

Landcare in focus  
2016 Annual Special Publication



Landcare  
Australia

# Building **DROUGHT RESILIENCE**



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## Do you have a story to tell?

We seek submissions of stories or story ideas from across the Landcare network discussing your successes and learning opportunities. The objective is to highlight the wonderful and diverse ways in which "Landcare" is interpreted and implemented around Australia.

Landcare in Focus is distributed to a wide readership of over 270,000 – which provides you a great opportunity to have your story heard across Australia.

All article submissions must adhere to the following guidelines and the deadlines below and must include:

- One article of between 100-500 words saved as a Microsoft Word document or a PDF.
- 1-3 high resolution images that clearly illustrate the accompanying article (must be at least 1.5MB in size and more than 300dpi).
- Contact information or weblink for readers seeking more information about your story.

Edition	Topic	Deadline
August 2016	<b>National Landcare Conference &amp; Awards special edition</b> Tell us your stories related to the national conference & awards, and conference theme	21 July, 2016
November 2016	<b>Grazing management for improved productivity and profitability, soil resource management and variable rainfall response</b> Tell us your stories of improved on farm productivity from grazing management, or stories of soil management, or rainfall response.	20 October, 2016

For more information or to pitch our editorial team your story idea, contact us at:  
[lif@landcareaustralia.com.au](mailto:lif@landcareaustralia.com.au)

Due to space restrictions, we cannot guarantee that all submissions will be included.



# Home block planning for mental drought resilience

Tim Inkster, with Landcare Australia

FOR the mental resilience of a farming family, the homeblock should be a place kept separate from the farm business – a place where the family can switch off, be happy, and spend time together.

During dry periods – or any lengthy period of adversity – it is important to have a place to switch off and not stress about the business of farming; to not see jobs that could be done from the back door. It's also great to have somewhere that has a bit of green, like a veggie garden or lawn when everything else is dead.

Recently Yarrilinks Landcare ran a workshop involving 10 farming couples called Home Block Planning, with the assistance of landscape architect Felicity Brown and Wimmera Native Nursery's Ted Brown.

The idea was to get farming families to take a look at their home block and see if it has been made separate from their farm business.

Before the first session, participants were asked to consider what they want to achieve around their home block, whether it be a lawn, veggie garden, play space for



Landscape architect Felicity Brown working with the farming couples at the Yarrilinks Landcare Homeblock Planning course.

kids, an entertaining area, native vegetation enhancement, screening, safe transport passages around the house, somewhere to store chemical, fuel and machinery etc.

The aim was to get them thinking about what they might like to start doing, so that at the first session the participants could each be given an aerial map of their home block and a sheet of acetate paper laid over the top to start drawing in some ideas, and definite features.

After the first session participants had a week

to discuss their ideas with each other, and other family members, before returning for the second session.

The second session was all about consolidating ideas and getting a five year action plan documented with the design completed on the overlay map. The participants were keen to share their ideas, photos and experiences which helped the process.

Although money might be tight during dry years, they may have more time away from the farm to start implementing a few of their ideas.

# Giving farmers the tools to manage the tough times

KEITH PITT, Assistant Minister to the Deputy Prime Minister

**I**N MY experience, Australians are a resilient mob, and none more so than farmers. Australian farmers have to be resilient—not to mention smart, innovative, and resourceful—given drought is, and will continue to be, an unfortunate reality of living in our beautiful country.

Australia is a dry continent with a highly variable climate, so drought is an ever-present business risk for farmers. We can't afford not to prepare for drought—making the most of times of good fortune to ready ourselves for the inevitable tough times.

These last few years have, for some farmers and their families, been tough times indeed. Despite average to well-above-average rainfall over much of Australia this summer, parts of the country are still experiencing the effects of long-term drought.

While preparing for and managing drought has always been primarily a farmer's responsibility, I feel strongly that governments have an important role in supporting farmers, farm businesses and rural communities to manage through hardship. Strengthening drought resilience and farm risk management are key themes of the Agricultural Competitiveness White Paper we released last year.

Through the White Paper we've made available nearly \$3 billion to support farmers to prepare for, manage and recover from drought and other hardship. This includes \$250 million available this year to continue access to drought-specific concessional loans schemes, \$250 million per year over 10 years from 2016–17 in drought concessional loans, and an additional \$1.8 million in 2015–16 to help meet increased demand for



Assistant Minister to the Deputy Prime Minister, Keith Pitt.

rural financial counsellors in drought-affected areas. To date, more than \$219 million in concessional loans has been approved for farm businesses.

The \$35 million, four-year Drought Communities Programme is investing in local infrastructure and employment projects in drought-affected areas, with 20 councils invited so far to submit project proposals up to a total of \$1.5 million each. More than \$10.9 million worth of projects have been approved since the programme opened last year.

\$25.8 million is being provided through states and territories for programmes to manage pest animals and weeds in drought-affected areas.

The accelerated tax depreciation arrangements we announced through the last Budget allow all primary producers, regardless of turnover, to immediately write-off new fencing and water infrastructure, and write-off over three years for fodder storage.

This encourages farmers, regardless of the size of their farm enterprise, to invest in their businesses to better prepare for drought and improve their productivity.

From 1 July 2016, a series of changes are being made to the Farm Management Deposits (FMD) Scheme, including doubling the cap on deposits from \$400,000 to \$800,000 and re-establishing an early access trigger during drought. FMDs are intended

to help eligible primary producers set aside pre-tax income in the good years, which they can draw upon during the tough times.

These White Paper measures build on our ongoing assistance available to help farmers in hardship improve their financial situation, including the Farm Household Allowance and free Rural Financial Counselling Service.

I am proud that the Australian Government continues to work with farmers and farm businesses—as well as the rural communities they help to sustain—to build resilience, strengthen risk management and assist recovery from adverse conditions, including drought.

## Building drought resilience is up to all of us

TESSA JAKSZEWICZ, Landcare CEO

**W**ELCOME to the inaugural Landcare Australia annual special edition of Landcare in Focus. It is our hope that this annual magazine edition will be used over the coming year as an ongoing source of information, teaching and learning, case studies, and research updates from some of Australia's leading experts and organisations.

Given the devastating effects that droughts are having on large areas in Queensland, northern and western NSW, Victoria, Tasmania and Western Australia, the 2016 edition will be focused on Building Drought Resilience.

Historically drought has played an integral role in shaping the land and how it was used by indigenous Australians, and the early European settlers. It has structured Australia's environment and land use – and is critical in guiding the way we access and use our water resources.

Our nation's agricultural history has been fundamental in shaping Australia's development on to the world stage, and as a G20 participant.

Australia is one of the driest inhabited continents – and while the effects of drought will never be eliminated, knowledge, preparation and the proper application of our research and land management activities can help us all to mitigate the risks, and reduce the impact of drought conditions.

As the effects of climate change take hold, and severe weather events become more frequent, building drought resilience into our land and land management practices will become increasingly important.

Our editorial team have therefore worked over the past months to draw together a selection of articles from experts at the Bureau of Meteorology, CSIRO and University of Southern Queensland's Institute for Resilient Regions; the Department of Agriculture and Water Resources; Natural Resource Management organisations; Landcare groups; farmers; and agricultural suppliers and experts.

Our various authors have each contributed pieces on how they are helping Australia's land managers build drought resilience. Each contribution to this magazine, even the ones which did not make the final layout, is greatly appreciated.

In this edition we also welcome the Minister Assisting the Deputy Prime Minister, Keith Pitt as a new contributor to Landcare in Focus. Minister Pitt was himself a third generation farmer, his family having been part of the Wide Bay-Burnett cane farming community for over 70 years. His voice and expertise will be a welcome asset and advocate for the Landcare movement.



CEO Tessa Jakszewicz

# Sheep like it with a touch of CSIRO salt

**O**LDMAN saltbush continues to prove its worth on marginal soils, providing green feed for livestock, ecosystem services and rehabilitation of saline soils.

