IMPACT EVALUATION

FFTF Phases 1 & 2

Part 2 – Farm level impacts

Farming for the Future

October 2025

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- Farmer Program Participants Surveys (1 & 2)
- Farm Advisor Surveys (1 & 2)

Farming for the Future also wishes to acknowledge and express their gratitude to the farmers, farm advisors, researchers, and others who generously provided feedback and suggestions that informed the design of the Natural Capital Reports and Economic Reports for this project. These insights significantly helped FFTF to provide a comprehensive set of Reports that had decision-useful information for farmers and advisors.

EXECUTIVE SUMMARY

BACKGROUND

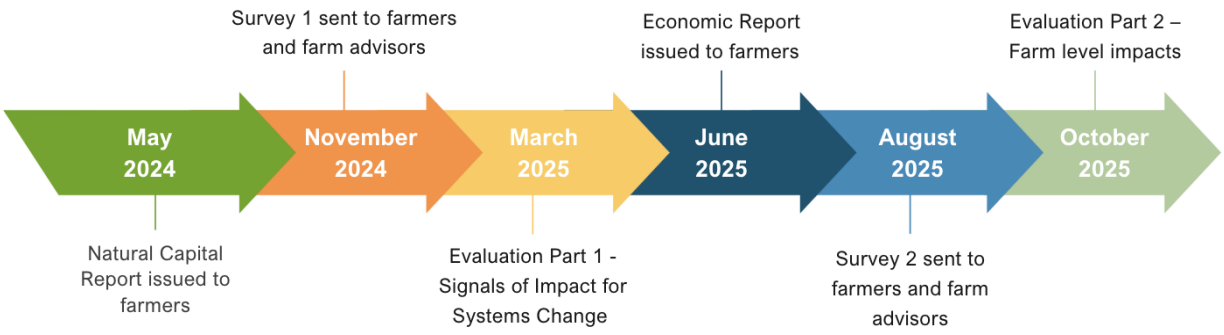
The *Farming for the Future* (FFTF) program, established by the Macdoch Foundation in 2021, was specifically designed to address the intertwined challenges of environmental sustainability and agricultural productivity, with a strong focus on actionable insights for farmers. This initiative represents one of the most significant global data collection efforts to date for detailed farm natural capital, business data, and production data. Its pioneering research methods included:

- Remote sensing, earth observation data, and in-field observations – of individual livestock and mixed farm enterprises including their natural capital information and farm financial data. This was undertaken across a range of ecological zones in New South Wales, Victoria, Tasmania and Western Australia;
- Robust analytical research – including the creation of unique methods and protocols to quantify the relationship between natural capital and farm business performance;
- Development of actionable insights for each farm participant - via detailed Natural Capital and Economic Reports to inform management decisions and identify the 'opportunity zone' where investment in natural capital has a positive impact on farm profitability, delivering individual and aggregated insights;
- Translation of research insights into industry practice – through diverse and innovative partnerships with industry, supply chains, and the financial and investment sector that identified industry pathways to accessing the benefits from natural capital investment; and,
- Building networks and engaging widely with diverse stakeholders - promoting the complementary potential of natural capital investment in improving farm business performance whilst also contributing to nature repair and climate adaptation activities.

By the conclusion of the research, FFTF had developed a comprehensive dataset from 113 farms that demonstrated it is possible to quantify the relationship between natural capital and business performance.

EVALUATING IMPACTS

Orange Compass was engaged to evaluate the impacts of the FFTF program (Phases 1 & 2 from 2021-2025) in order to support strategic planning for the future. With parts of the program still being finalised in early 2025, this evaluation was undertaken in two stages over a period of 10 months (October 2024 – August 2025). Part 1 (Orange Compass, 2025) focused on understanding the 'Systems Change' impacts of the FFTF Program and was published in March 2025. Part 2 (this report) focuses on impacts on farmer behaviour at the individual farm level.



PART 1 FINDINGS – SIGNALS OF IMPACT FOR SYSTEMS CHANGE

Part 1 of this evaluation demonstrated the outsized impact for the size and scale of the initiative, with clear evidence of direct and indirect contributions to systemic shifts during its three years of operation. By positioning itself as a new type of independent and credible systems actor, with robust research, and a collaborative approach, the FFTF program was able to attract and maintain significant interest and engagement from a diverse range of stakeholders across sectors, disciplines and the wider system. It has succeeded in shifting the way the system thinks about the relationship between farming and nature, with the research disproving the binary narrative that farming is inherently at odds with environmental health, instead framing natural capital enhancement as an opportunity for mutual benefits. The system level impacts of the FFTF program on the wider system were summarised as systemic actions and roles the FFTF program had played to date, including:

- Establishing a new type of systems actor
- Generating and sharing new knowledge with the system
- Shifting culture and awareness
- Building new coalitions of diverse stakeholders

TRANSFORM

WAS FFTF EFFECTIVE IN creating the enabling conditions for systemic change?

Yes. To a high degree.

The FFTF program had an outsized effect for its size and scale, with clear evidence of direct and indirect contributions to systemic shifts. By positioning itself as a new type of independent systems actor, FFTF was able to attract and maintain significant interest and engagement from a diverse range of stakeholders from across the wider system. It has succeeded in shifting the way 'the system' thinks about the relationship between farming and nature, with its research disproving the binary narrative that farming is inherently at odds with environmental health, instead framing natural capital enhancement as an opportunity for mutual benefits.

The full report for Part 1 is available at https://farmingforthefuture.org.au/resources/

PART 2 FINDINGS – FARM LEVEL IMPACTS

In Part 2 (this report), we explore the impact of the FFTF program at a 'farm level'. By this we mean the impact on individual farmers, including farmer capability, motivation, opportunity and behaviour changes in terms of farm management activities on farm.

Our findings indicate that FFTF has increased the capability, motivation and opportunity of farmers to focus and take action on natural capital as a factor of production. In summary, the FFTF project:

- **Strongly supported farmers to measure natural capital, as evidenced by changes in both capability and motivation:** farmers provided a strong indication of new knowledge acquisition, a better understanding about the role of natural capital in farm productivity, and increased confidence in regard to the links between natural capital and economic performance.
    - Since receiving the Economic report, 79% of respondents had already shared findings with external audiences.
    - 74% of farmers agreed or strongly agreed that the combination of Natural Capital and Economic Reports for farmers has the potential to change how natural capital is managed on Australian farms

- **Supported the management of natural capital in terms of enabling changes in farmer opportunity:** the data, research and project findings informed farmer conversations and

considerations around farm management, including with a range of internal and external audiences.

- In response to the question 'How much has your understanding about the role of natural capital in your farm's productivity / profitability increased as a result of being involved in the project?', 40% of respondents rated their increased understanding as 'moderate (3/5)' and 40% said 'very much' (4/5).
- 52% of farmers felt either very confident (rating 4/5) or much more confident (rating 5/5) in talking about the link between their farm's natural capital and economic performance, since receiving their farm Economic Report'.

However, perceptions of other stakeholders in the wider system on the value of measuring and managing natural capital also limited greater potential impact in this area. While out of the direct control of the FFTF project, wider systemic change is needed so there are more immediate rewards and incentives for managing natural capital as a core part of productivity on farms.

- **Partially supported farmers to invest in natural capital as demonstrated by the rate of actions taken -** in looking at how farmers have sought to apply the results of the Reports and whether this has led to any new actions, there was strong data to indicate that farmers were able to identify specific actions as a result of the insights. In terms of taking specific actions, results also indicated most farmers had at least taken some action.
  - When asked 'Were you able to identify specific farm management actions you can take to improve economic performance on your farm, as a result of the insights in your Economic Report?', 78% of farmers said "yes".
  - When asked, 'have you done any of these things yet?' (in terms of the actions identified) farmer responses were high for both surveys: Survey 1 – 76% yes; Survey 2- 60% yes.

