Australian National University


# SUSTAINABLE FARMS
## ANNUAL REPORT 2018

SUSTAINABLE FARMS

AN ANU INITIATIVE

We acknowledge the Traditional Owners and Elders past, present and emerging, of all the lands on which The Australian National University operates.

# CONTENTS



SUSTAINABLE FARMS


**Sustainable Farms**

The Australian National University
T +61 2 6125 4669
E sustainablefarms@anu.edu.au





Contact: A.Marzano


**Further information about Sustainable Farms**

www.sustainablefarms.org.au

**Annual Report available online at**

www.sustainablefarms.org.au


**Published by**

Sustainable Farms

The Australian National University

# INTRODUCTION

Sustainable Farms is an innovative and transformational project at The Australian National University with a vision to empower farmers to adopt sustainable farming practices that will directly benefit biodiversity conservation, improve farm profitability, and assist in improving farmers' wellbeing, including improved farmer mental health.

2018 was a foundational year in the emerging life of the Sustainable Farms project. We launched our Strategic Plan, our website, and brought together an outstanding team with the knowledge and experience to deliver the Sustainable Farms project.

Professor Bruce Chapman, a globally renowned economist, is one of these appointments. Professor Chapman joined the project as the Finance Research Director in October having worked previously on the potential use of Revenue Contingent Loans as a way to reduce financial stress on drought affected farmers. Bruce and the finance team are now looking at how these loans can support investment in sustainable farming practices.

Our Strategic Plan outlines a bold vision and sets goals to support Healthy Farmers, Healthy Farms and Healthy Profits. It sets the foundations for a program of work to multiply the impact of the University's research in Ecology, Finance and Mental Health. All of this work is being built on the high quality data sets that have been collected by Professor David Lindenmayer's Conservation and Landscape Ecology Group to answer key questions about land management in the south-eastern wheat sheep belt of Australia.

In 2018 we launched an innovative program of farm extension activities delivered by field ecologists on farm. This program is built around farmers demonstrating sustainable farming practices to other farmers with the support of our ANU researchers. During a year that saw many farmers in the South West Slopes of New South Wales experiencing severe drought conditions, we listened to farmers talking about the effectiveness of well managed farm dams, and began to scope new research on farm dams with our partners in Local Land Services and Landcare.

We endeavour to make every part of our project a reflection of the high quality expertise we have brought together in Australia's national university, and ensure that our work is responsive and relevant to farmers and rural communities. The response to our first year has been incredibly encouraging and we would like to thank everyone for their support.

Michelle Young

Director, Sustainable Farms

# KEY ECOLOGICAL FINDINGS

The Sustainable Farms project is built on the past 20 years of high quality field data on the biodiversity and condition of environmental assets on farms in NSW and Victoria.

Given the long period of research and data collection, we are now working during our second major drought period (following the Millennium Drought of the 2000s). This has provided us with unique insights into how biodiversity responds to the range of environmental conditions that characterise different farms.

During 2018, we completed a series of unique studies exploring these relationships for birds, mammals and reptiles. Several important insights have emerged and we have published our results in some of the world's leading scientific journals.

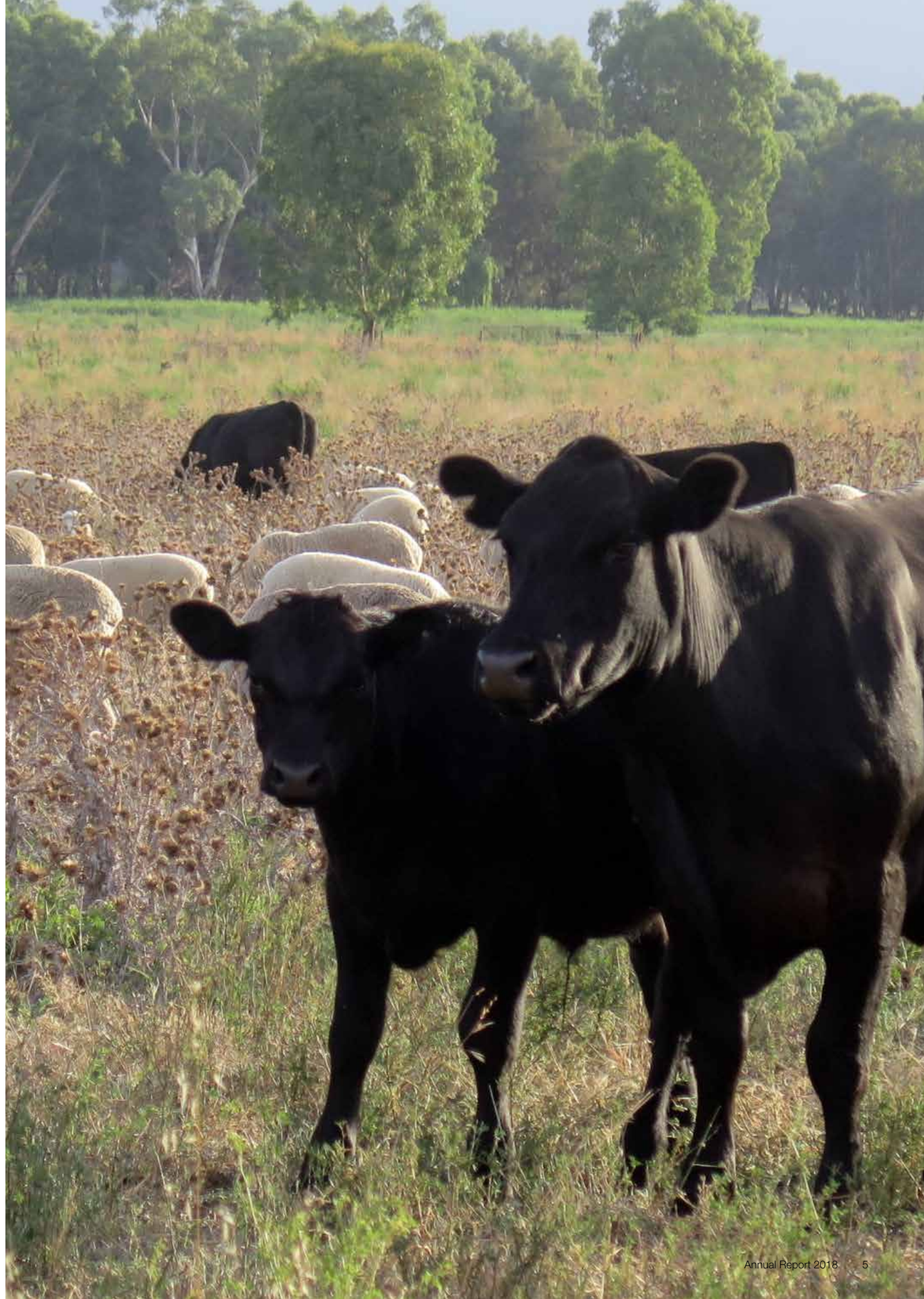
More specifically, we have found that replanted vegetation provides critical habitat for bird biodiversity (including a range of key species of conservation concern) with these benefits being especially marked during drought periods. In other words, replantings on farms are important refugia for biodiversity when drought times make environmental conditions especially challenging. This, in turn, suggests restored woodland is an important part of the portfolio of vegetation assets on a farm.