CSIRO and its industry partners have been investigating saltbush for the past decade. The latest result was the recent release of Anameka™, a new saltbush cultivar, which averages 64 per cent digestibility of organic matter and about 20pc crude protein.

The digestibility is 20pc higher than other saltbushes and therefore a major innovation improving agricultural profitability and landscape health in Australia and globally.

Oldman saltbush is a native Australian shrub that is well-adapted to arid, infertile and saline environments.

A long-lived perennial, it offers an opportunity for livestock production to be part of the solution to environmental problems.

Improved use of summer rainfall by saltbush has been linked to a decline in topsoil salinity and salt export from saline landscapes.

Saltbush also provides habitat to a range of native animals and is associated with increased plant diversity.

"When we started the project many livestock producers were using saltbush to buffer seasonal shortages of green feed, however, most commercial plantations of saltbush were based on wild, unimproved varieties.

Most plants had low energy levels and there was massive variation in palatability to stock" explains CSIRO's Dr Hayley Norman.

"Given historical overgrazing of native stands of saltbush, it was probable that poorer-quality plants had an advantage and eventually dominated the stands.

"Our aim was to look for and domesticate the wild varieties with the highest nutritional value for livestock.

"Whole-farm modelling suggested that this would give us the greatest improvement in profitability."

"In a world first, we used the 'nutritional wisdom' of sheep to identify plants with higher digestibility and improved palatability.

Research shows that sheep select diets that optimise nutrient intake and balance toxins.

So the team collected saltbush seeds from across Australia and planted three replicated 20,000 shrub smorgasbords for the sheep to sample.



Tony York has hosted saltbush research on his farm, Anameka, for more than a decade. He is pictured with CSIRO's Dr Hayley Norman.

We knew that sheep are very smart at avoiding toxins and even selecting particular plants to overcome nutritional deficiencies. So we combined traditional laboratory testing with preference ranking by sheep.

When grazing the shrubs sheep consistently preferred genotypes with higher digestibility, lower salt accumulation and several other factors such as a better balance between nitrogen and sulphur concentrations.'

To ensure that sheep were in fact identifying shrubs with higher nutritional value, the team also conducted a series of feeding experiments with sheep in metabolism crates.

These samples with known digestibility were also used to calibrate laboratory methods to predict digestibility.

Working closely with industry, the majority of the research was hosted by farmers who volunteered ideas and resources.

"Being involved in Hayley's trials has given us the opportunity to increase

productivity across 15 per cent of the farm — most of which was wasted land," explains farmer Tony York, Anameka Farm near Tammin, WA.

Tony and his brother Simon have hosted CSIRO and industry research for more than 14 years, which made it fitting to name the new saltbush variety after their farm.

"As you drive around their farm, you see decades of active revegetation for Landcare and salinity mitigation from when their father Peter worked with Clive Malcolm and others during the early stages of saltland pasture research," Hayley explains.

On-farm testing in a range of environments and under commercial conditions, has shown Anameka™ to be a persistent shrub, remaining productive for at least 8 years. Whole farm economic modelling suggests this cultivar could more than double the profitability of these systems.

"It is all about affirming and being more sustainable," Tony says.

"We are not as crop dependent and retain livestock in our system to utilise unproductive cropping land — this mitigates our risk.

"We are not the only ones who are getting excited by the progress with the saltbush varieties — there are definitely changes across the region and more farmers are taking notice, particularly where farmers have maintained some livestock in their system."

The first release of 300,000 Anameka™ shrubs, through Chatfields Tree Nursery in 2014, quickly sold out, supporting Tony's observation of the growing interest in saltbush.

"These plants will assist livestock farmers to manage risk associated with dry seasons and a variable climate," Hayley states.

"We believe that Anameka™ has the potential to make vast areas of previously unproductive land, in Australia and overseas, economically and sustainably productive.

Oldman saltbush is one of few internationally significant

agricultural plants that are native to Australia.

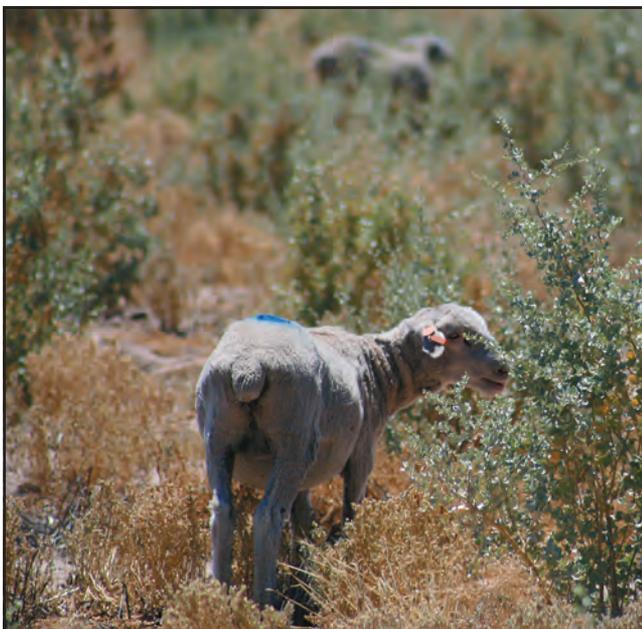
It is currently used in both saline and arid systems in southern and northern Africa, South America, Pakistan and the Middle East.

Anameka™ has potential to improve livelihoods and food security in developing nations. Adoption will lead to additional public benefits as stands of oldman saltbush can reduce salt export from saline areas and provide habitat for a range of native species.'

'Watch this space because we still have some major innovations to follow' says Hayley.

'Anameka™ was one of a cohort of 15 elite saltbush varieties identified, we're monitoring existing experimental sites to see if there are niches where a different variety would optimise profitability.'

This project was a national collaboration within the CRC for Future Farm Industries.



Our woolly taste testers hard at work.

# El Niño and drought

Ian Barnes-Keogh, Climatologist at the Bureau of Meteorology

**E**L NIÑO and its sister La Niña are the most significant cause of variation in year-to-year climate for Australia and the Pacific region. In simplest terms, these events are the east-west movement of the warmest water in the tropical Pacific Ocean — and an accompanying shift in rainfall patterns.

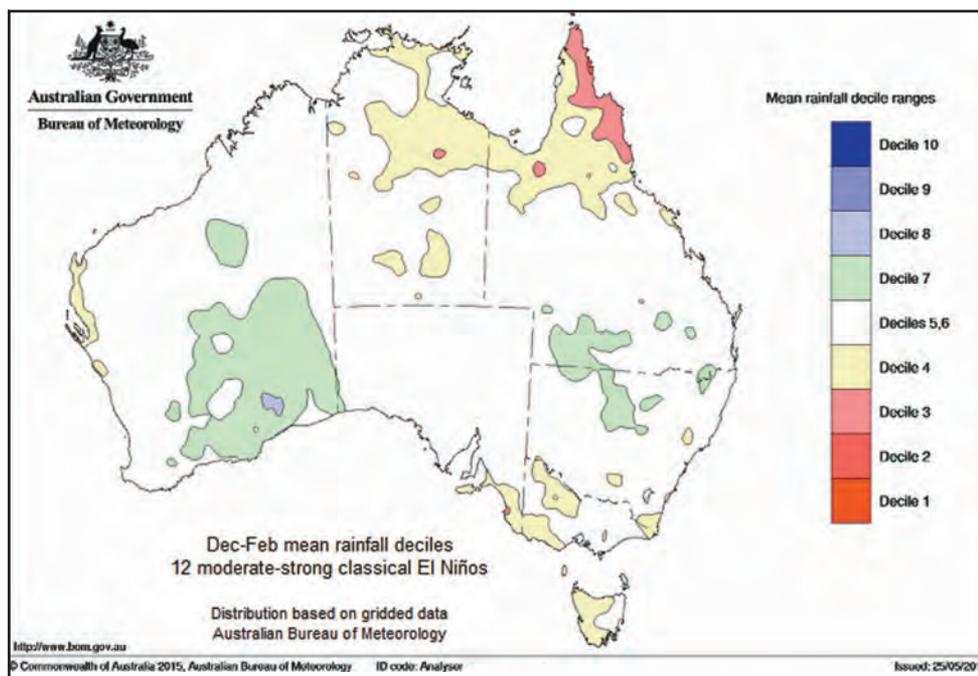
One of the strongest El Niño events on record dominated the weather during 2015, contributing to high temperatures, reduced rainfall and devastating bushfires in Australia.