  These are very promising results especially considering that research revealed that 1) only a portion of the farmers in the study are 'underinvested' in natural capital and therefore have a business 'need' to improve their natural capital and 2) the farmers only had their Economic Reports for a few weeks prior to the survey. Farmers expressed a desire to take more action and do more, but also expressed that they were unable to for range of reasons – including time, money and seasonal conditions. Many indicated they had future plans to take action, should the opportunity become available. This points to the importance of 'opportunity' as a key ingredient for farm level change.

MEASURE

Did FFTF support farmers to measure natural capital?

Yes. To a very high degree.

The FFTF project supported farmers to measure natural capital, as evidenced by changes in both capability and motivation. Farmers provided a strong indication of new knowledge acquisition, a better understanding about the role of natural capital in farm productivity, and increased confidence in regard to the links between natural capital and economic performance.

MANAGE

Did FFTF support farmers to manage natural capital?

Yes. To a high degree

The FFTF project supported the management of natural capital in terms of enabling changes in farmer opportunity. Data, research and project findings informed farmer conversations and considerations on farm management, including with a range of internal and external audiences. It is noted external stakeholder perceptions may have limited greater potential impact.

INVEST

Did FFTF support farmers to invest in natural capital?

Yes. To a moderate degree.

The FFTF program supported farmers to invest in natural capital as demonstrated by the rate of actions taken. There was strong data to indicate that farmers were able to identify specific actions as a result of Report insights. In terms of then taking specific actions, results also indicated most farmers had at least taken 'some' action.

We recognise that the work of FFTF exists in a broader context and while it can reveal a business 'need' to invest in natural capital, it does not have control over creation of opportunity to invest. This means that

potentially, a gap remains in creating opportunities for farmers to take action. We would recommend more work to deepen an understanding of the dynamics of opportunity creation amongst farmers (McKenzie, 2013). Innovation is itself both an opportunity and a means to realise opportunities. Conceptualising opportunity as a means of facilitating decision making and action by those who are already motivated can help to shift focus on wider enabling conditions. It also facilitates a move away from a singular focus on raising awareness or tackling barriers to change, and towards generating the conditions and incentives for action.

This could be an extension of FFTF's focus in future work and could incorporate the exploration of additional enabling conditions. Often farmers and the advisory and industry groups that support them are the best positioned to know what is needed to unlock innovation and to create the conditions for on-farm transformation and should be key participants. Activities might also include placing more attention on interactive (peer-to-peer) knowledge networks as well as appropriate 'seed' or 'catalytic' funding to support farm participants to take action while momentum (and motivation) is strong. The provision of ongoing technically relevant information, data, and feedback could also be an important development in future project stages. Consideration could also be given to the many concrete suggestions for improving the participant experience in future iterations of the project, largely related to helping farmers and those that provide resources to them do more to identify practical actions and next steps.

INTRODUCTION

PURPOSE

Orange Compass was engaged to evaluate the impacts of the *Farming for the Future* (FFTF) program – Phases 1 & 2 in order to support strategic planning for the future of the program. With parts of the program still being finalised in early 2025, this evaluation was undertaken in two parts over a period of 10 months (October 2024 – August 2025). Part 1 (Orange Compass, 2025) focused on understanding the 'Systems Change' impacts of the FFTF Program and was published in February 2025. Part 2 (this report) focuses on impacts on farmer behaviour at the individual farm level.

Given the relatively short timeframe of the Program (just over 3 years) and complexity of systems change, we have primarily sought to identify signals of impact, rather than directly attributable outcomes. Lag indicators are important for population level outcomes, but difficult to shift in the short term since they are not sensitive nor specific measures of quality. Lead indicators provide early signals or predictive insights into future outcomes by closely reflecting the activities undertaken and the emerging signs of impact (Molloy et al, 2025). Rather than making an overly academic distinction between lead or lag indicators, we talk about 'signals of impact' as early-stage evidence of change – both as outcomes (lag indicators) or early signals (lead indicators). We have sought out indicators that the initiative is moving in the right direction and is being implemented as intended – with signs that these strategies of implementation are resulting in shifts in attitudes, beliefs and ways of working.

WHAT DO WE MEAN BY "SYSTEMS CHANGE"?

When we talk about systems change, we are referring to intentionally nudging, changing, influencing and incentivising systems to work better for the people, the place and the communities we care about.

A *system is a group of parts that function as a whole. These "parts" are both tangible and intangible components with interconnections and feedback that give rise to complexity (McKenzie and Cabaj, 2020).*

Often when you are dealing with systems, you are dealing with multiple scales at the same time. If we want mission-level impact, it requires cumulative change over time. The process of change is more effective when there are mutually reinforcing actions at multiple levels, which create pressure for the next level. This is not just collective impact but cumulative impact.

The adoption of natural capital opportunities at a farm level is reliant upon conducive conditions in the wider system. This was why, in Part 1 of the evaluation, we examined *'to what extent has the FFTF Program influenced the systemic conditions to enable acceleration of the adoption of natural capital opportunities by diverse system stakeholders?*

WHAT DO WE MEAN BY "FARM LEVEL IMPACT"?

By farm level impact, we have sought to understand ***'To what extent, and in what ways, has the FFTF program supported farmers/producers to measure, manage and invest in natural capital as a factor of production?'.***

We recognise that farmers are embedded in wider systems where systemic conditions influence individual decision making in complex ways. We know that assuming that changed understanding or attitudes can lead to behaviour change is simplistic and misleading. This is why the Part 1 evaluation focused on systems level change, and why we have incorporated a focus on 'opportunity' as a key ingredient for farm level change in Part 2. We recognise that the work of FFTF exists in this broader context and have created evaluative judgements based on this understanding.

We use the term 'farmer' as all encompassing, noting this includes livestock producers as well.

WHAT WERE THE NATURAL CAPITAL AND ECONOMIC REPORTS?

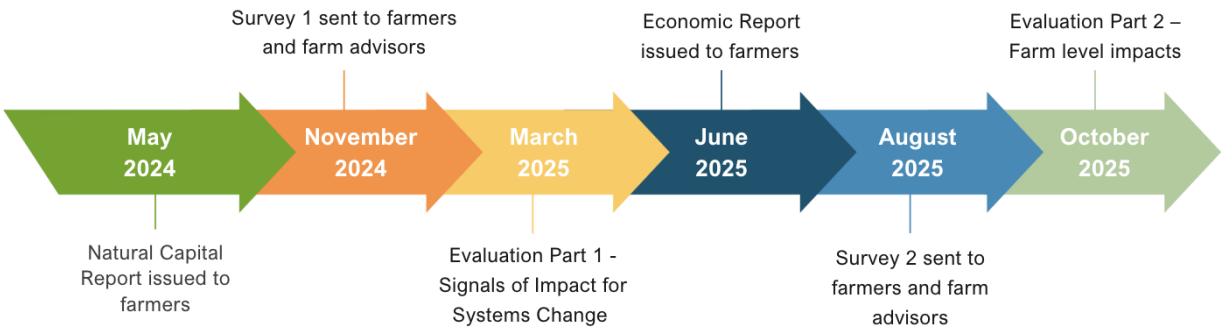
FFTF released their initial research findings in September 2023. This was followed by the release of the MLA Research Report in May 2024, which provided evidence that conversations about natural capital as a factor of production had changed significantly in the wider system.

As part of their research, FFTF also committed to providing every farmer/producer participant with detailed research findings in the form of a Natural Capital Report and an Economic Report:

- The Natural Capital Report was issued to farmers in May 2024 as the 'first tranche' of farm specific research results that revealed the status of natural capital on individual farms. For each farm, the report quantified natural capital using unique methods and protocols, including the creation of Natural Capital Indices.