There are other reasons why boosting bird biodiversity on farms is important – the higher the diversity of species, the larger the range of key ecological functions that these species play. This includes pollination, seed dispersal, pest control and predation of prey species. Indeed, some of our latest work which should soon be published has highlighted how adding plantings is increasing the range of functional roles played by birds on well managed farms.

In addition, our work has recently shown that how plantings are managed is critical. Intensive livestock grazing, especially prolonged set stocking grazing, can undermine the biodiversity benefits of replanted woodlands.

We have developed good insights into why managing the natural assets on a farm can lead to benefits for biodiversity and environmental conditions. Our future challenge in a research context will be to quantify the links between promoting on-farm biodiversity and the productivity and profitability benefits for farmers.

In allied work, we are aware that taking action to improve the farm for biodiversity, such as establishing shelterbelts and remodelling farms dams, all costs money. The link between researchers at the ANU College of Business and Economics and the Fenner School of Environment & Society within the Sustainable Farms project is looking at innovative ways of financing the improvement of natural assets on farms that lead not only to positive profitability and biodiversity outcomes, but also produce positive mental health benefits for people on the land.



David Lindenmayer

Research Director for Ecology and Lead Scientist,
Sustainable Farms

# 2018 SNAPSHOT

177

**177 people have attended Field Days**

14

**14 Demonstration Farms**

9

**9 Field Days**

- 7 on Revegetation for biodiversity
- 1 on Farm dams
- 1 on Shelterbelts

**2018**

**468 web site users from Sept – Dec**

- 333 Facebook followers
- 194 Twitter followers

468


11

**11 Publications**

- 9 Journal Articles
- 2 Books

**22 Partners**

- 3 NRM Agencies
- 10 Landcare Groups
- 4 Industry
- 2 Others NGOs
- 1 University
- 2 Government Departments

22

# SUSTAINABLE FARMS EXECUTIVE

## Professor David Lindenmayer AO

**Research Director for Ecology and Lead Scientist**

David Lindenmayer is an Australian scientist and academic. He is a world recognised expert in landscape ecology, conservation and biodiversity. His areas of expertise also include environmental management, forestry management and environment, terrestrial ecology, wildlife and habitat management, environmental monitoring, forestry fire management, natural resource management, zoology and forestry sciences, with a particular focus on the endangered Leadbeater's possum. He currently runs 6 large-scale, long-term research programs in south-eastern Australia, primarily associated with developing ways to conserve biodiversity in reserves, national parks, wood production forests, plantations, and on farm land.

A Professor of Ecology and Conservation Biology at The Australian National University's Fenner School of Environment and Society, David has published more than 1180 scientific articles, including over 740 peer-reviewed scientific papers and 45 books on a wide range of topics associated with forestry, woodlands, wildlife and biodiversity conservation and ecologically sustainable natural resource management.

His work on wildlife conservation and biodiversity has, for many decades, led world research in this area. David's conservation and biodiversity research has been recognised through numerous awards, including the Eureka Science Prize (twice), the Whitley Award (10 times), the Serventy Medal for Ornithology, the Australian Natural History Medallion and the Whittaker Medal from the Ecological Society of America. He is an Australian Research Council Laureate, a Fellow of the Australian Academy of Science and of the Ecological Society of America. David was appointed an Officer of the Order of Australia "for distinguished service to conservation and the environment in the field of landscape ecology, to tertiary education, and to professional organisations."

## Associate Professor Philip Batterham

**Research Director, Mental Health**

Phil Batterham is an Associate Professor and Deputy Head of the Centre for Mental Health Research within the Research School of Population Health at The Australian National University. He currently holds a Career Development Fellowship from the National Health and Medical Research Council (NHMRC).

He has published more than 130 peer-reviewed articles and has received more than $20 million in research funding as an investigator. His research interests include developing and disseminating online programs to prevent mental disorders, developing tailored screening measures to identify mental health problems in the community, reducing suicide risk, and challenging the stigma of mental illness.

Phil leads the mental health theme of Sustainable Farms, and is keen to evaluate the effects of ecological and financial initiatives on mental health outcomes. By identifying the gaps in the quality and distribution of mental health services in rural communities, Phil hopes to identify solutions that will support farmers to remain healthy and to reduce the prevalence of suicide and mental health problems in rural Australia.

## Professor Bruce Chapman AM

**Research Director, Finance**

Bruce Chapman is an economist and has worked at The Australian National University since 1984. He has extensive experience in public policy, including: the motivation and design of the Higher Education Contribution Scheme (the first national income contingent loan scheme using the income tax system for collection) in 1989; engagement with the empirical and conceptual basis related to long-term unemployment leading to the Working Nation program in 1994; as a senior economic advisor to Prime Minister Paul Keating, 1994-96; as a higher education financing consultant to the World Bank and the governments of Thailand, Papua New Guinea, Mexico, Canada, the UK, Ethiopia, Rwanda, Malaysia, Colombia, the US, Chile and China, 1996-2013; as a consultant to the Bradley Review of Australian Higher Education on student income support, 2008; and as a consultant to the Australian Government's Base Funding Review, 2011.

He has published over 200 papers on a range of issues, including income contingent loans, long-term unemployment, the meaning of job flows data, the economics of crime, the economics of cricket, fertility, marital separation and government as risk manager. Over the last several years he has convened conferences, and written extensively, on the application of income contingent loans to a host of social and economic reform issues, such as for the financing of drought relief, low level criminal fines, elite athlete training, paid parental leave, white collar crime, community based investment projects, Indigenous business investment, and for taxing the brain drain.

He was elected to the Academy of the Social Sciences of Australia in 1993, received an Order of Australia in 2003 for contributions to economic policy, and was elected President of the Australian Society of Labour Economics (2004-07) and President of the Economics Society of Australia (2007-13). He was made Distinguished Fellow of the Economics Society of Australia in 2015. He is quite friendly, excessively modest and is a tenacious, fanatical and mediocre bridge player.