But while there is now a general appreciation of the connection between El Niño and drought, it is not the only driver of Australia's climate.

Other influences include the Indian Ocean (both tropical and subtropical), the Southern Ocean, the seas directly to our north, the pulses of tropical cloud and rainfall that circle the equator, the position of the subtropical ridge (the big high-pressure system that sits over Australia), the position of cold fronts to our south, soil moisture (surface and subsurface) over the continent, and climate change. There is also "random variability" — the chaos that most people would simply call "chance".

While very strong La Niña events, such as in 2010–12, almost always bring good rainfall to Australia, our relationship with El Niño is more complicated. Of the 26 El Niño events that have occurred since 1900, Australia had widespread dry conditions during 17 of them. But some strong events (such as 1997–98) brought only moderately dry conditions to Australia, while some weaker events caused widespread and severe drought, such as in 2006–07.

With El Niño, the impact on Australia depends on what happens in the Indian Ocean at the same time. In southern Australia, the drying influence of El Niño is particularly



December 2014 - February 2015 mean rainfall indicating 12 moderate-strong classical El Niños.

obvious when it combines with particular sea surface temperature patterns to Australia's west.

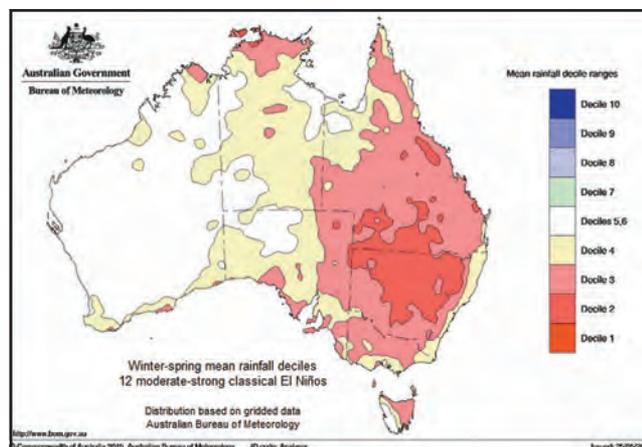
In 2015, El Niño arrived in May, and developed into one of the strongest events on record, comparable to the events of 1982–83 and 1997–98.

In autumn, as the 2015 El Niño strengthened in the Pacific, a broad swathe of the Indian Ocean was also warming up, particularly to the southwest of Australia.

This appears, at least in part, to have contributed to more late autumn and winter rainfall than may be expected in a typical El Niño year. Individual weather systems brought rainfall from the west over New South Wales, Western Australia and eastern Victoria during this time.

As the year went on, drought conditions spread across far southern Australia. These areas have seen a long-term rainfall decline, and were also strongly affected by the 'Millennium Drought', which started around 1997 in southern Australia, and is generally considered to have ended in the La Niña of 2010.

On decadal timescales, the biggest influence on rainfall



June 2014 - November 2014 mean rainfall deciles indicating 12 moderate-strong classical El Niños.

across the south of the continent has been long term changes in atmospheric circulation. These changes have led to drying in the cooler months of the year across the southwest and southeast — associated with reduced rainfall from westerly winds and cold fronts.

2015 showed the atmospheric circulation and rainfall pattern that has become common during recent decades, and was a big part of the Millennium Drought. High-pressure systems — which bring clear skies and dry conditions — dominated southern Australia throughout the year.

On shorter timescales, El Niño, La Niña and the Indian Ocean Dipole remain important for Australia, and the Bureau of Meteorology closely monitors how sea temperatures are tracking. The Bureau's climate outlook — based on detailed modelling of the world's ocean and atmosphere — gives an indication of likely conditions in the season ahead.

More information on El Niño, La Niña, the Indian Ocean, together with climate outlooks and patterns of past climate change can be found on the Bureau of Meteorology's website: [www.bom.gov.au](http://www.bom.gov.au).

## Rainfall forecasting predicted to rise



Bureau of Meteorology climatologist Joel Lisonbee explains how rainfall forecasting has improved. Photo courtesy Steve Keough Photography.

**A** SEASONAL prediction model, powered by a new supercomputer, will boost the accuracy of Bureau of Meteorology seasonal climate outlooks from next year.

Bureau climatologist, Joel Lisonbee, told the recent ABARES Outlook 2016 conference in Canberra (2 March, 2016) that the improved climate service would benefit farmers in particular, from as early as 2017.

Key improvements include the ability to make more accurate and localised climate forecasts and better seasonal predictions, such as determining if autumn would be drier or wetter than previous years.

For the first time, Mr Lisonbee said forecasts would bridge the gap between the existing seven-day forecast and the monthly and seasonal climate outlook. These upgrades will give farmers warnings within weeks (rather than days) of heightened risk of unfavourable events such as an upcoming heatwave or heavy rains. This will allow them to adjust farming practices such as harvesting or moving stock.

The upgrade is possible due to a \$3.3 million grant provided through the Australian Government's Agricultural Competitiveness White Paper, launched last year.

Another advance in the Bureau's climate prediction accuracy will come from a higher resolution model on a new supercomputer.

Higher model resolution will also make it possible to better represent the topography of the Great Dividing Range and Tasmania, and better model rainfall patterns across Australia.

"Other elements that may be possible in future forecasts were evaporation, humidity and drought," Mr Lisonbee said.

"My vision is that farmers will be able to look at a multi-week forecast to support decisions about purchasing fertiliser or planting before a big deluge of rain, or protecting crops against a massive heatwave that is about one and a half weeks away," he said.

"I want them to be able to look at seasonal forecasts and be able to make strategic decisions about which crops to plant over the next season because it is good, accurate information on a seasonal time scale."

Mr Lisonbee said the bureau last upgraded its seasonal climate outlook website in 2014 to give farmers more decision-making tools for seasonal rainfall and temperature outlooks. The rainfall outlook for April is looking hopeful for drought-stricken farmers, with a 60 to 70 per cent chance of above median rainfall predicted across much of inland Australia.

# Resilience can help rural communities to thrive

**S**OURCING constructive sources of financial investment, dealing with hugely variable seasons, and changing demographics are just some of the challenges faced by Australian agriculture and rural communities, particularly in marginal rangelands like drought-hit western Queensland.

As Executive Director of University of Southern Queensland's Institute for Resilient Regions (IRR), Professor John Cole OAM works with people from regional areas, targeting research to identify new ways regional communities can build the resilience they need to thrive rather than just survive.

"The issues of drought and farmer emergency are quite different to the longer-term structural and sectoral strategic issues facing rural Australia," Dr Cole said.

Professor Cole said resilient communities are well informed about themselves and their options, diverse in their local character and

capacities, smart in their use of all available resources, seeking always to take the initiative, and well-versed in the opportunities that come with change.

IRR's research partnerships with regional communities are focussed specifically on small business sustainability, skilling for enterprise and entrepreneurship, supporting better health awareness and lifestyles, and nurturing the wellbeing of people and communities.

In short, regional Australia will not be resilient without strong human capital and robust social systems that support self-organisation and capacity to change.

That includes embracing of new forms of digital infrastructure and technology, which has been sorely under-invested in and is needed in many parts of Australia.

IRR is also looking at ways to strengthen adaptive capacity in our rural communities through group learning and development.