- The Economic Report was issued to farmers as the second tranche of farm-level research findings in June 2025. It directly linked on-farm natural capital to business productivity and performance on Australian farms. Farmers received critical data and graphs, including where they sat 'on the curve' compared to other farms of a similar type in terms of their natural capital and financial performance. FFTF based these insights on the three distinct farm 'archetypes' they had developed, each livestock or mixed farming enterprises, with a different history of clearing and management practices. The archetypes supported the 'benchmarking' of farms against a baseline.

In preparation for the release of the reports to farmers, the team FFTF invested in advisor capability by briefing the seven farm advisory businesses who had participated in the program on use of the reports with farmers and by providing opportunities for direct engagement of advisors and farmers in online webinars with the project team. To support farmers and farm advisors to do their own private exploration of the research, they were provided with access to a set of short videos that explained the reports and the insights. These have been accessed more than 90 times. After reports were issued to farmers, farm advisors held one-on-one conversations with farmers to explain the insights and explore any opportunities for improvement that might be relevant to the farm business. FFTF also provided a series of online 'drop-in' sessions for farmers and advisors to join to ask further questions, or provide feedback.



EVALUATION APPROACH

EVALUATION DESIGN

The evaluation design was developed in consultation with the FFTF team and used the program's Theory of Change to inform the key evaluation questions (and sub-key evaluation questions) to be answered through the evaluation process. The key evaluation question guiding our exploration was:

- **How effective was the FFTF Program (Phases 1 & 2) in creating the enabling conditions for systemic change?**

The Part 1 (systems level) sub-evaluation questions included:

- **To what extent has the FFTF Program influenced the systemic conditions to enable acceleration of the adoption of natural capital opportunities by diverse system stakeholders?**
- **To what extent has the FFTF Program influenced the systemic conditions to enable activation of the system to support farmers/producers to measure, manage and invest in natural capital as a factor of production?**

The Part 2 (farm level) sub-evaluation question is:

- **To what extent, and in what ways, has the FFTF program supported farmers/producers to measure, manage and invest in natural capital as a factor of production?**

Overall, we used a "mixed methods" approach to deliver both quantitative and qualitative insights. For Part 2 (farm level impacts), we have relied upon insights from a range of sources, including stakeholder surveys and participants workshops. We conducted two rounds of surveys in November 2024 and August 2025. These were:

Natural Capital – Farmer Survey (November 2024) - we conducted the first survey (Survey 1-Farmers), after the release of the stand-alone Natural Capital Report. This received 44 responses. The main enterprise of respondents was:

- Livestock (beef or sheep or both) – 67%
- Mixed framing – 33%

Economics - Farmer Survey (August 2025) - shortly after the release of the accompanying Economic Report, we ran the second survey (Survey 2-Farmers). This had 32 respondents who completed the survey. This was approximately one third of the fully engaged sample (111 full data points). The main enterprise of respondents was:

- Livestock (beef or sheep) – 54%
- Mixed farming – 46%

GEOGRAPHICAL MIX

In both surveys, there was a similarly geographically dispersed mix of respondents. For the Economic Report, respondents were located in:

- South West Vic - 2
- Central NSW- 13
- Northern region - 4
- Western Australia - 3
- Tasmania – 1

- Other areas of NSW – 9 (including New England, Southern Tablelands NSW, Northern Tablelands NSW, Southern Riverina, South West Slopes NSW)

FARM ADVISORS

At the same time as we conducted the farmer surveys, we also ran a Farm Advisory survey (November 2024 - Survey 1-Advisors; and (August 2025 - Survey 2 - Advisors). In both rounds we received 6 responses. These were from representatives of the seven advisory businesses engaged in the project.

THEORETICAL FRAMEWORK

In examining farm level impact, we have drawn upon a range of different models of systems change, decision making and behaviour change, including the COM-B model (Michie, S., van Stralen, M., West, R., 2019; West, R and Michie, S., 2020), the EAST Framework (BIT, 2024), Ajzen's (1991) 'Theory of Planned Behaviour', and the work of other innovation specialists such as Klerx et al (2010) and McKenzie (2013). In particular, Ajzen's (1991) theory of planned behaviour explains that taking action (behavioural achievement) depends not only on intention (motivation) but also on ability and opportunity (behavioural control).

Put simply, we have looked at the elements of **CAPABILITY + OPPORTUNITY + MOTIVATION** to explore where the conditions are in place (physical, social, economic, environmental) to support **BEHAVIOUR CHANGE** and new **ACTION.**

EVALUATION FRAMING

We used our key evaluation (farm level) sub-question to guide the evaluation:

- 'To what extent, and in what ways, has the FFTF program supported farmers/producers to **measure, manage and invest** in natural capital as a factor of production?'

Drawing upon theory, we have deepened this to explore:

- Did the project enable changes in farmer **capability?**
- Did the project support /enable changes in farmer **motivation?**
- Did the project enable changes in farmer **opportunity?**
- Did the project contribute to changes in on-farm **actions?**

We have then linked these questions to our understanding of measurement, management and investment:

- **Measure:** We have considered measurement in relation to Farmer's understanding of the measurement of Natural Capital and have linked this to **CAPABILITY**. In terms of their confidence in their ability to understand and measure natural capital, we have linked this to **MOTIVATION**.
- **Manage:** This refers to the actions farmers have taken in relation to Natural Capital Findings. This refers to investment beyond financial investment. We have explored whether farmers have used their Report results and whether this has informed their conversations and considerations around farm management? We have linked this to **OPPORTUNITY.**
- **Invest**: We explored whether farmers have invested in the results of the report and whether have they changed their behaviours and practices as a result. We have linked this to **ACTIONS.**

We note that the primary aim of the FFTF research is to reveal whether a farmer's economic performance could be improved by investing in natural capital. Therefore, we consider that the motivation for investing in natural capital exists mainly for the 'underperforming' farm business in the sample for whom the research has revealed a potential business case for investment. The opportunity to invest is contingent on whether the farm business case acquire the resources needed (such as time, money, skills, materials).

EVALUATION FINDINGS

Below we present the findings from our data collection and analysis, noting that we make our evaluative judgements based on the data available to us. We sought to gather data from a wide but targeted range of sources (those who had engaged in some form with the program) and acknowledge that the data we have is not be fully representative of all views or experiences.

1.Measure: did the project support farmers to measure natural capital?

As mentioned above, we have considered measurement in relation to both capability and motivation.

1.1. DID THE PROJECT ENABLE CHANGES IN FARMER CAPABILITY?

To understand changes in capability, we explored whether the project enabled farmers to feel they had an increased awareness and understanding of the measurement of natural capital and productivity.