## Michelle Young

**Director, Sustainable Farms**

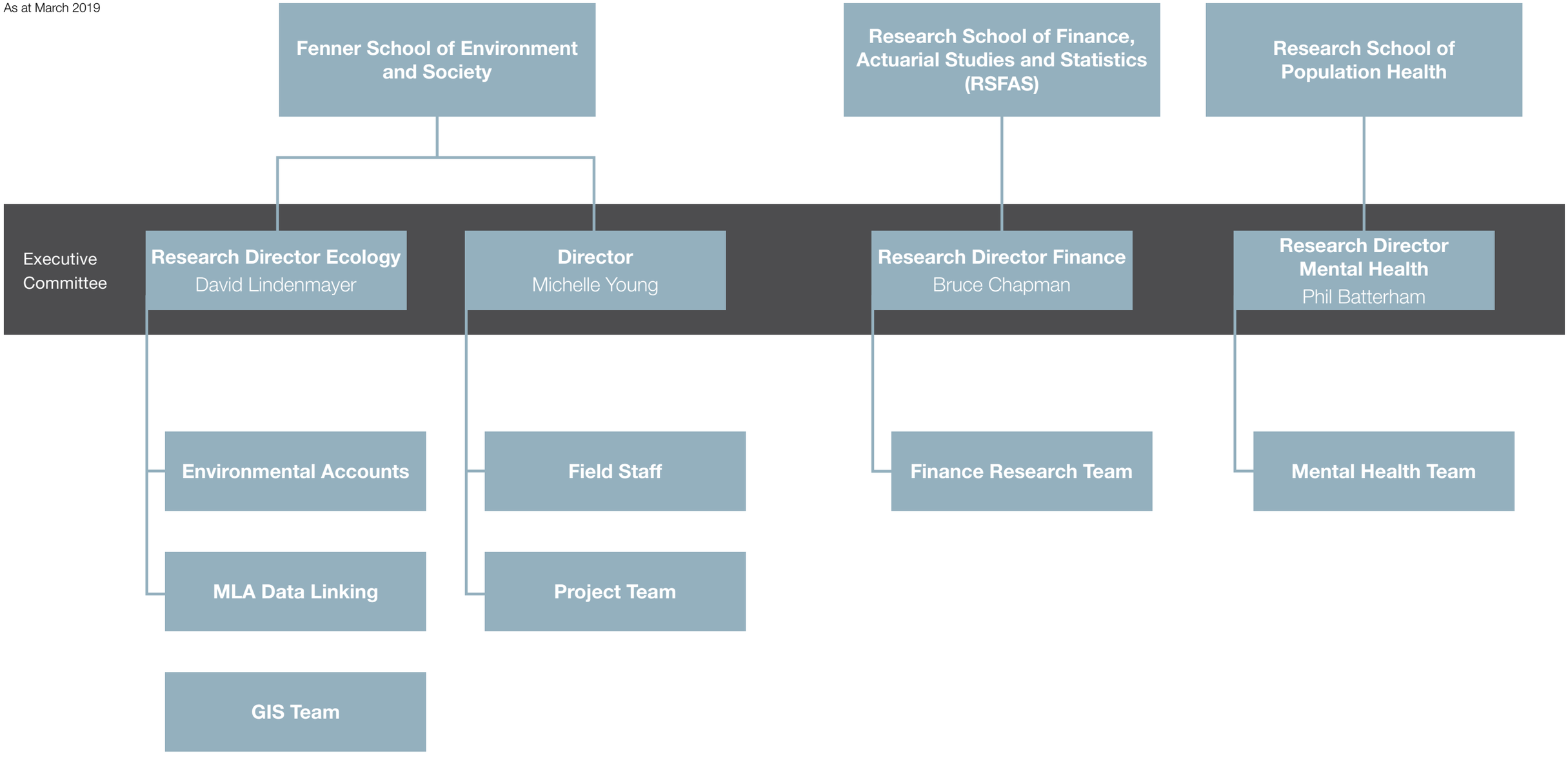
Michelle Young began managing the Sustainable Farms project in June 2018. Michelle brings to the position a unique blend of experience across a range of different policy areas, including research positions in public health in NSW, assessing the effectiveness of health promotion interventions, including drug and alcohol programs and undertaking formative research for new programs in early childhood and maternity.

In 2011-2012 Michelle was Deputy Director of the National Institute of Rural and Regional Australia at The Australian National University, where she undertook a comprehensive review of how Federal Government policy settings shaped rural economies and the quality of life for people living in rural areas.

Michelle has also worked in the Australian Public Service as a social scientist with the Bureau of Rural Sciences and at the Murray Darling Basin Authority, as a senior member of the team leading the evaluation of the Basin Plan. Michelle has extensive experience working with farmers on research relating to grain storage, policy reform in the sugar industry, kangaroo harvesting, water purchases and environmental flows.

# SUSTAINABLE FARMS ORGANISATION STRUCTURE

As at March 2019



# SUSTAINABLE FARMS ADVISORY COMMITTEE MEMBERSHIP

**Chair: Dr Douglas Robertson**

Director of Research Services, The Australian National University

## ANU

**Associate Professor Philip Batterham**

Research Director Mental Health, Sustainable Farms,
The Australian National University

**Professor Bruce Chapman**

ANU College of Business and Economics,
The Australian National University

**Professor Saul Cunningham**

Director, Fenner School of Environment and Society,
The Australian National University

**Dr Robin Fieldhouse**

Senior Research and Business Development Manager,
The Australian National University

**Mr Jock Gavel**

Senior Advancement Management,
The Australian National University

**Professor Russell Gruen**

Dean, ANU College of Health and Medicine,
The Australian National University

**Professor Kiaran Kirk**

Dean, ANU College of Science,
The Australian National University

**Professor David Lindenmayer**

Lead Scientist: Research Integration and Partnerships
& Research Director Ecology, Sustainable Farms,
The Australian National University

**Ms Michelle Young**

Director, Sustainable Farms, The Australian National University

## External

**Mr Craig Connelly**

Chief Executive Officer, The Ian Potter Foundation

**Mr David Galeano**

Farm Performance and Forestry Branch, Australian Bureau of Agricultural and Resource Economics

**Mr Shane Norrish**

Farming and Major Projects Director, Landcare Australia

**Mr Warrick Ragg**

General Manager, Natural Resource Management,
National Farmers' Federation

# FINANCIAL REPORT 2017 & 2018

**Table 1: Operating Expenses by Business Area**

| Business area | Whole of Project: 2017 – 2018 | |
|---|---|---|
| Farmer Network | Expenses | $441,647.61 |
| Research | Expenses | $165,237.30 |
| Communications and Engagement | Expenses | $72,598.02 |
| Project Management and Evaluation | Expenses | $364,389.23 |
| **Expense Total** | | **$1,043,872.16** |

**Table 2: Sources of Income 2017 & 2018**

| Income Funds | Total funds secured |
|---|---|
| Ian Potter Foundation | $520,000.00 |
| Vincent Fairfax Family Foundation | $300,000.00 |
| Private Donors | $140,001.70 |
| Calvert-Jones Foundation | $120,000.00 |
| MLA | $102,130.04* |
| ANU Central | $100,000.00 |
| ANU College of Science | $100,000.00 |
| Central Tablelands Local Land Services | $27,000.00 |
| Interest Earned | $3,577.81 |
| **Income Total** | **$1,412,709.55** |