Achieving consensus and shared understanding of the best options available

are vital if communities are to move forward, and so in a number of remote and regional communities IRR is facilitating the 'local conversation', plotting pathways to the future informed by input from local leaders across all ages, as well as Councils, business and service and sporting groups.

"Failing a major shake-up of our Federation to better reflect our regional character nationally, people living in communities in regional Australia must set their own horizons, and take the initiative in organising and developing their local economies."

"We will not draw useful inspiration or realistic plans by looking to the major metropolitan centres of Australia – a far better idea would be to seek out the best regional development practice internationally and adopt the key insights here."

Professor Cole believes there are lessons to be applied from the past which will strengthen the resilience of individuals, enterprises and communities.



University of Southern Queensland's Institute for Resilient Regions executive director Professor John Cole.

"One hundred years ago, our forebears built communities, economies and industries drawing mostly on their co-operative capacity and we have to we look no further than Norco to see the continuing relevance and success of cooperative models in rural business."

Professor Cole believes the renewable energy sector is offering regional communities

significant opportunities for local investment, increased self-reliance, and sustainable development.

"For regional Australia, it means invigorated economic development in the form of renewable local energy and new jobs and local money flows in the industries that will follow."

Professor Cole said one of the bush's

biggest challenges was in keeping and attracting young people.

"In regional areas, the age divide is becoming even wider with young people leaving for jobs in the city, and tree-changer retirees making their way inland to live off their retirement nest eggs with a view to spending little and producing even less."

## Free financial counselling helps in hard times

**W**HEN times are tough, free financial counselling could make the difference between failure and survival for many farmers.

The Australian Government Department of Agriculture and Water Resources, in conjunction with state and territory governments, provides grants to non-government service providers to supply free financial counselling to eligible farmers, fishers, foresters and small agriculture-dependent rural businesses who are suffering financial hardship and who have no other source of

impartial information. The Rural Financial Counselling Service (RFCS) is available across rural and regional Australia.

The aim is to support clients to make an informed decision during times of economic hardship by helping them understand their business and look at a range of government assistance and other financial initiatives that are relevant to their needs.

**Rural financial counsellors work intensively with clients to:**

- help them to understand their business position and options

- improve their ability to plan operations, identify risks and achieve realistic goals
- identify their advice and training needs
- complete an action plan to address industry adjustment and climate change pressures
- connect them to information about government and industry assistance
- refer them to accountants, agricultural advisers and other relevant professionals and encourage strong on-going relationships with this professional support
- refer them to professionals for succession planning, family support and personal (social and emotional) counselling
- support the objectives in their Financial Improvement Agreement (FIA) if they are receiving Farm Household Allowance (FHA).

Rural financial counsellors cannot provide financial advice, succession planning or family, emotional or social counselling.

"There are a lot of financial demands on farmers and often they don't have the time to examine all of their options. We're an easy point-

of-call to provide critical information," said Julie Roy, Rural Financial Counsellor with RFCS NSW – Northern Region.

This sentiment was closely echoed by Stephanie Ferdelja, Senior Rural Financial Counsellor/Coordinator, RFCS—Victoria Murray Mallee.

"We provide assistance to eligible clients any time, it's not just when there is a drought. Our clients appreciate that we help to take out the stress and uncertainty of applying for assistance as many of them haven't previously applied: they can find it overwhelming and difficult."



Julie Roy, Rural Financial Counsellor, RFCS NSW – Northern Region.

To find out more about the RFCS or to locate your nearest counsellor visit: [HTTP://bit.ly/DeptAgrfcs](http://bit.ly/DeptAgrfcs) or call the Department of Agriculture and Water Resources during business hours on 1800 686 175.

# Supporting farmers with decision support in real time

**R**ELIABLE and accurate predictive powers may seem like a distant dream, however, advances in digital tools like sensors, cloud computing and mobile technology are allowing us to get much closer to making that dream a reality.

CSIRO and its industry partners have developed numerous tools to help decision makers capture the key dynamics of their agricultural systems at the required resolution (time and space), allowing them to make more effective decisions.

Some of you might be familiar with – Yield Prophet and SoilMapp – are already providing valuable decision

support to farmers, advisors and land managers.

'Yield Prophet has been instrumental in guiding our inputs decisions, particularly around nitrogen,' explains Tim McClelland, Birchip Cropping Group.

Developed by CSIRO and partners the Birchip Cropping Group (BCG), Yield Prophet provides grain growers and consultants with paddock-specific yield forecasts as well as crop growth and resource information. Yield Prophet acts as an interface to the crop production model APSIM incorporating soil test results, growing season rainfall, crop management and historic climate data to provide

accurate and objective real-time assessments of seasonal yield potential.

Using the grower's own soil test data, it estimates the probabilities of a specific paddock obtaining a range of yields. By matching crop inputs with the attainable yield in a given season, growers may avoid over- or under-investing in their crop.

'In many cases Yield Prophet has produced outputs contrary to our intuition. In these cases Yield Prophet either encouraged us to add extra inputs and take advantage of the higher yield potential than our expectations or the reverse where it discouraged us from investing in our crops,' Tim continues.



CSIRO is working with industry to expand and improve decision support tools.

'That said there were occasions where Yield Prophet showed a good probability of benefitting from additional inputs but the negative outcome resulted. This was easier to take as we knew the odd's associated with a positive outcome and we were prepared to take the risk.'

Released a decade ago, Yield Prophet now has more than 700 subscribers (wheat farmers and consultants) with a reach closer to 2000 users.

Yield Prophet developers are now working hard to improve its features and

expand to cover a broader range of crops.

'The idea is to help farmers and advisors navigate the growing amount of data available about a farm, and digest it into alternative courses of action they can choose from,' CSIRO Science Director Michael Robertson explains.

'Digital agriculture is the way of the future, we can see this in one example of the growing number of sensors now available on the market. At CSIRO we're bringing together our diverse expertise

in agriculture, information technology and data analytics and working closely with industry to create new decision support tools.'

'Some of the new features for Yield Prophet include incorporating POAMA data and providing the function to allow producers to input data directly from their own weather stations and sensors.'

It's not going to happen overnight but keep an eye out, you never know when the next generation decision support tool will crop up.

## Drought loans relieve farmer hardship

**F**ARMERS facing financial hardship are using loans from the Australian Government to help pay bills and reduce pressure of maintaining stock, but also to implement better landcare practices.

The Australian Government, is providing up to \$150 million in 2015-16 for Drought Concessional Loans to help farmers recover from drought and return to viability in the long term. Loans of up to 50 per cent of eligible farm business debt to a maximum of \$1 million are available. The variable interest rate (at time of printing) was just 3.05%.

### The loans can be used for:

- **Debt restructuring:** Applicants can use the concessional loan

to restructure a proportion of existing eligible debt at a lower interest rate.

- **Operating expenses:** Applicants can use the concessional loan to fund ongoing operating expenses needed to continue the normal farm operations.
- **Drought recovery and preparedness activities:** Applicants can use loan funds to contribute to the cost of activities to recover from drought and prepare for future drought.

Farmers doing it tough are urged to contact the various state and territory authorities managing the Drought Concessional Loans Schemes on behalf of the Australian Government – Queensland's QRAA, the NSW RAA, South

Australia's PIRSA, Victoria's Rural Finance, Tasmania's State Growth, and the Northern Territory's DPIF.

Craig Turner, Manager Customer Relations, QRAA, said Drought Concessional Loans can be used creatively to achieve outstanding outcomes for farmers facing financial difficulties.

'Farmers have used the funding to install predator fencing at the high-water mark on grazing properties. This provides protection for sheep from wild dogs but at same time movement corridors can be built in to allow the natural movement of wildlife,' Mr Turner said.

He said the two biggest uses of Drought Concessional Loans were to pay bills and to

reduce pressure of maintaining stock in hard times.

Livestock spend up to 70 per cent of their time grazing within two kilometres from water, according to Mr Turner.

