Australian Government
Department of Agriculture, Fisheries and Forestry

Future Drought Fund

SA DROUGHT HUB

This program received funding from the Australian Government's Future Drought Fund

Improving on-farm water security using innovative remote sensing systems

LEAD ORGANISATION:
Barossa Improved Grazing Group (BIGG)

PARTNER ORGANISATIONS INVOLVED:
South Australian Research and Development Institute (SARDI)

SA DROUGHT HUB NODE:
Roseworthy

Outcomes

Short term

- Increased collaboration and partnerships among organisations working in research, development, extension, adoption and commercialisation (RDEA&C).
- Efficient and effective activities to support RDEA&C and uptake by end users.

Medium term

- Increased adoption and commercialisation of drought-resilience technologies and practices.
- Technologies and practices adopted are effective in improving drought resilience.

Project activities

BIGG established demonstration sites for producers to use water monitoring systems to reduce water use, maximise water-use efficiency and ensure livestock have access to water. This was identified as a priority by community members given diminishing seasonal rainfall and reduced water volume in storage.

Four trial sites were set up on a range of different livestock enterprises (sheep, beef and dairy) to evaluate tank level monitoring systems. These were monitored over summer 2022-23 and autumn 2023.

At all sites, the monitors saved time and money. They also improved mental health, reducing stress levels related to time management and worry about the levels of water in the tanks.

Jane Evans

Technical Facilitator, BIGG

Jane was the primary contact with project participants. She recounts the story of one producer testing his monitoring system by letting his tank fall to 65% capacity. He was thrilled to receive an alert while away from the property.

He now feels confident that he can go off farm and receive accurate reporting on his water supplies. They were able to take a holiday for the first time in ages with complete peace of mind.

The project region has no external water security infrastructure access for most producers, so we're quite vulnerable to climatic conditions.

Our average rainfall is about 600 mm per annum here. Recently, this dropped to 350 to 400 mm for a few years, so our dams were empty. We were trucking in water, and it was extremely stressful for producers.

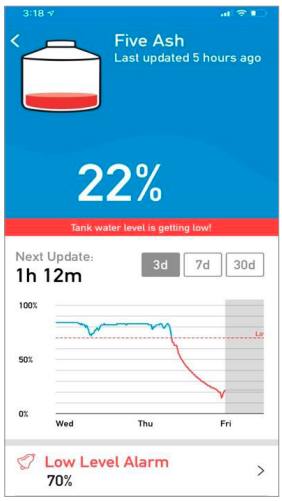
Water management, water security and sustainable use of water is critical in our warming, drying climate.

This project is so applicable to agricultural practice and farming across the nation. Early detection of leaks and water loss can help prevent livestock stress and maintain high-quality production levels.

Ian and Fiona Koch

Bunyara Merino and Poll Merino Stud, Moculta SA

Ian (pictured, right) and Fiona installed a Waterwatch T35 Remote Tank Level Radar Sensor with Telstra 4G-LTE on a tank (photo, below) that services the homestead and water troughs that water up to 450 sheep.



We rely on surface water and dams and springs. That is difficult for us on some of our country – the weather patterns are changing and we seem to be having more extreme events.

The monitor has been an asset since it was installed late last year. My aging father used to check the water level three or four times a week, 20 minutes each time. So the monitor has saved him – and me – a lot of time. You just need an app on your phone and you get a measurement every three hours.

It gives you peace of mind because it's so easy to look up and it's one less thing you have to worry about physically going to do.

Estimated cost saving: More than $10,000 over 3 years including a 50-60% reduction in labour and vehicle costs (not including reduced vehicle depreciation and maintenance).

Warren and Barbara Fargher

Wirrealpa Cattle Farm, Flaxman Valley SA

Warren and Barbara (pictured, above, with BIGG's Jane Evans) moved to their current property from a 1500-km^2 cattle station in the Flinders Ranges. Their new property relies on capture and storage of rainwater and surface water run-off, with one tank supplying four watering points for around 35 Angus cattle.

The Farmbot Water Level Monitor *(photo, right)* saves time, fuel and worry by eliminating travel between blocks every two days to check levels.

My experience up on the station was more droughts than good seasons. The water situation had to be managed carefully. You were constantly worried about how much water would be in the tank.

It's made a difference already. You look at your phone and see the tank needs some attention because it's given me an alarm to say it's below where it should be. It's quite incredible.

It'll save a lot of money and time. And it's more efficient. You have to measure everything you do these days.

Estimated cost saving: More than $9,500 over 3 years (not including reduced vehicle depreciation and maintenance).

GET INVOLVED

The project has been extended in 2023-24 and is investigating the efficacy of other water-measuring innovations, such as water quality and water salinity monitors.

Producers wanting more information can contact Jane Evans at jane.evans@biggroup.org.au or visit the SA Drought Hub website via the QR code.

Barossa Improved Grazing Group BIGG

Government of South Australia
Department of Primary Industries and Regions

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