1.1.1 PROJECT VALUE – KNOWLEDGE ACQUISITION

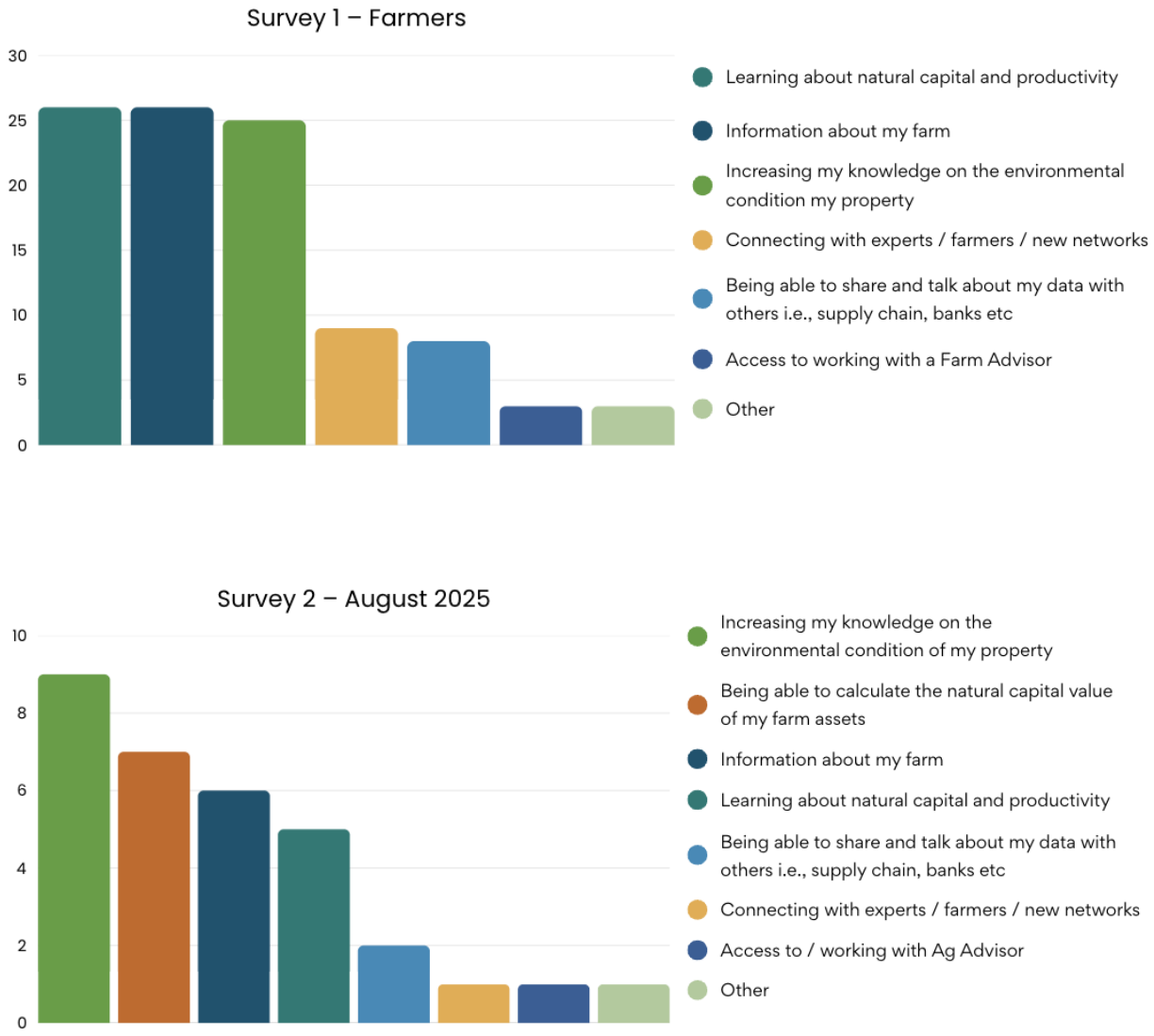
The perception and valuing of increased knowledge was clear from the survey results. Knowledge acquisition rated more highly than 'knowledge network' components such as being able to connect and share with others. For example, in Survey 1-Farmers, in response to the question ' What has been the most valuable about being involved in the project, so far?', top responses were:

- **Learning about natural capital and productivity - 26%**
- **Information about my farm - 26%**
- **Increasing my knowledge on the environmental condition my property - 25%**
- Connecting with experts / farmers / new networks - 9%
- Being able to share and talk about my data with others i.e. supply chain, banks, others - 8%
- Access to working with a Farm Advisor - 3%
- Other – 3%

In Survey 2- Farmers, in response to the same question, responses were (see also Figure 1):

- **Increasing my knowledge on the environmental condition my property - 28%**
- **Being able to calculate the natural capital value of my farm assets - 22%**
- **Information about my farm - 19%**
- Learning about natural capital and productivity - 16%
- Being able to share and talk about my data with others i.e., supply chain, banks etc - 6%
- Connecting with experts / farmers / new networks - 3%
- Access to / working with Ag Advisor - 3%
- Other – 3%

Figure 1 – 'What has been the most valuable about being involved in the project, so far?' (Surveys 1 and 2)



Both surveys indicated that learning about natural capital and productivity, information about their farm, and increasing knowledge on the environmental condition of their property were among the most valuable aspects of being involved in the project for farmers. This is a promising result with regard to the goal of 'supporting farmers/producers to measure, manage and invest in natural capital as a factor of production'

The high ratings across both surveys indicate that one of the project's highest values was in enabling learning and increased knowledge on the measurement of Natural Capital and links between natural capital and productivity.

It is noted that the score for "increasing my knowledge on the environmental condition my property" increased slightly after the Economic Report (from 26% to 28%), while "learning about natural capital and productivity" decreased slightly (from 26% to 15%). This may reflect different respondents completing each survey. It could also reflect that the initial Natural Capital Report provided the biggest boost in the understanding, while the Economic Report helped to consolidate insights on the link between environmental condition and productivity in more tangible ways.

"It was good to see that trees are good for stock and also are good for the overall business. From these graphs, we may rethink where we will put future plantings, we will look at connecting trees more and maybe planting closer to production areas. This needs thought." Farmer

1.1.2 UNDERSTANDING ABOUT THE ROLE OF NATURAL CAPITAL IN FARM PRODUCTIVITY

For Survey 2, we also asked the question **'How much has your understanding about the role of natural capital in your farm's productivity / profitability increased as a result of being involved in the project?'**

On a scale of 1 to 5, where 1 is 'not at all' and 5 is 'a lot', only 6% said 'not at all'. 40% of respondents rated their increased understanding as 'moderate (3/5)' and 40% said 'very much' (4/5).

In response to the question 'How much has your understanding about the role of natural capital in your farm's productivity / profitability increased as a result of being involved in the project?', 40% of respondents rated their increased understanding as 'moderate (3/5)' and 40% said 'very much' (4/5).

This is a positive score, whilst also indicating that the project participants were likely already engaged and interested in natural capital before the project commenced. Farm advisors echoed their sense that this cohort of farmers were already activated and innovating. This would mean that while insights were gained, they may not have been entirely new or unprecedented. It also demonstrates an appetite for in-depth information and data. This was further evidenced by the fact the videos developed by FFTF to support understanding of Natural Capital have been viewed 93 times in total.

1.1.3 REPORT VALUE

There is no doubt that both Natural Capital and Economic Reports have provided farmers with the access to new data and robust 'research grade' evidence to support decision. The question is how 'useful' these Reports were in terms of their delivery and format.

When asked, **'Were your farm Natural Capital Accounting reports and Maps useful to you in understanding the Economic Reports?'**, 90% of respondents replied 'yes'. This indicated the importance of the suite of information, and the value of linking natural capital and productivity factors for farmers.

In response to the question 'overall, ***how useful did you find the Economic Report'***, half (50%) of respondents rated this as 'Moderate' (3/5 score, where 1 is not useful and 5 is extremely useful). 28% of respondents rated usefulness as 'Very' (4/5 score). No one (0%) gave the report a 'Not Useful' score.

This result is stronger than the Survey 1 results, where 80% of respondents rated the report as moderately valuable. 15.6% of respondents rated the Natural Capital Report as 'Very Valuable' while 4.4% said the report was 'Not at All' valuable. This is understandable given that the Natural Capital Report was one

incomplete part of the full research findings. Respondents also suggested a higher score might have resulted if they had received more explanation in one-to-one settings, and more summary information and analysis that would have supported them in interpreting the Reports and explaining the findings to others.

In terms of what farmer respondents found **most valuable or useful in these reports**, responses largely related to new understandings of their land, ways of considering natural capital, and the link between natural capital and economic performance (echoing earlier responses). Likewise, different factors to consider when farm planning also rated highly (see Figure 2). This foreshadows survey findings below which show that rethinking farm planning has been a major result of this project.