'By using their loans to add watering points across the property, farmers broaden the grazing area and this in turn reduces grazing pressure on the property,' he said. 'This results in better vegetation coverage and reduces soil erosion and degradation.'

Mr Turner said the loans also allowed farmers to destock in a timely way.

'This reduces overgrazing, resulting in more groundcover and less soil degradation,' he said. 'Also when the rains finally come, pastures return more quickly



A Drought Concessional Loan can be used for property improvement, similar to this new predator fence in far north Queensland.

and far less top soil is lost to wind or water erosion.'

The Drought Concessional Loans have also helped farmers in parts of south-west Queensland sell carbon credits.

'One option is to use the loans to retain trees and lock in carbon credits,' he said. 'Turning properties into carbon sinks provides farmers with some financial breathing

space. It also manages carbon emissions and maintains biodiversity.'

Mr Turner stressed that no one should self-assess their situation.

'If times are hard, people need to know this assistance is available and they should inquire how it might assist them,' he said.

Visit [agriculture.gov.au/](http://agriculture.gov.au/) assistance to find out more.

# Making every drop count

Paul Cockram

**W**E can't make the rain fall from the sky, but we can become more resilient to drought.

If the farmer doesn't control the rain, they can control how their farms respond to rain.

Water is the essence of life: the longer you keep it, the more life you can get out of it.

Many farms don't get to keep it very long at all.

A good example of drought resilience can be seen at fifth generation farmer Martin Royds' farm "Jillamatong", near Braidwood.

Martin managed his family farm through the 1982 drought. By the time the drought ended he had no ground cover and the soil was compacted. Wind-blown sand was burying fences.

When the drought-breaking storms eventually did arrive, the water could not soak into the hard-baked earth.

Martin remembers, "We had raging muddy torrents that swept the remaining vegetation down the slopes, fouling the dams with dirt and dung and polluting the rivers all the way to the sea".

"That was our primary asset literally going down the drain."

Martin vowed to never let that happen again. He started by contour ripping, following PA Yeomans' ideas, to make sure that the next lot of rain would soak in.

He direct-drilled crops and pastures, to minimise ground disturbance, and managed grazing to maintain full groundcover.

In 2006, he met Peter Andrews and was introduced to Natural Sequence Farming.

"Peter helped me to re-hydrate my erosion gullies by using leaky weirs supported by vegetation plantings," Martin said.

"We were able to rebuild the 'chains of ponds' that have long been a water and fertility spreading feature of the Australian landscape."

The result has been that "Jillamatong" now acts as a sponge when it rains. The water is slowed down; it stays on the farm and facilitates plant growth, working under the ground as well as in the stream.

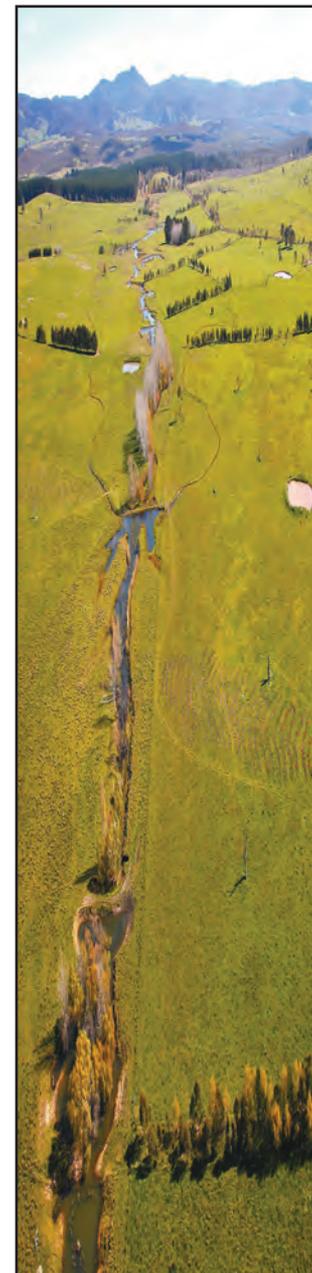
This sponging-up of water by a well-vegetated farm does not rob downstream neighbours of water. It provides them with more. When water roars off land in a flood, it is lost to everyone.

Caught and stored in fertile soils and leaky weirs, it still moves down the landscape, but slowly, releasing its benefits over time.

A benchmarking group has shown that "Jillamatong" is producing more kilograms of beef per 100 millimetres of rain, with less input cost, than nearby farms.

And after "Jillamatong" has profited from the rainfall it captures, much of that water flows down to benefit others in the catchment.

So it might sound trite, but the best way to have resilience to drought is to have water.



"Jillamatong", near Braidwood, today.



Martin Royds on the family farm "Jillamatong" during the 1982 drought.

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# Working on Eyre water security

**W**ATER is scarce across much of the Australian landscape, but new concepts and technologies are greatly enhancing landholder's ability to harvest and store water.

Those advances are being explored in a series of "Water

Use On Farm" workshops run by the Eyre Peninsula Natural Resources Management Board (EPNRMB) with National Landcare Funding at five locations across Eyre Peninsula.

Water security is a perpetual concern for farmers on Eyre Peninsula.

Sometimes on-farm water supplies are simply not available because of low rainfall, unsuitable sites for dams, and surface and ground water either not available, in limited quantities, or with high salt content.

Sustainable Farming Project Officer, Mary Crawford, urges every farming business to develop a farm water plan to assess how much water it needs when and where, to ensure against running out of this fundamental resource.

"Farm water planning also takes into account the levels of risk associated with water supply reliability," Mary said.

"The Eyre Peninsula Natural Resources Management Board has provided each participating farming business with an aerial photo of their property to map their current system, identifying areas of concern, and then develop a five-to-



Diana Laube, Chris Prime and Dave Cunningham.

ten-year plan to improve the sustainability of their water system."

Mary added that the exchange of information between farmers and professionals at the workshops has been invaluable.

Daniel Vorstenbosch from Warrambo, a guest speaker at one of the workshops, said he invested in a sheeted catchment to ensure he had a supply

of good quality water for spraying and livestock.

"I estimated our current water use before constructing the catchment and left room to expand at one side if needed," Mr Vorstenbosch said.

"We pump the water up to two 60,000 gallon tanks which is half our annual water consumption."

Other new technologies being deployed are leak detection

devices, on-farm desalination, and solar panels and pumps.

Alpha Group spokesman Shane Oster said he'd installed more than 550 leak detection devices since the first workshop, helping farmers cut water losses by 20 to 50 per cent.

Four YouTube videos on sheeted catchments have been produced and are available online.

Visit <http://bit.ly/Eyrefarmwater>



Kaye and Nigel Lyndon Cummins.

## The keys to sustainable horsekeeping

**S**USTAINABILITY – particularly as it relates to drought resilience – is about reducing soil loss, maintaining clean water, and providing habitat for flora and fauna.

But in Equiculture, it is also about examining the lifestyle of both the horse owner and their horses, to see if any improvements can be made.

By making small but meaningful changes, huge benefits can be reaped for our equine lifestyle and positive affects for the wider environment realised.

Equiculture sees sustainable horsekeeping as a means to maintaining equine lifestyle efficiently,

using a combination of factors that include ease of use, relationship/family balance, sound economics, environmental management, and equine health and welfare.

### Benefits for horses

Looking at an area of land as a self-sustaining ecosystem has many health benefits for your horses.

When it lives within a healthy biodiverse environment, the horses' lifestyle will be as close to natural as is possible in a domestic situation.

These natural systems provide a range of healthy plants for horses to graze upon, again mimicking the horses' natural environment.

For example, horses require a diet consisting mainly of high fibre, low energy grasses, which makes Australian native grasses ideal forage.

Biodiversity also creates more natural grazing behaviours including browsing and foraging on trees/bushes and other plants.

As well as their foraging benefits, native species have the adaptations to survive the extremes of the Australian climate, and can help ensure a sustainable and resilient pasture regardless of climatic conditions.

