the land'. Each decision is made within this context.

The resulting key practice changes and innovations include the integration of Holistic Management with RCS grazing principles to guide landscape management; time-controlled cell grazing, and supporting water and fencing infrastructure. Michael embraced the concept of "grounding", a way of approaching the landscape mindfully to connect, observe and respond.

In the early years of practice changes Michael noted poorly managed grazing and cropping. He was also managing two properties (Holbrook and Willowlee) and was only just starting to develop the holistic infrastructure for Willowlee in Phase 3 of practice changes between 2015-2017. By Phase 4 (from 2018), Michael had taken some time to work out the best balance in regards to cattle management, and was beginning to experience a number of successes on the farm, including better water retention, maintenance of cover through drought and subsequent flood.

We made the following observations from the production and ecological inquiry of Willowlee:

- In 2015, Michael began making holistic and innovated decisions and since then he has maintained more ground cover than the surrounding area regardless of annual rainfall averages;
- When compared with the surrounding 5 km buffer, maintained an average of 2.9% more ground cover pre-practice change. This increased to 3.9% more ground cover post-practice change;
- Greatest average difference of ground cover highest during the summer period with 6.8% more ground cover than the surrounding area, suggesting the ability to maintain ground cover during the drier periods;
- The increased ground cover, plant litter and decomposing organic matter would be building topsoil levels and improving soil structure and aeration through root activity and improved soil biology;
- After one storm, Gooden's neighbour lost water but Gooden held their water, which could have been a result of maintaining ground cover that absorbs and holds more water.

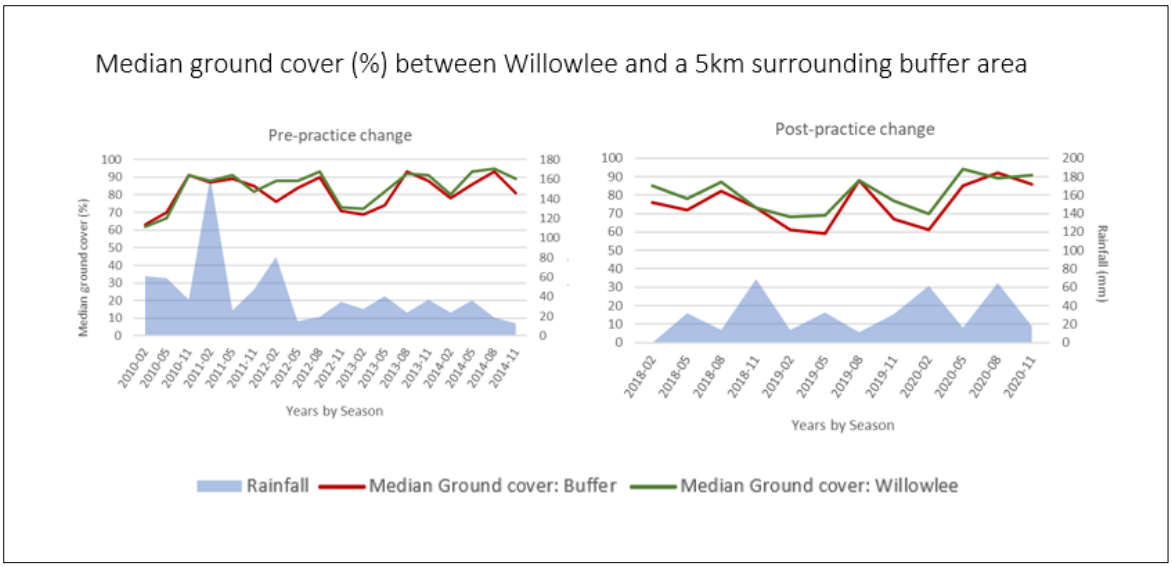

Figure 16.: Median ground cover (%) comparisons between Willowlee and the 5 km surrounding area during periods of pre and post-practice change (VegMachine®)

The 8 families group has been an invaluable support and offered a sense of community, which provided the input and guidance needed to try something new and make difficult decisions about farm management. This is reflected in the wellbeing survey results describing changes to Michael's relationship to farming (Figure 17) and personal wellbeing (Figure 18).