*Note: MLA income of $102,130.04 was offset by payment by ANU to MLA of $51,065.02

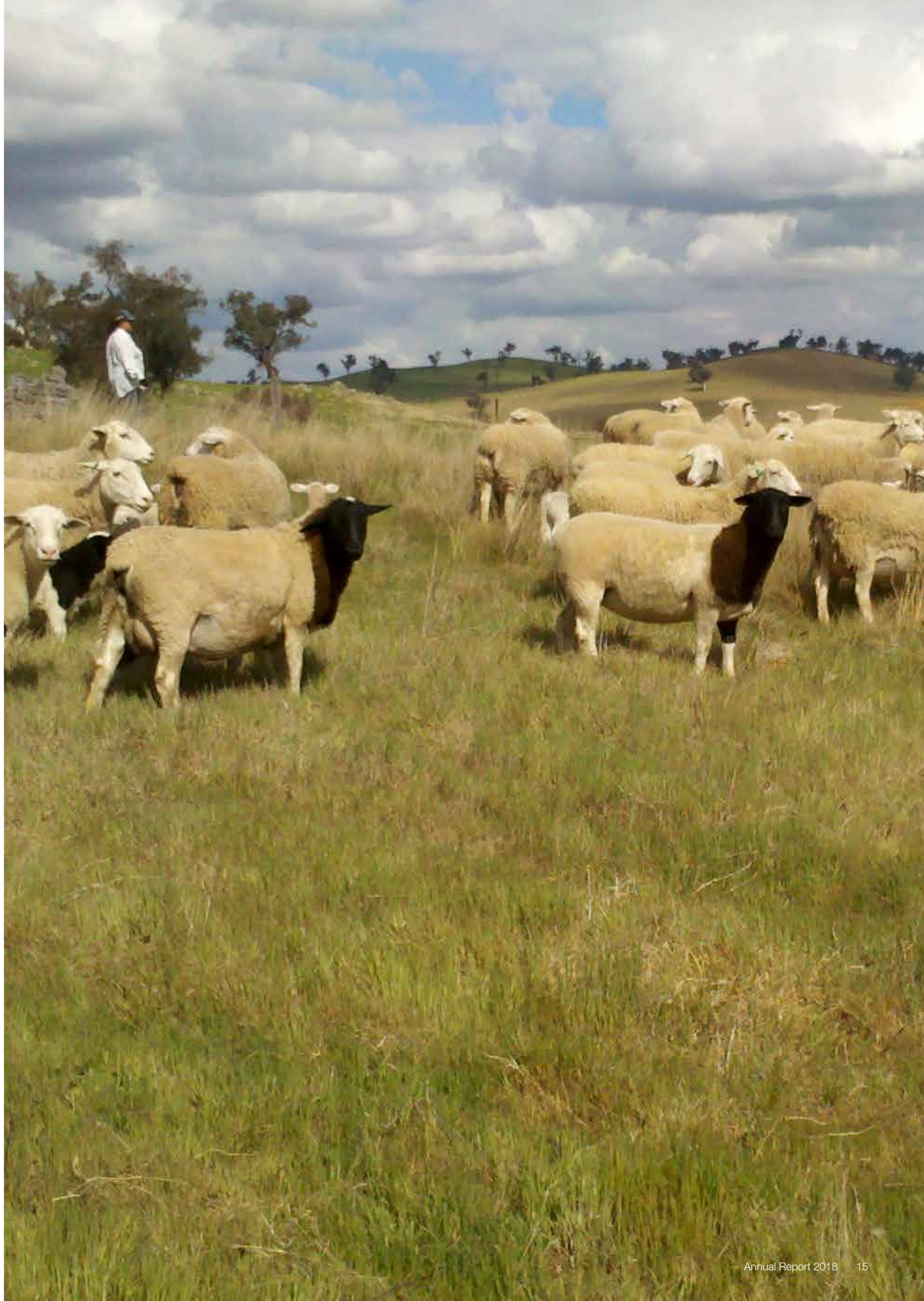
**Table 3: Operating Result**

| Total Income | 1,412,709.55 |
|---|---|
| Total Expenditure | $1,043,872.16 |
| **Operating Result** | **$368,837.39** |

# SUMMARY OF KEY PERFORMANCE TRACKING

| KPI[1] | | Progress |
|---|---|---|
| **Goal 1: Farmer Network, Extension and Outreach** | | |
| 1. | Brand recognition | Partially achieved and ongoing |
| 2. | Awareness of benefits of natural assets | Actively working towards |
| 3. | Adoption of projects and practices | Actively working towards |
| 4. | Reach of Sustainable Farms' extension services | Partially achieved and ongoing |
| 5. | Quality of Sustainable Farms' extension services | Partially achieved and ongoing |
| **Goal 2: Establish Partnerships** | | |
| 6. | Investments by Natural Resource Management partners in projects promoted by Sustainable Farms | Partially achieved and ongoing |
| 7. | Partnerships with Natural Resource Management agencies and stakeholder groups | Partially achieved and ongoing |
| 8. | Partnership outputs | Partially achieved and ongoing |
| 9. | Capacity building | Partially achieved and ongoing |
| **Goal 3: Multidisciplinary Research Projects** | | |
| 10. | Research outputs | Partially achieved and ongoing |
| 11. | Data collection | Partially achieved and ongoing |
| 12. | Initiation of Sustainability Science | Actively working towards |
| **Goal 4: Communications, Knowledge Translation and Engagement** | | |
| 13. | Media, website and social media effectiveness | Partially achieved and ongoing |
| 14. | Level of policy engagement | Actively working towards |
| 15. | Research translation (policy proposals) | Actively working towards |
| 16. | Industry partnerships (joint projects) | Partially achieved and ongoing |
| **Goal 5: Program Management, Evaluation and Reporting** | | |
| 17. | Work team performance | Partially achieved and ongoing |
| 18. | Revenue growth | Actively working towards |
| 19. | Standard of evaluation | Actively working towards |

Source: Sustainable Farms Monitoring and Evaluation Framework 2018 - 2023, Sustainable Farms Indicator Bank, pp. 15 - 18



# Key Performance Tracking Report

KEY PERFORMANCE
TRACKING REPORT

GOAL 1:

# Farmer Network, Extension and Outreach

Create an influential and engaging outreach and extension program to increase the engagement, awareness and/or uptake of sustainable farming practices by up to 30% of farmers in the project area over five years

i. Develop effective marketing and communication strategies which promote sustainable farms management practices, and result in the recruitment of participants to the Sustainable Farms network.

ii. Develop a network of demonstration farms that have significant works in place to provide examples of the benefits of farm restoration.

iii. Use the demonstration farms model as an educational tool for teaching farmers and others (e.g. school groups), about Natural Resource Management (NRM) strategies for improving natural capital.

iv. Develop tools and educational resources for farmers to support enhanced environmental management on farms.

v. Provide a range of outreach and extension activities to:
(1) promote the benefits of natural capital to farmers, and
(2) enable farmers to adopt these NRM strategies for improving natural capital on their farms.

vi. Support farmers within the Sustainable Farms network to obtain assistance to improve the condition and/or extent of natural capital on their farms.

vii. Continue the ANU program of Long Term Ecological Monitoring on select farms within the Sustainable Farms network.