The simplest way to create a sustainable environment for your horses is to try to work with nature and mimic natural

systems as best you can, by using informed compromises.

The environment relies on complex and biodiverse ecosystems and, when gaps occur in these ecosystems, problems develop.

The trick is knowing what compromises can be made without having any detrimental effects on the horses or the land.

### Benefits for people

By making equine management practices more sustainable, the horse owner reduces costs and workloads, and increases the available feed on their land.

This results in more quality time with their family and



their horses, with land that is not only more productive, but which has improved aesthetics.

### Benefits for land & environment

By managing our horses more responsibly we start to remove

pressure from the land. This reduces compaction, erosion and weed burdens.

Creating a healthier environment, resilient land, more biodiverse pastures, and happier healthier horses is a true win-win situation.

Visit [www.equiculture.com.au](http://www.equiculture.com.au)

# Arid zone tree planting helps repair landscape

**T**HE notion of watering-in new trees is foreign to arid-zone silviculturalist David Kennett.

He plants his trees in dry soil, sometimes in mid-summer, and gets exceptional survival rates.

David's Auria Arid Region Forestry Project near Minnivale, in the Western Australian wheatbelt, has planted nearly a million trees in trials that began in 2001.

He is driven by the belief that successful arid-zone forestry is vital to repairing landscape function and boosting farm productivity.

Some of David's techniques are counter-intuitive, but after a million trees, there is no question they work.

Just before planting, trays of trees are placed in water, until the root-balls are fully saturated.

The trees are then planted with the root-balls 20 centimetres below the surface.

With just a few leaves exposed, the transpiration rate and evaporative loss from the root-balls are reduced.

Contrary to expectations, the trees do not suffer from collar rot.

They produce roots from the buried trunk in the same way that cuttings do.

David also plants late in the year, after winter weeds have died off.

This avoids the cost of herbicides.

Dead weeds are slashed and ploughed in, adding vital organic matter to the soil, stimulating microbial activity, and improving the heat-insulating and moisture retention qualities of the soil.

Trees planted in this way, over the months from September to January, have proved to have outstanding survival rates, even when planting is undertaken on days when the temperature is well over 40 degrees celsius - and despite the fact that trees are never watered.

David says that watering destroys the insulating qualities of the dry soil that encapsulates the stems of the seedlings.

If the trees are watered, the water on the surface evaporates



away quickly due to heat, wind and low humidity, which then draws all the moisture out of the soil and root-balls via capillary action.

Belts of trees reduce evaporative loss from sheltered crops while elevating the humidity of the air - both of which benefit crop yields.

David advises planting as wide a diversity of species as possible, always including eucalypts, melaleucas and acacias, to create more effective windbreaks while capitalising upon the symbiotic relationships that exist between them.

In the infertile soils of the arid zone, planting a diversity of trees in a shelter belt minimises competition between them for scarce nutrients - another important factor in survival and growth rates.

Contact David Kennett on 0427 600 024 or [auria1069@bigpond.com](mailto:auria1069@bigpond.com) or [auria.net.au](http://auria.net.au)



An example of a tree affected by salinity.

## Permaculture, where east meets west

Joanne Stokker, with David Spicer and Greg Kribbs

**T**HE underlying methods of using permaculture as a tool for land management to drought-proof properties have many similarities on the east coast of Australia to those utilised in the west, yet they are also worlds apart.

Of course, the foundation principles of permaculture are tried and tested, however still not so mainstream - assessment, landscape design, earthworks to capture and retain water to enhance soil health, and also vegetation selection to stave off erosion and capture all available efficiencies.

Australia's east is generally wetter with not as many sunny days as the west, and thus the permaculturalists focus on harvesting and storing water in dam(s) that are larger and generally not as deep as those in the west. These dams mostly connect to gravity-feed water systems.

Permaculturalists are constantly assessing how to make soil more receptive to water, to ultimately store as much as possible, rebuilding the soil web to create more nutrient-dense pasture that can lead to stocking having to eat less.

Permaculturalists use change management practices such as holistic management, chisel plough or yeoman plough; ripping slightly off-contour from the valley to the ridge to hydrate the landscape equally.

Another essential feature is a tree system for shade, providing protection for livestock in hot or cold conditions, reducing heat and cold stress and increasing humidity.

Permaculturalists design tree systems, or shelter belts, into the landscape to ultimately become fodder for stock or to act as an emergency feed source.

The south west of Western Australia is very similar to the south coast of eastern Australian, and permaculturalist are using the same change management practices there with a great deal of success.

However, in the rangelands of the northern part of Western Australia, which run from the tropical to the subtropical, there are arid lands, and major floodplains and rivers, meaning that significantly different components of change management may be required for a localised approach.

On land that is over-grazed and needs rehabilitation, either swales need to be installed wider in the bottom and widely spaced apart - to respectively ensure maximum infiltration, and more runoff area for water being captured - or keyline cultivation applied with yeoman's or chisel type plough.

This slows down and spreads water for absorption into the soil, which recharges ground waters without causing erosion.

Dams in the west should generally have a smaller surface area and be much deeper in depth than dams in the east, to reduce the effects of evaporation.

Shelter belts - for shade and to reduce heat stress for stock - are particularly relevant in the west, and the systems should be strategically placed to create wind breaks that aid in reducing wind erosion.

Whilst there are differences - from east coast to west coast - in climatic conditions, soil types, orientation of mainframe design, and methods, the objectives remain to capture and hold water to increase soil health and vegetation.

Permaculture as a tool for drought proofing Australia, is a proven to bring back land from the brink.

In the words of one respected expert in this intelligent field of landscape management: "The basic ingredients are the same, it's just the recipe and methods that vary."

Authors: Joanne Stokker, of Stokks Consulting, David Spicer of Permaculture Works and Greg Knibbs of Edge 5 Permaculture.

# Grazing drought resilience

Claire MacTaggart

**T**HE best time to prepare for drought? The good times.

That's the experience of Jamie Gordon, a beef producer who runs "Mt Pleasant", a 13,800 hectare property between Collinsville and Bowen in north Queensland.

When the seasons are running his way, Jamie starts thinking about preparing for when the weather is not in his favour.

"Everything we do must add to the strength and resilience of our landscape," Jamie said.

"Mt Pleasant", which Jamie runs with wife Carlone Moulin, is moving into its fourth year of below-average rainfall.

The property's long term average rainfall is recorded as 700 millimetres, but at present, the rolling twelve month rainfall is 250mm.

Several strategies are helping "Mt Pleasant" weather the adverse conditions

## 1. Flexibility of enterprise

The Gordon family have three beef enterprises – trading, agistment and breeding.

"We can adjust our stock to match the season and move the focus from one enterprise to another as seasonal condition,



Louis Moulin-Gordon; Carlone Moulin; Jamie Gordon (centre), and George Moulin-Gordon.

forage and markets dictate," says Jamie.

They monitor stock numbers, rainfall and available pasture with grazing charts and forage budgets, and use the budgets to make decisions well ahead of crunch points.

## 2. Building strength in the landscape through biodiversity

The Gordons moved from conventional, set stocked grazing to time controlled grazing in 2003 to allow a short grazing period and adequate pasture rest.

They've noticed an increase in ground cover, from 60 per cent coverage to 90 per cent.

"We try to accumulate strength in our landscape wherever we can and we do that by having over 90 percent of our land without stock at any one time," Jamie said.

"If there's a rainfall event we can capture and retain the water which helps minimise nutrient loss."

The family monitors the landscape with photo sites, soil health checks and forage budgeting.

## 3. Improving property infrastructure

Jamie increased the water storage and distribution



system at "Mt Pleasant" more than a decade ago to allow flexibility through extended dry periods.

The property now has eight large storage tanks with an average capacity of 500,000 litres.