Michael was part of a strong family and community when the effects of conventional farming during the Millennium drought began to affect his relationship with farming (Phase 1). When he went out on his own and began Holistic Management (Phase 2) his relationship with farming began to improve (Figure 17), however his sense of community declined, as seen in the fluctuation in the indicator of 'feeling part of a community' (Figure 18). Over time, he built strong relationships through the 8 families group and with RCS and Landcare and felt part of a strong community again.

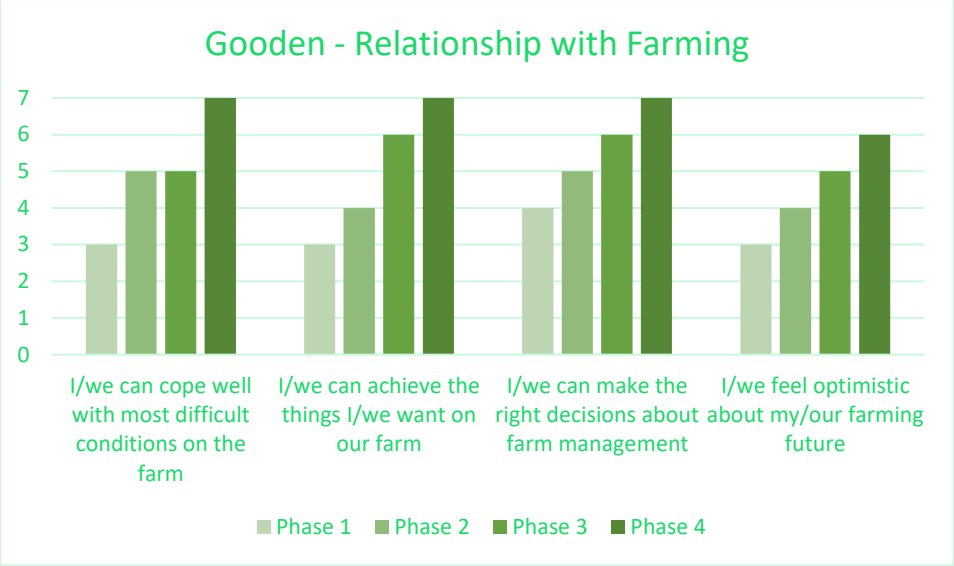

Figure 17: Relationship to Farming indicators, Gooden (scale of 1-7)

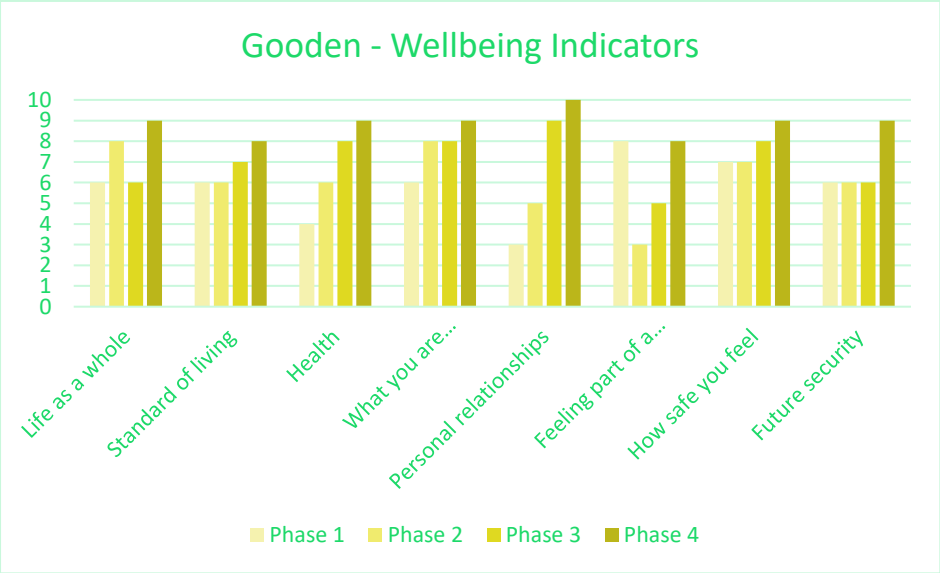

Figure 18: Personal Wellbeing indicators, Gooden (scale of 1-10)

The Goodens are beginning to see improvements in their financial position following changed practices, investment in water and fencing infrastructure and successful establishment of Angus bull stud, with first public sale planned this year. Having a clear profit target and shaping the business to achieve this figure has also guided the Goodens.