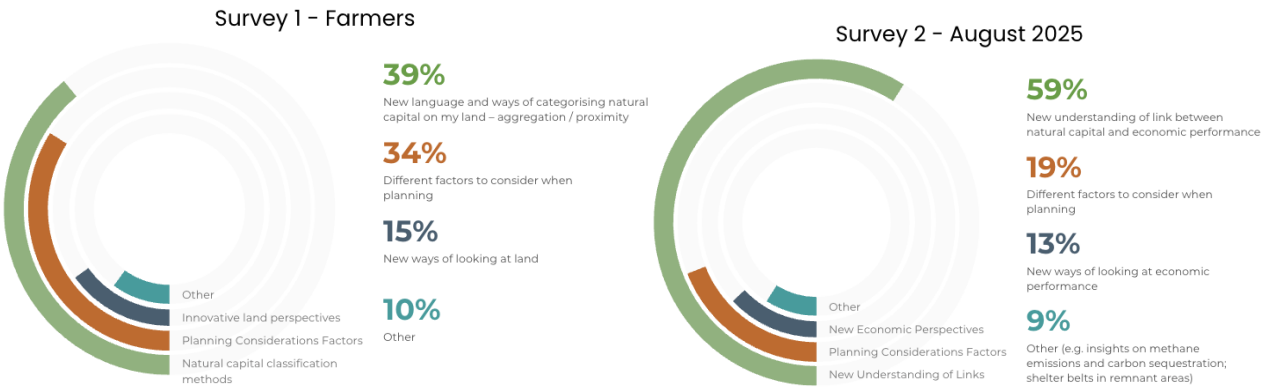
Most valuable or useful in the Natural Capital Report:

- **New language and ways of categorising natural capital on my land – aggregation / proximity - 39%**
- Different factors to consider when planning - 34%
- New ways of looking at land - 15%
- Other - 10%

Most valuable or useful in the Economic Report:

- **New understanding of link between natural capital and economic performance - 59%**
- Different factors to consider when planning - 18%
- New ways of looking at economic performance - 12%
- Other - 9% (e.g. insights on methane emissions and carbon sequestration; shelter belts in remnant areas).

Figure 2 - 'What did you find most valuable about the Economic Report?' (Surveys 1& 2)



"The value of ground cover to gross margin, and good to see our ground cover measure was high"
Farmer response when asked "what was most valuable about the report?".

For farm advisors, the greatest value of being involved was ***"Adding another set of values to farm production and management when talking with clients".*** They echoed farmer survey responses in their observations that the most valuable aspect of participating for farmers/their clients was ***"learning about natural capital and productivity/profit".***

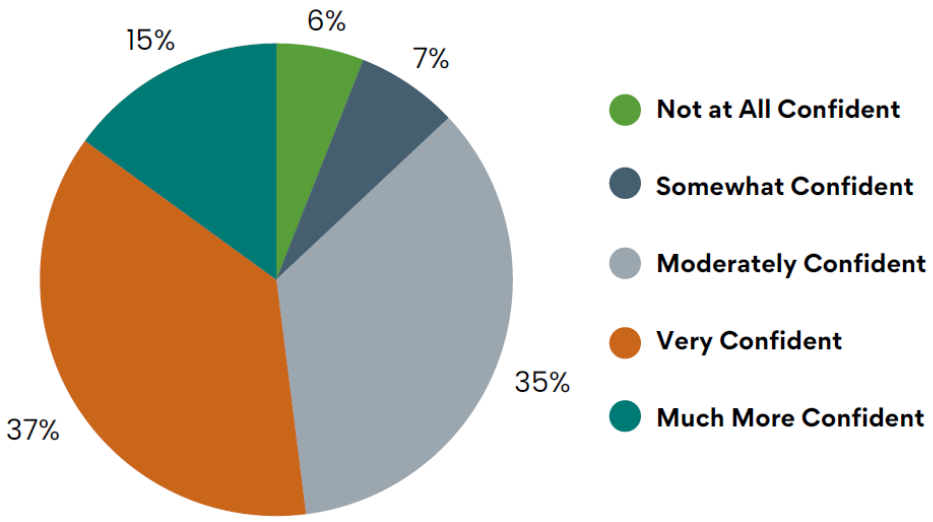
"The report provides good baseline information about the land and business, and we are going to need to know more of this type of information into the future. The resilience measure was very interesting."
Farm Adviser when asked what they found most valuable about the economic report

1.2. DID THE PROJECT SUPPORT /ENABLE CHANGES IN FARMER MOTIVATION?

1.2.1 CHANGES IN CONFIDENCE AROUND NATURAL CAPITAL AND ECONOMIC PERFORMANCE

For motivation, we looked to changes in confidence around the link between natural capital and economic performance. Confidence in the link between natural capital and economic performance is a critical pre-condition for farmers to invest more in natural capital.

In Survey 2, we asked the question '**How much more confident do you feel talking about the link between your farm's natural capital and economic performance, since receiving your farm Economic Report'.** On a scale of 1 to 5, where 1 is 'not at all' and 5 is 'much more' confident, only 6% said 'not at all'. 35% of respondents rated their increased confidence as 'moderate (3/5)' and 37% said 'very' (4/5) confident. 15% of respondents were "much more confident".



From the farmer survey, 52% of farmers being either very confident (4/5) or much more confident (5/5) is a strong score – particularly given most had only received their Economic Report several weeks prior to completing the survey.

52% of farmers felt either very confident (rating 4/5) or much more confident (rating 5/5) in talking about the link between their farm's natural capital and economic performance, since receiving their farm Economic Report'.

As mentioned above, we also surveyed Farm Advisors in November 2024 and August 2025. It was interesting to note that farm advisors had a slightly different view of farmer motivation. In response to the question "have you observed changes in confidence of farmers in understanding and talking about links between their farm's natural capital and economic performance", 5 out of 6 respondents chose "moderate" (3/5).

2.Manage: did the project support farmers to manage natural capital?

2.1. DID THE PROJECT ENABLE CHANGES IN FARMER OPPORTUNITY?

For 'Manage' we looked at whether the project findings have informed farmer conversations and considerations around farm management. We have linked this to OPPORTUNITY. Opportunity does not solely relate to management practice change, but can also relate to decision making, knowledge sharing and changes in the assessment of economic, environmental and social assets.

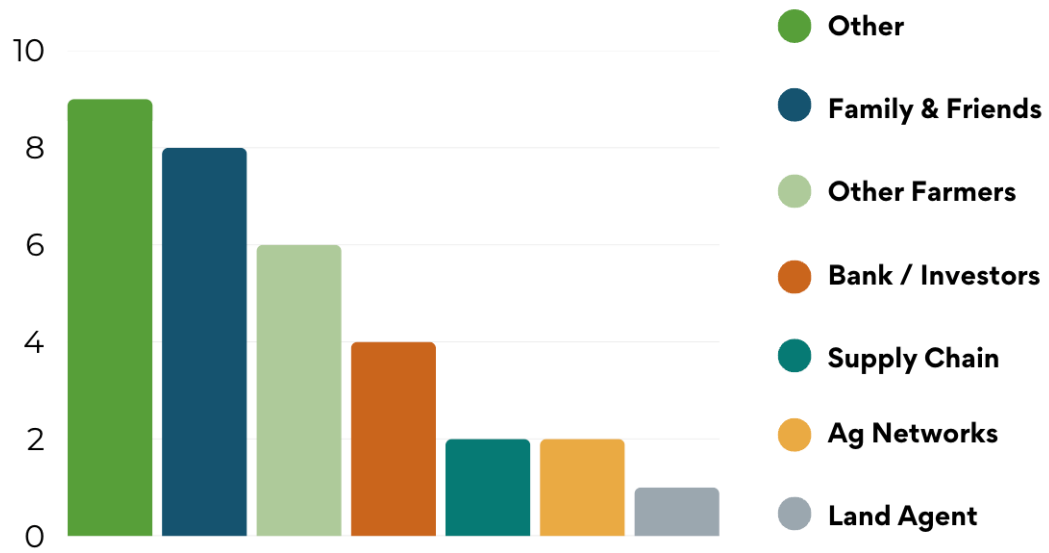
2.1.1 SHARING THE FINDINGS WITH OTHERS

To understand if farmers were using the project findings to have different conversations around farm management, we asked whether they had shared their findings with anyone else yet. For example, in Survey 2, we asked if they had shared their findings **with external audiences.** Interestingly, despite the short lead time since receiving the Economic report, 79% of respondents had already shared findings (with 21% saying 'no' or 'not yet'). From highest the lowest, they had shared with:

Since receiving the Economic report, 79% of respondents had already shared findings with external audiences.