## The three phases of drought

**D**AVID McLean of Resource Consulting Services, an agricultural consulting business based in central Queensland, suggests that there are three phases of drought management:

### 1. Preparing before a drought

Good seasons are a time to prepare and build ecological capital into the land through a combination of grazing and recovery periods between grazes. Where economical, develop water and fencing infrastructure for good water supply and optimal land management and match stocking rate to carrying capacity. Get to know your business; its key profit drivers and its strengths and weaknesses. Finally, can your production system survive during a drought and are the enterprises suited to the landscape? Do you have animals that you can sell when the tap starts to turn off (a destocking policy)?

### 2. Managing during a drought

Now is the time to implement the skills you've learnt and refined. Feed-budget carefully, and assess which animals you are going to ration that feed to. Match stocking rate to the lower carrying capacity by implementing the destocking policy and lengthen rest periods to reflect slower plant growth rates and reduce the number of mobs.

### 3. Recovering from drought

Similar to the previous two stages, match stocking rate to carrying capacity carefully and manage cashflow as it can be very tight. Keep analysing the options you have.

Reflect and learn from the drought - were there any deficiencies in the water system or other infrastructure? What will you do different in the next one?

"First we must accept that drought is normal, and then that we survive droughts by what we do in good and bad seasons," David says.

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# Project helps strengthen landholder resilience

**A**S PARTS of south-eastern South Australia enter their fourth year with acutely below-average rainfall, the Regional Landcare Facilitator project is stepping in to strengthen the resilience of landholders and communities.

In September, the facilitators formed the Limestone Coast Drought and Health Network in recognition that the prolonged drought being experienced in south-east SA does not merely manifest as lack of rainfall. It also takes an acute toll on mental health and financial resources.

The situation is exceptional, in a bad way. By December, SA's south-east had entered its 39th month of severe rainfall deficiency - over large areas, the lowest 5-10 per cent in rainfall records.

The Limestone Coast Drought and Health Network is formed of eight health and financial stakeholder bodies and is growing monthly.

Stakeholders meet on a bimonthly basis to discuss and reassess the current climate and community needs.

The network helps create a united approach to service delivery.

Government health services were increased in

drought affected areas, and the Limestone Coast Drought and Health Network ensures that the investment is best matched with local resources and needs.

The Network has successfully coordinated a wide range of initiatives. These include:

- Dry Times Website to provide various drought related resources to South East landholders.
- Mates helping mates – Agribusiness seminar to raise awareness of mental health and well being.
- Formulation of Dry Times Bible – Community listing of drought assistance services in the South East.
- Sporting Grill – AFL footballers (guest speakers) and landholders sharing stories of hardship and resilience.
- Production of Dry Times Support Services (rural health and finance) postcard.

For further information on the Limestone Coast Drought and Health Network and 2016 programs visit the Natural Resources South East website: <http://bit.ly/limestonecoast>

Or contact Regional Landcare Facilitator, Caroline Menzel by emailing [caroline.menzel@sa.gov.au](mailto:caroline.menzel@sa.gov.au)



Dry times have hit families hard.

## Drought resilience: Knowledge is paramount

**Y**ASS Valley NSW farmers, John and Robyn Ive, realised nearly 10 years ago they needed to make changes on their property, "Talaheni".

They had been through nearly seven years of well-below average rainfall, and all vegetation types showed increasing signs of stress, including more than 100 mature trees that had died.

Even in areas with negligible grazing pressure, the *Microlaena stipoides* coverage was in decline.

The germination of subterranean clover was

also in decline due to poor seed set and false or late autumn breaks.

Phalaris-dominant pastures had retreated on slopes to drainage lines and depressions where soil moisture was augmented by run-off from upslope areas, and moisture-needy Yorkshire fog grass had disappeared.

The couple recognised they needed new and improved tools to cope with increasing climate variability.

The initial step was to analyse Talaheni rainfall records to establish any change in rainfall patterns.

Trend analysis identified that while annual average rainfall decline was a tolerable 5 millimetres a year (although amounting to a less tolerable 150mm over 30 years), more telling was the seasonal shifts with just on 100mm lost during the all-important autumn period, a loss transferred to the late spring-summer period.

The annual seasonal pattern has changed notably, collectively yielding a current rainfall outcome that is agriculturally inferior to that when they started farming at Talaheni

Recognising the potential impact of this change on

future farm management the Bureau of Meteorology BOM was approached to verify the analysis.

Their attention turned to exploring rainfall prospects.

With assistance of BOM they attained climate data from 10 global circulation models out to 2100 downscaled for Talaheni.

This and historical data was then used with their daily soil water balance model, developed for Talaheni over the previous decade.

It showed on average Talaheni is at or below permanent wilting point 52 per cent of time with the driest



In September, 2015, "Talaheni" looked a picture, but the combination of monitored soil moisture, rainfall trends and seasonal forecasts collectively suggested it was on the brink of a serious dry spell.

period moving out to 57 per cent of the time. The future sees this limit moving further out to a challenging average of 62 per cent of the time.

On-farm actions have included deepening dams, installing a back-up reticulated

stock water supply network, establishing more shelterbelts at right angles to prevailing winds, exploring sub-tropical perennial grasses, changing times of livestock culling and sales, and increasing soil carbon.

# Drought resilience through controlling traffic

Wendy Moline

**M**ILLMERRAN Landcare Co-ordinator, Rebecca Kirby, supported a group of six farming families through a long-term controlled traffic farming (CTF) project, teaching them about drought resilience, sustainability, profitability and benefits of CTF systems.

Millmerran Landcare is a strong farmer-based organisation on Queensland's Darling Downs, with a network of up to 200 farms.

Project participants, Charlie and Susan Uebergang, had a 566-hectare (1400 acres) dryland cropping and grazing enterprise with a frontage onto the Condamine River in Queensland's Darling Downs.

Following adoption of zero till about 25 years ago, Mr Uebergang worked towards a fully integrated CTF system.

"Throughout my farming years I always wanted to leave the soil in better condition for future generations, and this led me to farm the way I did," Mr Uebergang said.

"I farm moisture, and these systems make the best use of whatever rainfall I get."

With the benefit of the changes made as part of the CTF project and a better growing season, sorghum yields increased from a 4.5 tonnes a hectare average in 2014, to 6.3t/ha average in the crop harvested in between February and April, 2015. Yield in one paddock was measured at 8.6t/ha.

Mr Uebergang also planted opportunistically. As part of his rotation Mr Uebergang planted barley after sorghum, to leave the soil softer.

Although late in the season, on 28 August 2014, after 33mm of rain Mr Uebergang planted 92 ha of barley. He did better than break even with the crop, harvesting 0.8t/ha.

The Uebergangs sold their property late in 2015, and have now "retired" to a property near Pittsworth where Charlie runs a few cattle.

"I am busier working in our five acre (2ha) orchard and garden than I was on the farm," Mr Uebergang said.

Nevertheless they are enjoying the change and looking forward to good seasons ahead.



The sprayer at work.



The new harvester in the field.

## Summary of the machinery changes made during the project

Machinery before project	Purchase/modification	Cost	Comments
Header Case 2166 7.2m front	Header Case 2588 10.5m front	\$250,000	Planned purchase, because it was too expensive to adjust the old header.
Gold Acres spray rig	Extend from 24m to 30m	\$6000	Mr Uebergang decided to have this done as the spray rig was still under warranty.
Excel twin disc Stubble Warrior planter	Extend from 8m to 10m, with an extra 4xExcel SP200 units and altered the outlets to suit	\$10,000	Project motivated Mr Uebergang to do this modification himself as part of his machinery plan.

## Plantings between October, 2014 and June, 2015

Date	Crop	Hectares planted	Yield T/ha	Comments
August, 2014	Barley	92	0.8	Better than break even after late season planting
October, 2014	Sorghum	130	6.3	Fallow due to previous dry winter
December, 2014	Sorghum	46	7.5	Fallow due to previous dry winter
January, 2015	Sorghum	66	4.9	Fallow due to previous dry winter
16 May, 2015	Boundary Chickpeas	50		Fallow due to previous dry winter
16 May, 2015	Boundary Chickpeas	56		Into sorghum stubble, harvested in February - double crop
27 May, 2015	Lancer Wheat	46		Into long fallow due to previous dry winter
28 May, 2015	Compass Barley	46		Into sorghum stubble.
22 June, 2015	Crusader Wheat	60		Long fallow due to previous dry winter.