PERFORMANCE CRITERION:

## 1. Brand recognition

**Result: Partially achieved and ongoing**

Branded Assets were developed in 2018 including launch of the website in September and a social media presence established in July. Sustainable Farms was officially launched in October 2018. Awaiting results from the 2018 Regional Wellbeing Survey on percentage of farmers from demonstration farm areas who are aware of Sustainable Farms.

PERFORMANCE CRITERION:

## 2. Awareness of benefits of natural assets

**Result: Actively working towards**

Awaiting results from the 2018 Regional Wellbeing Survey to establish baseline data on farmer knowledge of the benefits of natural asset management.

PERFORMANCE CRITERION:

## 3. Adoption of projects and practices

**Result: Actively working towards**

Field day series evaluation framework established for 2019 data collection. Evaluation framework designed to track farmer intention to adopt, attendance at field days, and adoption of natural asset management practices over time.

PERFORMANCE CRITERION:

## 4. Reach of Sustainable Farms extension services

**Result: Partially achieved and ongoing**

Working in collaboration with our Farmer Network, a pilot series of Field Days launched in August 2018. The program targets a range of specific natural asset management projects including restoring riparian areas, planting native shelterbelts and enhancing farm dams.

A Demonstration Farm Report was written to describe the approach and rationale for our demonstration farm model, which outlined selection criteria and operating procedures.

Several farmers we approached from the Long Term Ecological Monitoring were willing to champion the project to their peers, and this led to the establishment of four Demonstration Farms: Windermere, Allawah, Bongongo, and Yallock.

In the second half of 2018, Sustainable Farms began its Summer Field Day Series. These events provided the opportunity for farmers to observe what other farmers have done to improve their natural assets and to hear from the farmer and other experts about the benefits these investments have provided. Three of the Field Days were held in 2018, two on planting native shelterbelts, and one on enhancing farm dams.

We also ran several events focused on biodiversity on farms, including a series of “Breakfast with the Birds” during National Bird Week that incorporated eight bird watching events on farms at dawn followed by a BBQ breakfast and discussion on how to support birdlife on farms. These events highlighted the role that natural assets play for bird conservation on farms, and the benefits of birds on farms.

Additionally, Sustainable Farms held an evening Squirrel Glider workshop.

There were 177 participants across these activities. Sustainable Farms was also present and active at two Agricultural Shows in the project area.

Local Landcare groups and Local Land Services (LLS) staff were key partners supporting and leading these field days.

Approximately 100 farmers received face-to-face information from field staff and guest speakers. This advice included specific questions about their property and situation; where to start on NRM projects; and available sources of funding.

PERFORMANCE CRITERION:

## 5. Quality of Sustainable Farms extension services

**Result: Partially achieved and ongoing**

The Demonstration Farm Report was completed in July 2018. This document was developed to support the Sustainable Farms team in program delivery, explain program design to key stakeholders, and provide farmers with information on demonstration farm selection and the role of demonstration farmers in Field Days.

A  Field Day Toolkit was drafted in 2018 for testing during the 2019 Summer Field Day series. The Toolkit provides an overview of how Sustainable Farms will deliver Field Days that are meaningful, well-resourced and of value to all who attend. It describes how events are planned and promoted, and includes checklists and resources to support the management and administration of each event. The Toolkit also lists benchmarks for service delivery and will be published in 2019, after the review of the 2019 Summer Field Day Series.

KEY PERFORMANCE
TRACKING REPORT

GOAL 2:

# Establish Partnerships

Establish formalised partnerships to support farm sustainability in the project area

i. Work with government agencies and non-government organisations to improve current practices, and discover new practices for improving biodiversity and other natural capital on farms.

ii. In particular, work in partnership with one or more of the Local Land Services in NSW (Riverina, Murray and Central Tablelands) to:
(1) inform their investment strategies, which seek to improve biodiversity and other natural capital on farms, and
(2) monitor the response of biodiversity to such investments.

iii. Work with government agencies and non-government organisations (i.e. Local Land Services in NSW, Catchment Management Authorities in Victoria, Landcare, and Greening Australia) to engage farmers in their programs for building natural capital.

PERFORMANCE CRITERION:

## 6. Investments by Natural Resource Management partners in projects promoted by Sustainable Farms

**Result: Partially achieved and ongoing**

Project plans developed with Natural Resource Management (NRM) agencies and regional NRM groups, to design research and extension activities on farm dams. Two applications were submitted in 2018:

- In partnership with Riverina Local Land Services, we submitted a Smart Farms application to the Australian Department of Agriculture to attract funding for enhancement of farm dams (outcome pending).
- In partnership with Central Tablelands Local Land Services, we applied for a grant under the NSW Saving our Species Program (unsuccessful).

PERFORMANCE CRITERION:

## 7. Partnerships with Natural Resource Management agencies and stakeholder groups

**Result: Partially achieved and ongoing**

Sustainable Farms received funding from the Central Tablelands Local Land Services to scope a method for measuring practice change after farmer engagement in demonstration Field Days.

In 2018, Sustainable Farms was engaged with Riverina Local Land Services, Murray Local Land Services, Hovells Creek Landcare Group, Murrumbidgee Landcare Inc, Holbrook Landcare Network and NSW Local Land Services. These relationships have helped to raise public awareness and build trust in Sustainable Farms within rural communities.

PERFORMANCE CRITERION:

## 8. Partnership outputs

**Result: Partially achieved and ongoing**

Sustainable Farms delivered nine field days with 177 participants in collaboration with partnered organisations.

PERFORMANCE CRITERION:

## 9. Capacity building

**Result: Partially achieved and ongoing**

In 2018, Sustainable Farms delivered two presentations to NRM agencies and staff.

In February 2018, Sustainable Farms was invited to speak with Hovells Creek Landcare Group, and provided advice on an ongoing NRM project relating to paddock trees. The Sustainable Farms presentation addressed key questions about project improvement, with field staff providing specific details on plant species and spacing that enabled the Landcare group to improve the project.