- Other - 28% (this ranged from students, philanthropists, family and friends, university of the third age, catchment groups and landcare groups)
- family & friends - 25%
- other farmers - 18%
- banks / investors - 11%
- supply chain - 7%
- ag networks - 7%
- land agent - 4%

Figure 3: 'Have you used the insights from your Economic Report with external audiences?' (Survey 2 – August 2025)



In terms of the use of insights from the Natural Capital Report with external audiences, responses were similar. 72% said yes. This included with:

- Family & friends - 21%
- Banks / investors - 17%
- Ag networks - 13%
- Supply chain - 7%
- Stock and Station (Land) agent - 4%

In looking at who farmers communicate with, it makes sense that family, friends and likeminded farmers (e.g. in Landcare groups) are a primary audience. Decades of research show that communities exist in 'knowledge networks' with other community members, and will often learn and support each other in innovation (Aldrich, 2012; Villar, 2021). This refers not only to local networks, but networks formed around specific activities and beliefs, such as farmers committed to action on climate change. With the rise of online engagement, these networks often operate beyond geographical boundaries.

Farmers place great importance on enthusiasm, support and lesson sharing, with other farmers who are also seeking similar outcomes or changes. Farmers are less likely to share learnings with 'other farmers' who they do not feel are aligned in their farm management philosophy (McKenzie, 2013).

Farmers included comments on how they used the insights to support conversations as farm families:

> *"I have shared it with next generation who will be returning to the farming property over the next 2 to 3 years. Very positive feedback from them"*
>
> *"Just internal discussion with family on the farm"*
>
> *"Lots of discussions - brainstorming, planning and reflection"*

Several farmers had shared the results in farm planning and management workshops as well.

> *"Briefly discussed with our farm management group who were pleased to see a defined economic value being placed on the enhanced natural capital we strive for in our farming practices".*
>
> *"I spoke at a farm planning workshop.... and this information (independent research on my farm) was well received as part of my overall presentation on the need for whole farm planning across many metrics".*

Connections to broader ag networks, supply chains and land agents were rated less highly. Again, this is consistent with research that shows farmers engage in knowledge networks of peers. It may also mean that proactive engagement with other businesses such as within the supply chain or land agents would be something that might occur down the track if the system contained more financial incentives or signals for natural capital as a factor of productivity.

This links to the next point which is that while farmers clearly understood and saw value in the data, they were challenged by others in the system who did not see the same value in measuring and management natural capital.

2.1.2 PERCEPTIONS OF MEASURING AND MANAGING NATURAL CAPITAL IN THE WIDER SYSTEM

74% of farmers agreed or strongly agreed that the combination of Natural Capital and Economic Reports for farmers has the potential to change how natural capital is managed on Australian farms

In response to the question '**Do you agree that the combination of Natural Capital and Economic Reports for farmers has the potential to change how natural capital is managed on Australian farms',** 74% agreed or strongly agreed that this was true (agree = 34%; strongly agree = 40%). Only 3% disagreed.

While participants were aware they were taking part in a research pilot, this is a clear endorsement of the long term potential of this work. The challenge partly comes from the wider system perception or reception to the work. Several farmers reported that while they had approached their banks with the findings with the hope of securing interest rate reductions for good management practices, but little to no interest rate reductions were offered. Farmer comments included:

> *"Presented the Report to [our banker] and were told we had the opportunity to reduce our interest rates by a maximum of 0.02%, which was just a bloody joke!"*
>
> *"I showed the bank lot the Report. I think the bank lot are not fully versed in this space yet to be able to have an understanding of what the Report translates to."*
>
> *"[I am] constantly talking to the bank to attempt to get them to recognise and reward producers who are doing things as it is clearly something they like to use as PR but nobody but them gets any benefit. They are listening, but finding it difficult to create a product that suits smaller farms not just bigger commercial projects."*

One farmer mentioned he had used the report to talk to supply chain actors. They said they were *"talking to brand partners as a wool grower".*

This points to a wider systemic change needed to reward and incentivise natural capital as a part of productivity on farms. Farm advisors also noted more need to be done about financial incentives and ***"the value proposition for future natural capital markets and how to access these markets".***

3.Invest: did the project support farmers to invest in natural capital?

In understanding whether the project supported farmers to invest in natural capital, we have looked at how farmers have sought to apply the results of the report and whether this has led to any new ACTION.

3.1. DID THE PROJECT CONTRIBUTE TO CHANGES IN ON-FARM ACTIONS?

3.1.1 IDENTIFYING ACTIONABLE INSIGHTS

A precursor to taking action is the ability to identify what those actions might need to be. In the surveys, we asked about both the identification of action, and the taking of action.

After receiving each Report, the ability of farmers to identify specific actions as a result of the insights in their report was high. When asked the question **'Were you able to identify specific farm management actions you can take to improve the natural capital on your farm, as a result of the insights in your Natural Capital Report':**

- 77% - yes
- 23%- no

When asked 'Were you able to identify specific farm management actions you can take to improve economic performance on your farm, as a result of the insights in your Economic Report?', 78% of farmers said "yes".

When asked **'Were you able to identify specific farm management actions you can take to improve economic performance on your farm, as a result of the insights in your Economic Report?'.**

- 78% - yes
- 22% - no

In terms of the specific actions identified, Table 1 summarise responses as a result of each of the Natural Capital and Economic Reports (see also Figure 4). Interestingly, with the addition of two new categories of response in Survey 2 (Whole Farm Planning; Identification of areas to improve farm production/profit), a larger percentage of farmers selected 'Whole Farm Planning' as a specific action identified after receiving their Economic Report. In some ways, the subsequently lower score for fencing and stock management might be seen as a negative effect. However, the opposite could also be true. Farmers could now be looking at wholesale farm redesign, rather than ad hoc actions or smaller changes. In experimenting with substantially new management approaches, farmers often find that they need to reconsider the design of the whole farm (McKenzie, 2013). A change in paddock layouts can represent a broader conceptual shift in thinking about farm management systems. One farmer noted the findings were:

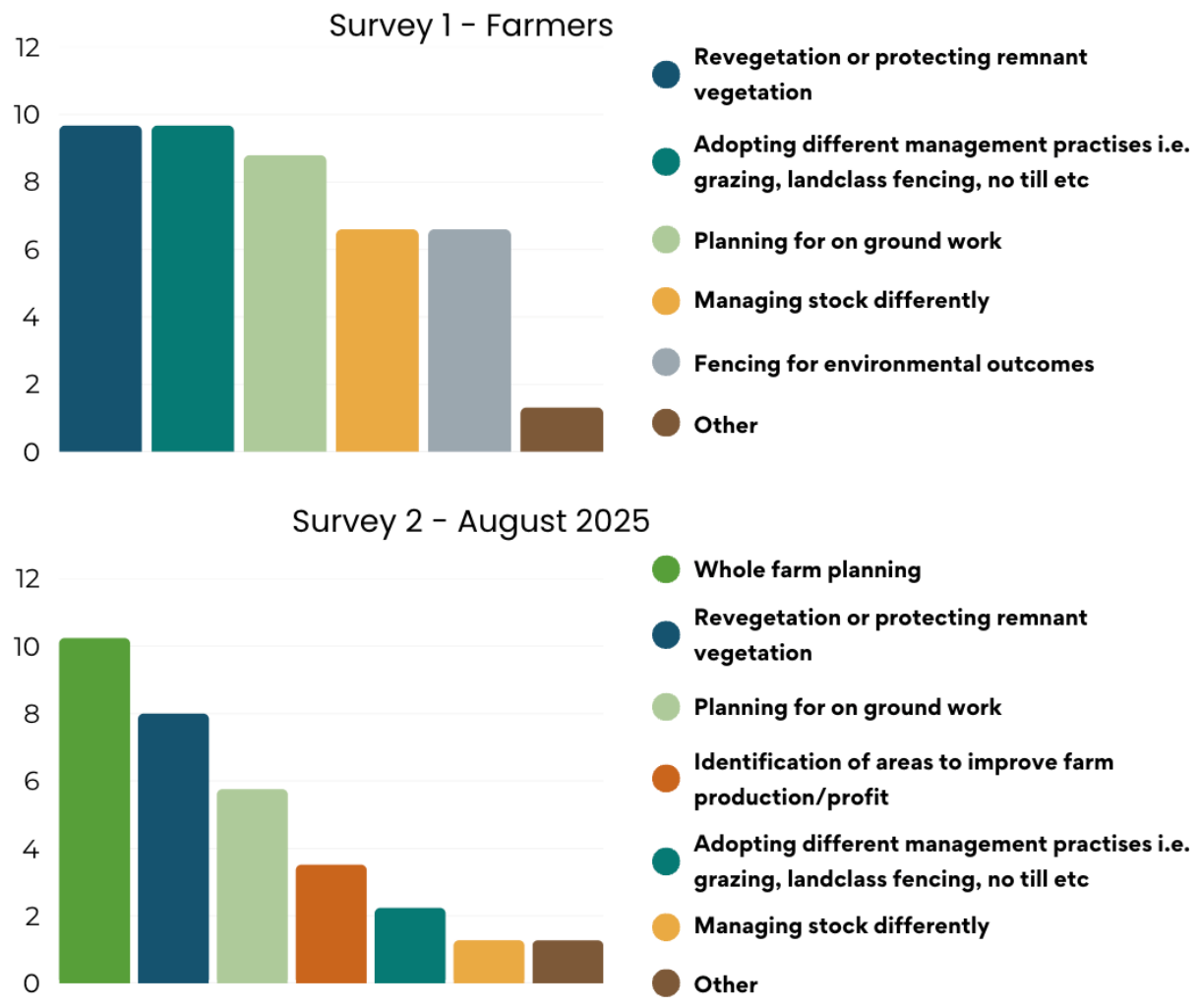
"Reinforcing our plans to increase number of paddocks to optimise longer recovery times. Fencing out dams. planning more shelter belts."

Revegetation or protecting remnant vegetation also remained the same across both Reports.

Table 1: Specific actions identified

In terms of specific actions identified as a result of the Natural Capital Report, these included:		In terms of specific actions identified as a result of the Economic Report, these included:	
		Whole Farm Planning	32%
		Identification of areas to improve farm production/profit	10%
Planning for on ground works	20%	Planning for on ground works	17%
Managing stock differently	15%	Managing stock differently -	3%
Adopting different management practises i.e. grazing, landclass fencing, no till etc	22%	Adopting different management practises i.e. grazing, landclass fencing, no till etc	7%
Revegetation or protecting remnant vegetation	22%	Revegetation or protecting remnant vegetation	25%
Fencing for environmental outcomes	15%	Fencing for environmental outcomes	0%
Other	3%	Other	3%

Figure 4 – 'What type of specific farm management actions?' (Surveys 1 & 2)



3.1.2 TAKING ACTION ON FARM

While there is typically a difference between identifying actions and being able to take action, the percentage of farmers who reported they had taken action was actually quite high. When asked, '**have you done any of these things yet?'** (in terms of the actions identified) farmer responses were high for both surveys:

- Natural capital survey – 76% yes
- Economic survey - 60% yes

When asked, 'have you done any of these things yet?' (in terms of the actions identified) farmer responses were high for both surveys:

- **Survey 1 – 76% yes**
- **Survey 2- 60% yes**

This is despite the short amount of time between receiving the report and undertaking the action and that economic benefits from investing in natural capital are only revealed for a portion of the participants – others are already at top performance. One farmer did note that he selected "other" because "yes, but we were doing them anyway".

These are important findings that reveal the potential for economic incentives to trigger investment in natural capital on farm. However, farmers also expressed a desire to take more action and do more but felt they were unable to for range of reasons. Many indicated they had futures plans, should the opportunity become available.

In response to the question, **"how likely are you to take action of these things in the next 12 months', 97%** said "likely" or "very likely" after the Natural Capital Report.

After the Economic Report, similarly only 3% selected 'not at all likely' and:

- 32% selected 'likely' (4/5)
- 29% selected 'definitely' (5/5)

In response to the question '**Overall, has your involvement in the project (including receiving both the Natural Capital and Economic Reports) led to specific changes in your farm management actions?',** farmers responded mostly positively (34% yes), with future actions planned for the majority of respondents – including 41% saying 'not yet' or 'into the future' (see Figure 5).

"We started many of these things 40 years ago, slowly, but this report has justified our earlier actions and ideas to a great extent" Farmer.

For the category of 'other', comments related to the fact that these farmers felt they had already been taking the appropriate actions for some time.

Figure 5 - 'Overall, has your involvement in the project (including receiving both the Natural Capital and Economic Reports) led to specific changes in your farm management actions?' (Survey 2 – August 2025)

"We can also now better protect the trees we have, maybe fence them off and graze in there a bit differently." Farmer

"I am glad that when they cleared the farm generations ago, they left some trees in clumps, now we can maybe link them better." Farmer

3.1.3 ADOPTION OF NATURAL CAPITAL MEASUREMENT

Distinct from on-farm actions, there was also an interest in deepening natural capital measurement practices and data.

Several farmers indicated an appetite for ongoing measurement and clearly felt such data would be valuable. They indicated a desire for more **robust data over time –**

"I am interested in what our change is over time, so more data in years to come will be a huge benefit".

The importance of the continuation of data collection and availability was echoed by farm advisors. While many of the farmers involved in the project might already be highly engaged and motivated when it comes to natural capital, one farm advisor suggested the next important step is to *"build on is the correlation aspects, build the dataset and confidence in the metrics"*. And that this data needs to be accessible to more *"everyday farmers"*.

This is consistent with comments from several farmers who wanted to know that the research had achieved a level of accuracy and reliability. Farmers noted:

"Have enough farms been surveyed to give best statistical evidence/accuracy?

"More farms of similar type studied would be beneficial to the accuracy of the findings"

RECOMMENDATIONS & CONCLUSIONS

CREATING THE CONDITIONS AND OPPORTUNITIES FOR ACTION

Across both surveys, in response to the question, **"What would help you undertake more actions as a result of the Report",** the response from farmers was consistent. There was a need for economic resources and funds to help support new actions. There was also a common request for more detailed and pragmatic information to support decision-making on management change at the farm level.

In terms of funding, access to funds, better income or better economic outlook and support from the supply chain were all mentioned.

- More funding or income (7 respondents)
- More practical analysis and information (7 respondents)
- More time, energy and labour (5 respondents)
- More favourable seasonal conditions (2 respondents)

Requests included the need for:

"more support to understand different elements of a practical nature that can be applied using this information"

"a clearer understanding of what the report findings mean. I am still struggling with it to be honest".

Farm advisors similarly recommended *"more one on one follow up with farm advisors"* and *"peer networking"* would be beneficial.