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# Program connects farmers with jobs

**M**ALLEE farmers and communities hit by a succession of poor seasons are taking on meaningful part-time work as part of the Southern Mallee Drought Employment Program.

The program is one of three being delivered across the Wimmera-Mallee, as part of the Victorian Government's drought response package.

The Southern Mallee program is coordinated by the Mallee Catchment Management Authority (CMA), with work teams established at Hopetoun and Birchip.

Mallee CMA Chair Sharyon Peart said the program offered farmers up to four days' work a week per week on Natural Resource Management (NRM) projects such as weed and rabbit control, watering revegetation sites and fencing – for farm workers and other people, whose livelihood is significantly affected by drought.

"We have previously run these types of programs in response to both drought and flood, and this time we are employing quite a diverse

range of people who have been affected by the dry conditions in the Mallee," Ms Peart said.

"Involved this time are several farmers and contractors, a fuel supply contractor and a person who was previously working with grain transport and receipt," she said.

"We have found that flexibility is the key to success in these programs. It offers the opportunity for people to earn some income, but at the level they are able to manage and still focus on the important work that needs to be done on the farm."

Program participants have noted the flexibility of the program and the benefits it provides for themselves, their families and communities.

Birdwoodton fruit grower, Angelo Taglierini, spent 14 months working throughout the Mallee on a previous program supporting people affected by the 2011 floods. He said the program was important in many ways.

"It gave me income, and that was certainly important in keeping us going and getting the farm back on track – but it also helped me move

on from what happened, got me out and about and gave me experiences that I really wouldn't have had otherwise," Mr Taglierini said.

"It was work that was enjoyable because I was comfortable with it but I was learning, and I was with a completely different group of people in new areas.

"It helped financially, but also socially and emotionally. It was a really enjoyable and rewarding opportunity."

Ms Peart said the current Southern Mallee Drought Employment program had received strong support from Mallee communities, particularly from local governments and community groups who can clearly see the benefits and have embraced the concept.

"The work the crew are on projects the community itself sees to be of value," Ms Peart said.

"Among the projects are watering native vegetation sites, removing old fencing and rubbish from the local public reserves, including Lake Lascelles and Lake Corrong, as well as weed and pest animal control in partnership with



local government and public land managers.

"We think these types of programs are an important

contribution we can make to supporting people and holding communities together during a tough time."

For information about the Drought Employment Program visit <http://bit.ly/MalleeDrought>

## Netting enclosures showing benefits

**A** STUDY of the impacts of netting enclosures on water usage and fruit production increases is under way in the Riverland, South Australia, with results available mid-year.

Natural Resources South Australian Murray-Darling Basin (Natural Resources SAMDB) and Primary Industries and Regions SA (PIRSA) have teamed up to fund the three-year study.

Natural Resources SAMDB project officer

Sustainable Farming Mark May said fruit and vegetable growers already understood the benefits permanent and temporary netting enclosures brought to high-value crops due to the protection they offered.

"What is less understood is the effect they have on water use efficiency," he said.

"Two farming businesses from the Riverland – citrus producer Pyap Produce, and apple growers Rivercorp – have agreed to host the netting study on their properties."

PIRSA Regional Support Team Leader Kym Walton said the South Australian River Murray Sustainability Program (SARMS) was keen to invest in innovative ways of increasing irrigation efficiencies and crop production to support regional growth.

"Pyap Produce and Rivercorp sought investment through SARMS and invested significant amounts of their own funds in permanent netting enclosures on their properties, near Loxton," Mr Walton said.

"New on-farm infrastructure and water use optimisation activities such as orchard netting were largely untried within the Riverland region, so the work being done now will help show other producers the potential opportunities, costs and savings that can come from new practices like these.

"More than 100 hectares of highly-productive fruit trees have recently been netted and the benefits are already showing."

Rivercorp owner Fergus McLachlan said the hot

Riverland summers resulted in limited production on his apple trees.

"The branches and fruit where getting scorched from the heat, reducing yield and fruit quality," Mr McLachlan said.

"Since this patch of trees has been netted, the increase in tree health is significant.

"You can see the difference between trees that have been netted compared to the ones that have not."

Citrus producer Tim Arnold said he had heard about the benefits of nets over orange trees from

interstate, so he went to the Sunraysia to see for himself.

"Looking at the trees on the grower's property we visited, you could quickly see a vast improvement in fruit production and quality," Mr Arnold said.

"It helped back the decision we made in seeking investment from SARMS in this infrastructure."

Natural Resources SAMDB has added two weather stations located under the netting enclosures to collect data to be compared to existing weather stations near the netted sites.

# Australia, let's do more than cross our fingers!

IT'S a fact of life. As Australians, most of us will experience a natural disaster – such as a bushfire, flood, extreme storms or drought – at some point in our lives.

For our farmers, this reality is constant with the frequency of extreme weather conditions on the rise and drought being an ongoing geological hazard.

The impact of such disasters on Aussie farmers has led to a high incidence of mental health issues including post traumatic stress, depression and anxiety.

The cost of natural disasters on the Australian economy is estimated to be over \$1 billion a year.\*

In 2015, Landcare Australia launched the From Farm to Fork campaign to assist farmers better prepare for extreme weather events.

Rob Novotny, Head of Fundraising, Landcare Australia explains, "From Farm to Fork is a fundraising and awareness campaign coming from a simple idea of asking people to support our Aussie farmers through Australian agriculture landcare projects that are drought and climate resilient to ensure our food production in the future."

"Extreme drought and other catastrophic weather

events can devastate food production and supply.

"Our goal is to raise public funding to help us support a range of innovative agricultural projects that give farmers the tools they

Landcare Australia recently launched a new community fundraising initiative as part of the From Farm to Fork campaign called 'Let's do more than cross our fingers!'

"This campaign gives

difference in helping protect our future."

With boundless ideas at hand, creating your own fundraiser gives you the opportunity to decide how you can help. Be empowered and do something more than cross your fingers.

Let's each do something and help take some of the burden from our farmers and help protect our future. By getting on board and creating your own From Farm to Fork fundraiser, we'll provide you the support you need

to help make your event a successful one.

To sign up or for further information, visit [www.fromfarmtofork.org.au](http://www.fromfarmtofork.org.au)

\* Source: National Sustainability Council Report 2013, Department of Environment

**Landcare Australia leads the promotion and financial support of the Landcare national resource management programme, aligning the practice of environmental management with land productivity. Funds raised through the From Farm to Fork campaign go to projects that educate and support our farmers on drought resilience and other best practice programmes.**

need to cope and survive such harsh and unplanned conditions."

**Whether you live in urban or rural Australia, issues faced by farmers affect all Australians.**

As part of our ongoing commitment to help farmers become drought resilient,

every day Australians the opportunity to create their own fundraiser and support our Aussie farmers in their own unique way," Rob said. "Whether the fundraiser involves taking on a sporting challenge, organising a bake-off at your office or school, or selling home made goods at your local community market, every cent raised makes a big



Landcare's projects aim to give farmers the tools they need to survive in Australia. Photo by Saville Coble

**FROM  
FARM  
TO  
FORK**

## Let's do more than cross our fingers!

**Create your own fundraiser and do something that helps support our farmers and our future.**

- > Get active > Host an Aussie BBQ
- > Have a cake stall > Host a trivia night
- > Share your birthday or anniversary
- > Run a school farm themed day

An initiative of



Visit [www.fromfarmtofork.org.au](http://www.fromfarmtofork.org.au) or call **1800 151 105**



Landcare  
Australia

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