Read more about Gooden's story in the *Willowlee case study.*

Yabtree West (Gorman)

Working as a journalist in Sydney, Rebecca Gorman became increasing concerned about climate change and other big issues facing our society. Wanting to do something concrete to help, and remembering her rural childhood, Rebecca decided to return to the land. Rebecca and her partner John purchased 'Yabtree West', a property in Mundarlo, NSW, near where she grew up.

With the support of the 8 families group, Rebecca introduced a combination of Holistic Management and Natural Sequence Farming to her property. She used Land to Market Ecological Outcomes Verification monitoring to provide feedback regarding effectiveness of practice changes for environmental objectives.

We made the following observations from the production and ecological inquiry of Yabtree West:

- Consistently higher levels of vegetation cover since purchasing Yabtree West, when compared to the surrounding 5km buffer (see Figure 19);
- Active erosion has ceased due to an increase of stabilising ground cover;
- The water cycle on Yabtree West was increased by the lack of bare soil observed in all but two sites;
- A demonstrated ecological recovery after the 2018 drought.

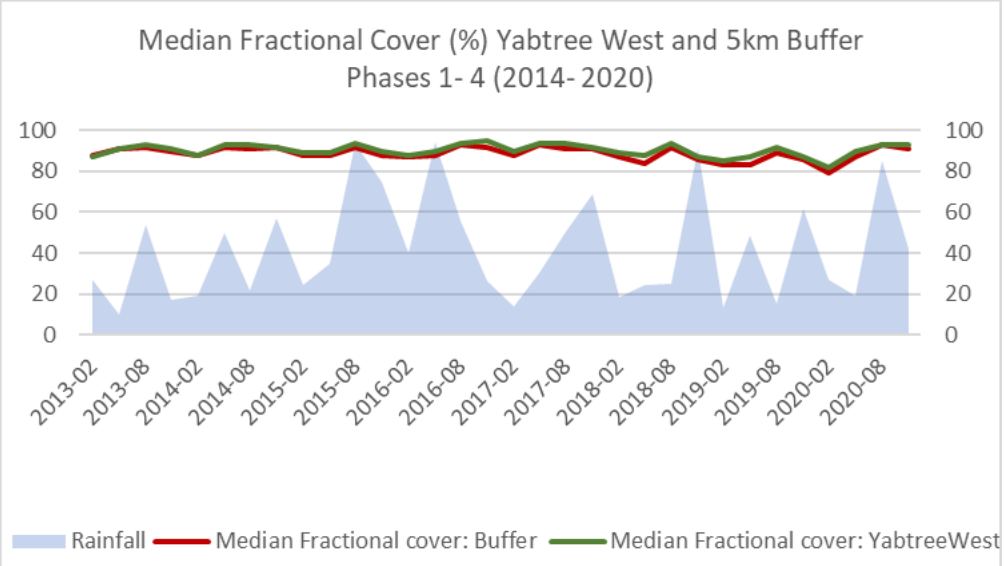

Figure 19: Median Fractional Cover (%) comparisons between Yabtree West and the 5 km surrounding area during periods across all periods (VegMachine®).

Through her regenerative journey, Rebecca Gorman has experienced consistent and high levels of personal wellbeing (Figure 20). Her satisfaction with life as a whole has improved and her sense of community has remained high throughout. Rebecca's relationship with farming has improved steadily since beginning to implement holistic decision-making, rotational time-controlled grazing and natural sequence farming on Yabtree West (Phase 2).