This was a clear indication that while farmers had increased awareness and knowledge, they needed opportunities to turn motivation into action. This is consistent with the COM-B model, where all of the components: capability, opportunity and motivation influence behaviour change action.

This is also consistent with decision theory, that suggests that human behaviour may be predicted by intentions. Attitudes are influenced by ease of performing the behaviour, social pressure and subjective norms. The stronger the intention and perceived capability (self-confidence), the more likely the behaviour is to occur (Ajzen, 1991).

It is also important to consider this finding in relation to Kirkpatrick's four level model for evaluating training. On the first two level's, the general reaction to the training and the level of absorption of information are measured. Measuring how much the training has then influenced behaviour and the impact of the training more broadly are more complex higher level measurements and refer to a deeper levels of knowledge and implementation. This could potentially be measured in greater detail in future.

This also has implications for future iterations of the work, where initiatives such as seed funding to support implementation may help to reduce some of the barriers and increase opportunity and motivation for completion.

IMPROVING THE PARTICIPANT EXPERIENCE

FFTF has been the first project globally to include natural capital in economic research. It also represents one of the most significant global data collection efforts for detailed farm natural capital, business data, and production data, accompanied by remote sensing earth observation data and in-field observations. However, the challenges of a pilot research project include the time it can take to develop findings. The longer timeframes of academic research can be slower than many participants might be comfortable or familiar with.

The timeframe for the research was clearly top of mind for many participants. In response to the question **'overall how positive has the experience with the FFTF team been'**, 83% replied 'positive' or 'very positive' to this question. However, there were also a lot of constructive suggestions of what could be done better to improve the experience for participants in the future. The most common suggestions included:

- **Timeframe –** A shorter timeframe and faster turnaround was the most prevalent suggestion. Participants noted that there was a long delay in receiving their results, and also in receiving communications or updates from the FFTF team on what was happening. One farmer said: *"the process has also been very drawn out over a long time period"*. And a farm advisor noted: *"I think the timelines, while understandable from a research and delivery perspective, where difficult from the participant perspective. Momentum between Natural Capital Reports and Economic Reports was difficult to maintain. With changing markets, politics, weather, and particularly uncertainty in the carbon space, this delay was felt by participants"*.

- **Relevance/practicality –** there were also many requests for more relevant information. This seemed to be referring to the translation of research findings into practical insights and actions. Suggestions for the future included using case studies and *"bring producers together to unpack the findings and how they relate to current and future practices"*. Another farmer noted: *"We got a lot out of the positivity of it all and the feeling we were doing good things mostly, but I struggled with the overall interpretation of the report and what it meant for us and what we could do to improve it"*.

Other suggestions included:

- **context specific tailoring –** *"Ensure all participants are allocated to an advisor that is local to them. Undertake on farm surveys during the growing seasons for all participants - not just at the same time of the year regardless of geographic location"*.
- **different focus –** e.g. on soil carbon *"Shift the focus from only trees for drawing down carbon by including increasing soil carbon"* and social and wellbeing dimensions *"the goal of coming up with a range of usable outcomes for landholders to move to better outcomes for land, economics and wellbeing is what we should all be striving towards"*.
- **communications –** there were repeated requests for clearer lines of communication from the research team in regard to expectations of data requirements, outcomes and practical implementation by participants. Webinars to fill gaps were also suggested.
- **accessibility** – One farmer asked for the option of *"printable reports"* to help with accessibility.

IN CONCLUSION

Our findings indicate that FFTF has increased the capability, motivation and opportunity of farmers to focus and take action on natural capital as a factor of production. In summary, the FFTF project:

- **Strongly supported farmers to measure natural capital, as evidenced by changes in both capability and motivation:** farmers provided a strong indication of new knowledge acquisition, a better understanding about the role of natural capital in farm productivity, and increased confidence in regard to the links between natural capital and economic performance.
- **Supported the management of natural capital in terms of enabling changes in farmer opportunity:** the data, research and project findings informed farmer conversations and considerations around farm management, including with a range of internal and external audiences. However, perceptions of measuring and managing natural capital in the wider system also held back potential impact in this area. While out of the direct control of the FFTF project, wider systemic change is needed so that there are more immediate rewards and incentives for natural capital as a part of productivity on farms.
- **Partially supported farmers to invest in natural capital as demonstrated by the rate of actions taken -** in looking at how farmers have sought to apply the results of the Reports and whether this has led to any new actions, there was strong data to indicate that farmers were able to identify specific actions as a result of the insights. In terms of taking specific actions, results also indicated most farmers had at least taken some action. These were not necessarily majorly transformative changes but were first steps. Farmers expressed a desire to take more action and do more but felt they were unable to for range of reasons – including time, money and seasons. Many indicated they had futures plans, should the opportunity become available. This again points to the importance of 'opportunity' as a key ingredient for farm level change.

We recognise that the work of FFTF exists in a broader context and does not have control over opportunity creation per se. However, the gap remains in creating opportunities for farmers to take action. We would recommend more work to deepen an understanding of the dynamics of opportunity creation amongst farmers (McKenzie, 2013). This could be an extension of the focus of future work and could incorporate the exploration of additional enabling conditions. This might also include more attention on interactive (peer to peer) knowledge networks as well as appropriate 'seed' or 'catalytic' funding to support farm participants to take action while momentum (and motivation) is strong. The provision of ongoing technically relevant information, data, and feedback to providers of financial and other resources to enable them to create more opportunities for farmers to invest in natural capital could also be an important development in future stages. Consideration could also be given to the many concrete suggestions for improving the participant experience in future iterations of the project, largely related to helping farmers do more to identify practical actions and next steps.

REFERENCES

Ajzen, I., 1991. 'The theory of planned behavior' in *Organizational Behavior and Human Decision Processes* Vol. 50, pp. 179-211.

Aldrich D.P., 2012. *Building resilience: Social capital in post-disaster recovery*. University of Chicago Press, Chicago.

BIT, 2024. *East Framework: Four simple ways to apply behavioural insights*. Behavioural Insights Team (BIT), London.

Kirkpatrick, D.L., 1998. 'The Four Levels of Evaluation' in: Brown, S.M., Seidner, C.J. (eds) *Evaluating Corporate Training: Models and Issues. Evaluation in Education and Human Services*, Vol 46. Springer, Dordrecht.

Klerkx, L., Aarts, N. & Leeuwis, C., 2010. 'Adaptive management in agricultural innovation systems: the interactions between innovation networks and their environment' in *Agricultural Systems,* Vol. 103(6), pp. 390-400.

McKenzie, F., 2013. 'Farmer-driven Innovation in New South Wales, Australia' in *Australian Geographer*, Vol. 44:1, pp. 81-95.

McKenzie, F. and Cabaj, M., 2020. *Changing Systems, Power & Potential*. Collaboration for Impact Report, April 2020.

Michie, S., van Stralen, M., West, R., 2019. *A guide on the COM-B Model of Behaviour*. Social Change UK, London.

Molloy, C., Perini, N., Harrop, C. *et al.* 2025. 'Evidence-based Lead Indicators to Drive Equitable Early Years Services: Findings from the Restacking the Odds Study' in *Child Ind Res*, Vol. 18, pp. 789–823.

Orange Compass, 2025. *Farming for the Future Impact Evaluation: Part 1 - Signals of Impact for Systems Change.* Prepared for the Macdoch Foundation, February 2025.

Villar, M. E. and Johnson, P. W., 2021. 'Tailoring Content for Authenticity and Adoption: Community-Based Participatory Research and the Co-creation of Story-Based Health Communication for Underserved Communities' in Frontiers in Communication, Vol 6.

West, R and Michie, S., 2020. A brief introduction to the COM-B Model of behaviour and the PRIME Theory of motivation. *Qeios*. Vol. 2. 10.32388/WW04E6.2.