Following implementation of the Sustainable Farms recommendations, the Landcare project received recognition by the NSW government for setting the benchmark for paddock tree planting, and the local rural newspaper, the Cowra Guardian, wrote an article publicising the project's success.

In October 2018, Sustainable Farms field staff delivered a presentation to a national audience at Landcare Australia about the evolution and establishment of the Sustainable Farms project.

The presentation raised awareness of the project, and outcomes included valuable networking opportunities, the strengthening of our established relationship with Landcare Australia, as well as the development of the 2018 Breakfast with the Birds extension program.

This was a valuable opportunity to further develop working relationships with local Landcare groups and farmers, and to extend the Farmer Network and geographical reach of the 2019 Summer Field Day series.

KEY PERFORMANCE
TRACKING REPORT

GOAL 3:

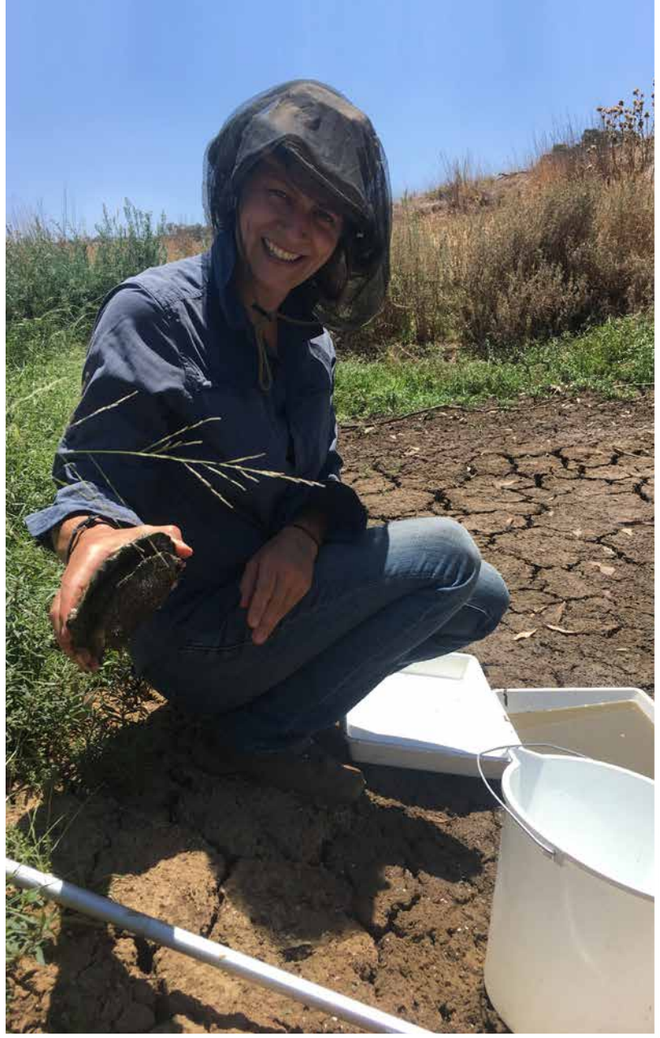
# Multidisciplinary Research Projects

In partnership with industry and government, develop a multidisciplinary research program designed to support sustainable farming practices and related policy reforms

i. Quantify and demonstrate the link between improved environmental management and the financial profitability of Sustainable Farms.

ii. Quantify and demonstrate links between sustainable farming practices and the wellbeing and mental health of farmers.

iii. Co-design new sustainability research initiatives within Sustainable Farms and in collaboration with other research partners.



PERFORMANCE CRITERION:

## 10. Research outputs

### Result: Partially achieved and ongoing

New Sustainable Farms work was published in the leading international journals *Global Change Biology* and *Diversity and Distributions*, showing that replantings on farms are critical habitats for biodiversity, particularly during major droughts. Small birds and migratory species are particularly strongly associated with planted vegetation during these times. This has major implications for the design and maintenance of areas of bushland and restored vegetation on farms.

Other work about to be published in the journal *Proceedings of the Royal Society* shows how well-managed restored areas contribute to key bird species in farm landscapes, and the important ecological functions of these species such as consuming insect pests and pollinating trees and other plants. Well targeted and managed revegetation on farms can therefore promote these ecological functions by creating habitat for birds on farms. Further research has shown how intensive grazing within plantings can undermine their biodiversity, especially for reptiles and birds. Conversely, well managed plantings provide important habitat for native birds (including some of conservation concern) as well as a range of native reptiles. Key scientific articles on these topics have been published in the journals *Restoration Ecology, Austral Ecology* and *Biological Conservation*.

Our most recent analyses are showing how best to strategically locate revegetated areas alongside existing remnant vegetation to boost biodiversity values on productive farms.

In October 2018, Professor Bruce Chapman joined the initiative as the new Finance Research Director. Professor Chapman will research a better approach to loans for farmers wishing to invest in the natural assets on their farms. He intends to develop an income contingent loan model encouraging natural asset investments that will help farms to be more sustainable, productive and drought tolerant. Income contingent loans are paid back only when farm revenue meets a set threshold, thus avoiding the farmer debt trap.

Late in the year, Professor Bruce Chapman and Professor David Lindenmayer submitted a paper to a premier international journal, proposing a new funding model and discussing the failure of current government funding approaches across the globe in managing natural resources for sustainability.

Surveys in 2018 continued the collection of data on reptiles, birds and biodiversity on 135 farms.

The first wave of the FarmWell Longitudinal Survey for mental health research began in November 2018. The study explores the links between various aspects of farming and mental health outcomes of people living in farming communities, with the aim to develop information and tools that farming communities can use to better manage their farms and their mental health. The survey draws on the project's ecological data (supplemented by remote sensing data for farms outside our network) in order to investigate the links between environmental management and mental health.

Our researchers were granted access to the National Regional Wellbeing Survey data from 2013-2018. This large data set includes 3-4000 farmers and will increase our evidence base about the relationships between farmer wellbeing and resilience, financial success and environmental management.

Our finance researchers are currently looking at statistically modelling the financial performance of our Farmer Network through time.

Work on using economic and environmental accounting commenced in 2018, with a new post-doctoral researcher joining the group. Late in the year, two published scientific articles (*Environmental Science and Policy; Ambio*) demonstrated the value of the economic and environmental accounting approach and Sustainable Farms is currently collating the water, carbon, biodiversity and financial datasets to produce an initial set of accounts which will be a world-first for the agricultural sector.

Two Sustainable Farms books were published in 2018 by CSIRO Publishing: *Restoring Farm Woodlands for Wildlife* by David Lindenmayer et al and Rocky Outcrops in Australia by Damian Michael and David Lindenmayer. The latter received a 2018 Whitley Commendation for Landscape Zoology.