The consistency of higher wellbeing ratings stands out compared with the other members. Thinking about these results in relation to Rebecca's pathway into regenerative farming, suggests that a few factors may be relevant. For instance, the baseline phase (Phase 1) was brief with no negative triggers on the farm (such as drought or farm debt). Quite quickly, Rebecca joined the 8 families group and also undertook Holistic Management training, giving her a network of support and a framework for decision-making. The group has offered Rebecca accountability and access to a 'brains trust'.

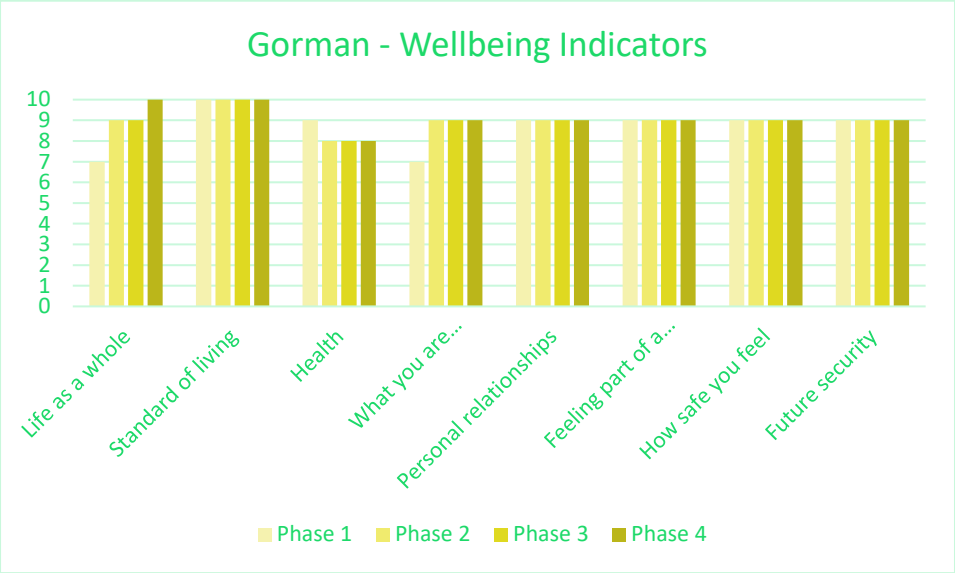

Figure 20: Personal Wellbeing indicators, Gorman (scale of 1-10)

Read more about Gorman's story in the *Yabtree West case study.*

Discussion

It is clear from the interviews that most of the members of the 8 families group already had a strong land stewardship ethic before the group started. This is consistent with published papers from the decade of Landcare era saying that most landholders had a strong stewardship ethic and this didn't change with membership of a Landcare group (Curtis & De Lacy, 1998).

Despite this strong land stewardship ethic, triggers such as the Millennium Drought, farm debt, poor animal welfare and biodiversity loss, climate change, and inspirational ideas and approaches all encouraged 8 families members to improve their landscapes management. For example, with the Millennium Drought, farms Bellevue, Willowlee and Mundarlo were trying to avoid the worst impacts, including soil loss and the financial burden of buying feed to keep animals alive.

These triggers set members on a pathway of change which involved shifts in thinking, a reassessment of values, and in-turn changes to the ways in which members manage their farms. The experience that seems to have generated the strongest motivation to implement change was Holistic Management training. It was the shared experience during the training in 2007 that inspired the ongoing contact which led to formalising the group in 2009.

This training has given members a framework through which to undertake both mental and practical shifts through an assessment of what they value and how their farming aligns with their values. The adoption of a holistic approach to farming was central to this shift. The farm is now seen as a system that involves family, community, as well as animals and ecosystems.

This holistic shift was evident in interviews and workshops and also reinforced through the Vanguard's *On Track Goal Indicators* survey. The members' holistic approach to managing finances includes creating internal profit targets that are weighed up with other personal, farm and ecological goals. In this holistic view, profit is important but also related to other social and ecological outcomes, such as time with the family. We found some evidence that management changes led to improved financial circumstances in relation to internal profit targets, expenses and debt. The long-term studies also suggest that profit is repeatable and that management seems to adapt to poor seasonal conditions without impacting profit.