In 2018 Sustainable Farms published nine journal articles:

- Michael, D.R., Blanchard, W., Scheele, B.C. and Lindenmayer, D.B. (2018). Comparative use of active searches and artificial refuges to detect amphibians in terrestrial environments. *Austral Ecology,* doi:10/aec.12677
- Belder, D.J., Pierson, J.C., Ikin, K. and Lindenmayer, D.B. (2018). Beyond pattern to process: current themes and future directions for the conservation of woodland birds through restoration plantings. *Wildlife Research*, 45, 473-489.

- Lindenmayer, D.B., Blanchard, W., Crane, M., Michael, D. and Florance, D. (2018). Size or quality. What matters in vegetation restoration for bird biodiversity in endangered temperate woodlands? *Austral Ecology*, 43, 798-806.
- Ikin, K., Tulloch, A.I.T., Ansell, D. and Lindenmayer, D.B. (2018). Old growth, regrowth, and planted woodland provide complementary habitat for threatened woodland birds on farms. *Biological Conservation*, 233, 120-128.
- Michael, D.R., Florance, D., Crane, M., Blanchard, W. and Lindenmayer, D.B. (2018). Barking up the right tree: comparative use of arboreal and terrestrial artificial refuges to survey reptiles in temperate eucalypt woodlands. *Wildlife Research*, 45, 185-192.
- Lindenmayer, D.B., Lane, P., Westgate, M., Scheele, B.C., Foster, C., Sato, C., Ikin, K., Crane, M., Michael, D., Florance, D., Barton, P., O'Loughlin, L.S. and Robinson, N. (2018). Tests of predictions associated with temporal changes in Australian bird populations. *Biological Conservation*, 222, 212-221.
- Lindenmayer, D.B., Michael, D., Crane, M. and Florance, D. (2018). Ten lessons in 20 years: Insights from monitoring fauna and temperate woodland revegetation. *Ecological Management & Restoration*, 19, S1, 36-43.
- Michael, D.R., Crane, M., Florance, D. and Lindenmayer, D.B. (2018). Revegetation, restoration and reptiles in rural landscapes: insights from long-term monitoring programmes in the temperate eucalypt woodlands of south-eastern Australia. *Ecological Management & Restoration*, 19, 32-38.
- McCallum SM,Batterham PJ,Calear AL, Sunderland M,Carragher N. (2018). Reductions in quality of life and increased economic burden associated with mental disorders in an Australian adult sample. *Australian Health Review*, https://doi.org/10.1071/AH16276.


PERFORMANCE CRITERION:

## 11. Data collection

**Result: Partially achieved and ongoing**

In November, mental health data collection commenced with the distribution of The FarmWell baseline survey to approximately 270 individuals whose properties have previously had field surveys conducted. Response collection is ongoing and expected to be completed in April 2019.

The appointment of Professor Bruce Chapman as Finance Director in October 2018 led to a review of the Sustainable Farms finance work. Research planning in the finance area was realigned to support work on revenue contingent loans.

Biodiversity monitoring was maintained for all 135 sites in 2018, with 304 biodiversity surveys completed. All scheduled field surveys on long-term ecological monitoring sites were undertaken, except where site access was an issue (change of landholder, lambing etc).

Winter bird surveys and vegetation surveys were conducted on most sites within the South West Slopes Restoration Study, Murray and North-East Goulburn Broken Biodiversity Baseline Monitoring Projects during 2018.

Herpetofauna (reptile and amphibian) surveys were conducted on most sites within the South-West Slopes Restoration Study, Murray and North-East Goulburn Broken Biodiversity Baseline Monitoring Projects, and the Grazing Study, except where site access was an issue.

Winter bird surveys involved repeat surveys of all scheduled sites, and vegetation and herpetofauna surveys involved a single survey for each site.

PERFORMANCE CRITERION:

## 12. Initiation of Sustainability Science

**Result: Actively working towards**

Fundraising activity increased in the second half of 2018, with negotiations for several contracts initiated and ongoing. However, no research income from competitive grants was awarded to Sustainable Farms in 2018.

KEY PERFORMANCE
TRACKING REPORT

GOAL 4:

# Communications, Knowledge Translation and Engagement

Lead a program of research translation activities to influence programs and policies of key institutions and industry groups to support sustainable farming practices

i. Raise public awareness of the Sustainable Farms Initiative, to garner trust in the Initiative and to shape audience's expectations.

ii. Influence farmers' attitudes to, and uptake of, sustainable farming practices.

iii. Inform Commonwealth and State government policy settings with respect to supporting sustainable farming practices.

iv. Create partnerships with industry to enable and promote sustainable farming practices.

v. Engage with financial industry practice in respect of supporting sustainable farming practices.

vi. Increase the impact of the Sustainable Farms Initiative through incorporating research and engagement learnings into the University's teaching activities.

PERFORMANCE CRITERION:

## 13. Media, website and social media effectiveness

**Result: Partially achieved and ongoing**

The Sustainable Farms website was launched on 31 August 2018 <sustainablefarms.org.au> as a resource for farmers, and includes podcasts, farm brochures and video resources. An e-newsletter and Sustainable Farms social media platforms (Facebook, Twitter and Instagram) were also established.

Between the launch of the website and 31 December 2018:

- The website attracted 465 users, 20.7% of whom were returning users and 79.3% of whom were new users.
- 82.4% of users were Australian, 3.8% were from the USA, then small numbers of users from France and Japan.
- The 465 users conducted 1,036 sessions, 6,709 page views and an average of 6.5 pages per session.
- The bounce rate was 39.8%.
- The most used pages were: Home, Field Days, About.
- It is worth noting the strong preference for using desktop computers (72.5%) to access the website, rather than mobile phones (19%) and lastly, tablets (8.4%).

Sustainable Farms resources developed in 2018 and published on the website include:

- A podcast series of 4 episodes, featuring an introduction to the project, farm dams, revenue contingent loans and farm revegetation projects.
- Sustainable Farms Newsletter.
- Information brochures on the key natural assets being promoted through the project.
- A video on the value of enhancing farm dams.

David Lindenmayer advocated for the importance of supporting farmers and helping them invest in natural asset management at more than 10 national and international forums including a keynote address to the Society for Ecological Restoration Australasia.

David Lindenmayer and Michelle Young wrote a piece for The Conversation on the need to see past short-term drought solutions and improve agricultural land for long term sustainability. The piece was popular and generated interest from economic columnist for The Age, Ross Gittins, in his article *Drought: a choice between sympathy or lasting help*.

Sustainable Farms secured a regular spot on the Breakfast Show on Riverina ABC Radio with Anne Delaney, with an audience of 250,000.

PERFORMANCE CRITERION:

## 14. Level of policy engagement

**Result: Actively working towards**

The project was officially launched at Parliament House in October 2018 by The Hon. David Littleproud, MP, Minister for Agriculture and Water Resources and Minister Assisting the Prime Minister for Drought Preparation and Response. This event was also attended by the Government Whip, the Hon. Nola Marino, MP, industry groups, partners and project supporters.

The project was actively engaged with the agriculture portfolio and David Lindenmayer met with Advisors to the Minister and the Shadow Minister.

During 2018, Professor Lindenmayer gave ten conference presentations including:

- *Transdisciplinary research in the integration of farming and biodiversity conservation sectors*. Canberra, February 2018.
- *What makes Effective Ecological Monitoring?* Seminar and book launch. The Australian National University, March 2018
- *The importance of multi-disciplinary research in sustainable farming.* Proposal to the ANU Council, The Australian National University, April 2018.
- *The importance of rocky outcrops for biodiversity and new insights identified from long-term monitoring.* Invited presentation to assessment and compliance staff at the Australian Department of the Environment and Energy, Canberra, July 2018.
- *Unaccounted risks and opportunities in natural capital.* Keynote panel address United Nations Environment Program (UNEP) Sustainable Business Meeting. Sydney, July 2018.
- *Key lessons from long-term research for restoration and integrating conservation and agricultural production*, Plenary lecture. Society for Ecological Restoration Australasia. Brisbane, Queensland, September 2018.
- *The importance of natural regeneration in woodlands and forests globally.* International workshop, Rio de Janeiro, October 2018.
- *The Sustainable Farms Project.* Initiative launch and speeches. Launch by Minister for Agriculture and Water Resources and Minister Assisting the Prime Minister for Drought Preparation and Response. Parliament House, Canberra, October 2018.
- *Restoration of woodlands on farms.* Book launch, Melbourne, November 2018.
- *Sustainable farming in a south-eastern Australian context. Invited workshop presentation.* Melbourne, November 2018.

PERFORMANCE CRITERION:

## 15. Research translation (policy proposals)

**Result:** Actively working towards

In December 2018, Sustainable Farms and the Climate Change Institute, were approached by the Regional Investment Corporation (RIC) to develop a proposal to encourage the uptake of Climate-Smart farming practices and technologies. The ANU group developed a proposal to identify an option for a farm loan scheme to promote Climate-Smart agricultural policies. This proposal has been accepted by RIC and contract negotiations are underway.

PERFORMANCE CRITERION:

## 16. Industry Partnerships (joint projects)

**Result: Partially achieved and ongoing**

In 2018, Meat and Livestock Australia (MLA) and Sustainable Farms developed a scoping project to inform the potential for a research partnership. The resulting report identified three projects which would be of mutual interest to both organisations. In late 2018, MLA indicated that they were interested in working in partnership with Sustainable Farms on one of these projects, “Developing Environmental Indicators to Strengthen on-Farm Reporting” to be led by Dr Martin Westgate (a Post-Doctoral researcher in the Lindenmayer lab). MLA funded this project to the value of $51,065.02.

Sustainable Farms also established an industry funded partnerships with the Kering Group, worth $56,000 per annum for three years (first payment received in 2019).

KEY PERFORMANCE
TRACKING REPORT

GOAL 5:

# Program Management, Evaluation and Reporting

Establish Sustainable Farms with sound policies and procedures, maintain effective governance and planning processes, and grow the initiative to achieve a funding model which allows long-term implementation

i. Develop and sustain a high performing work team.

ii. Develop and implement strategies and plans for effective project implementation.

iii. Manage Sustainable Farms money (funds) efficiently and effectively.

iv. Responsibly grow the initiative and achieve a funding model which allows long-term implementation.

v. Engage with both primary and secondary stakeholders to increase support for the project.

vi. Monitor and evaluate project outcomes to report on project performance and impacts.

PERFORMANCE CRITERION:

## 17. Work team performance

**Result: Partially achieved and ongoing**

In early 2018, Terms of Reference for the Sustainable Farms Executive and Advisory Committees were developed and agreed. The inaugural meeting of the Advisory Committee was held in March 2018 and a second meeting was held in September 2018. The Sustainable Farms Executive Committee met eleven times in 2018.

In March 2018, the Sustainable Farms Strategic Plan 2018-2020 was published. The Sustainable Farms Business Plan 2018 was developed and agreed in August 2018.

A staff accountability framework was developed in mid-2018. All staff position descriptions were revised to reflect new responsibilities under Sustainable Farms. Additionally, project and field staff had performance development reviews initiated in late 2018.

PERFORMANCE CRITERION:

## 18. Revenue growth

**Result: Actively working towards**

New revenue was committed to the project in 2018 by the following organisations:

- Kent Keith Farm Donation (funds will become available upon farm sale, estimated at $350,000)
- CapoNero $12,500
- Private Donor $2,500
- Meat and Livestock Australia $51,065.02
- Kering Group $168,000
- Central Tablelands Local Land Services $27,000.

While the project fell short of fundraising expectations, there were numerous meetings including introductions to new potential funders and ongoing discussions with existing or interested funders, which support optimism for fundraising in 2019. Attracting large donations is expected to take time.

Fundraising activities included:

- Two book launches by David Lindenmayer, one in Sydney and the other in Melbourne at Alumni events, to launch the latest Sustainable Farms book, *Restoring Farm Woodlands for Wildlife*
- A Roundtable Meeting hosted by the ANU Chancellor, Gareth Evans, in Melbourne in October 2018, provided opportunities to introduce the Sustainable Farms Project to a range of interested private trusts and potential donors.
- Regular meetings throughout the year between David Lindenmayer and potentially interested donors.

PERFORMANCE CRITERION:

## 19. Standard of evaluation

**Result: Actively working towards**

The Sustainable Farms Monitoring and Evaluation Framework (MEF) was developed in 2018 for implementation in 2019. The MEF provides a framework and tools for evaluating Field Days and the Sustainable Farms project more broadly, and places a high importance on enabling the project to be adaptive. This ensures learnings and experiences can be built into the evaluation process as the project develops.

The MEF describes in detail:

- Key concepts framing the project's activities
- A program logic
- Baseline data collection
- Key Performance Indicators (and the Sustainable Farms Indicator Bank)
- Key evaluation questions.

In late 2018, the Regional Wellbeing Survey collected baseline data on behalf of our project to measure changes in knowledge and practices among rural communities targeted by Sustainable Farms. The survey will be repeated at two year intervals.

Sustainable Farms thanks its partners and supporters, including:

The Ian Potter Foundation

THE CALVERT-JONES FOUNDATION

vflf Vincent Fairfax Family Foundation

# CONTACT US

SUSTAINABLE FARMS

**Further information about ANU Sustainable Farms**

sustainablefarms.org.au

**Annual Report available online at**

sustainablefarms.org.au

**Published by**

Sustainable Farms

The Australian National University

**sustainablefarms@anu.edu.au**

CRICOS Provider #00120C

MO_COS190091