This holistic approach also carried through to members enterprise selection. With the common desire to build resilience into their systems, from a social, economic and ecological perspective, the 8 families have been incorporating various enterprises into their farming business and in some cases, the addition of off-farm enterprises to complement on farm activities.

Encouragement from the group was clearly an important factor for all members in making key decisions about practice change. They all stated that the group helped them to strike out in a different direction, despite both internal and external pressures not to. Several made really big decisions, such as selling breeding stock and buying or selling properties. For others, it was having the courage and self-belief to go against family or local traditions. All

members were strong in their conviction that the group was instrumental in their progress through the phases.

Research suggests that being ostracised locally for being unorthodox is a common experience, and that connections with like-minded people are very helpful in persisting with a desire to be innovative ecologically (see for example, Graham & Bartel 2017, p. 235). The 8 families, which formed a Community of Practice facilitated by the Holistic Management framework, shares many of the elements of a common culture identified by Cross and Ampt (2017, p. 593) in a Community of Practice of grazing eco-innovators, including: being aligned through Holistic Management; farmers' belief that they are making positive landscape changes; decision making involving experimentation and monitoring rather than set formula; an attitude of letting go of control over nature; the association of profit and production with increased financial stability and increased quality of life and satisfaction.

What works well for the 8 families group is that they are both a Community of Practice and a community of *place*. Having like-minded people close by makes many more interactions possible, and the longevity of the group has meant that as trust has grown, the complexity of the interactions has increased. The chronological analysis suggests that the group started with simple mutual moral support, which developed into collective marketing, then into sharing of resources. Now the group is actively collaborating to provide collective evidence of their shared environmental stewardship. This sort of cross property planning is relatively rare but has great potential for generating landscape scale improvement in connectivity of the type needed to address species loss in production landscapes.

Our research supports other studies which have found that regenerative agriculture contributes to farmer wellbeing by developing farmers self-efficacy, adaptive capacity and social connectedness (see Brown et al. 2021, p.4). Our case study has added to these other studies by focusing on change over time, practice change and the group. The social research conducted for this case study adds to the evidence (Cross & Ampt, 2017) that following regenerative practice change, landholders' observations and experiences powerfully reinforce the conviction that the environment is responding to their change in management. This strongly impacts on their motivation to continue and sense of self-efficacy.

We did find some empirical evidence to support group members' perceptions of environmental improvement due to practice change. The analysis of groundcover suggested that group properties were generally performing better than 5km buffers around them, and that for some the differences were greater since practice change occurred. For all members the difference was clear in drought years, indicating greater resilience to drought. However, lack of clarity about land types and land use in the buffers erodes confidence in asserting the observed difference is due to changes made by group members. These data would also need to be statistically analysed to determine if these observed differences were statistically significant.

When we consider the social, economic, production and ecological areas together, we can see that through practice changes and involvement in the 8 families group, members are building resilience into their landscapes, farming systems and communities.

Next steps

On the social side, the benefits seen from this Community of Practice raises the question: What would happen if there was a policy of supporting groups, like 8 families, who clearly generate significant public benefit? This occurred during the decade of Landcare. Back then, a historic partnership between the Australian Conservation Foundation and the National Farmers Federation drove the Australian Government decision to provide facilitators for incorporated Landcare groups. This relatively modest investment led to an explosion of groups and a rapid expansion of Landcare membership through the 1990s. The legacy of this policy still exists today. A modern-day equivalent might be to provide a yearly grant to incorporated groups with a vision, strategic plan and capacity to generate public environmental benefits. That grant could provide an incentive to organise and support members to undergo practice change and monitor progress.

Regarding soil, data from soils tests and other monitoring such as Ecological Outcome Verification™ also falls short of fulfilling the group's desire to be able to support their assertions of improved landscape management. What is needed is a repeatable and comparable monitoring regime that can be conducted over time. Soil testing needs to be sampled rigorously and repeated in the same locations over time to provide reliable information. Other monitoring techniques need to be well backed by scientific evidence, such as landscape function analysis (Tongway & Ludwig, 2011). Given the group's strong desire to work together on measuring their landscape stewardship, building a collaborative monitoring regime is a logical next step.

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