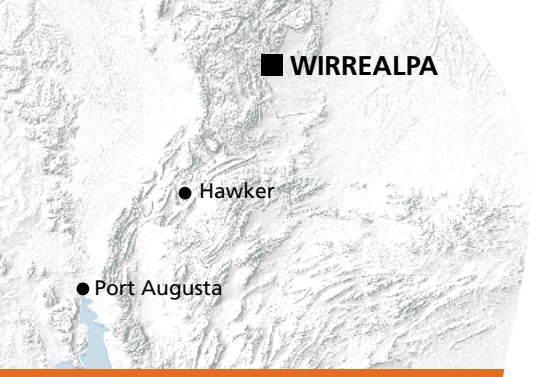


WIRREALPA

OWNERS
Warren and Barbara Fargher

LOCATION
Northern Flinders Ranges

PROPERTY TENURE
Pastoral Lease

ENTERPRISES
Sheep and Cattle

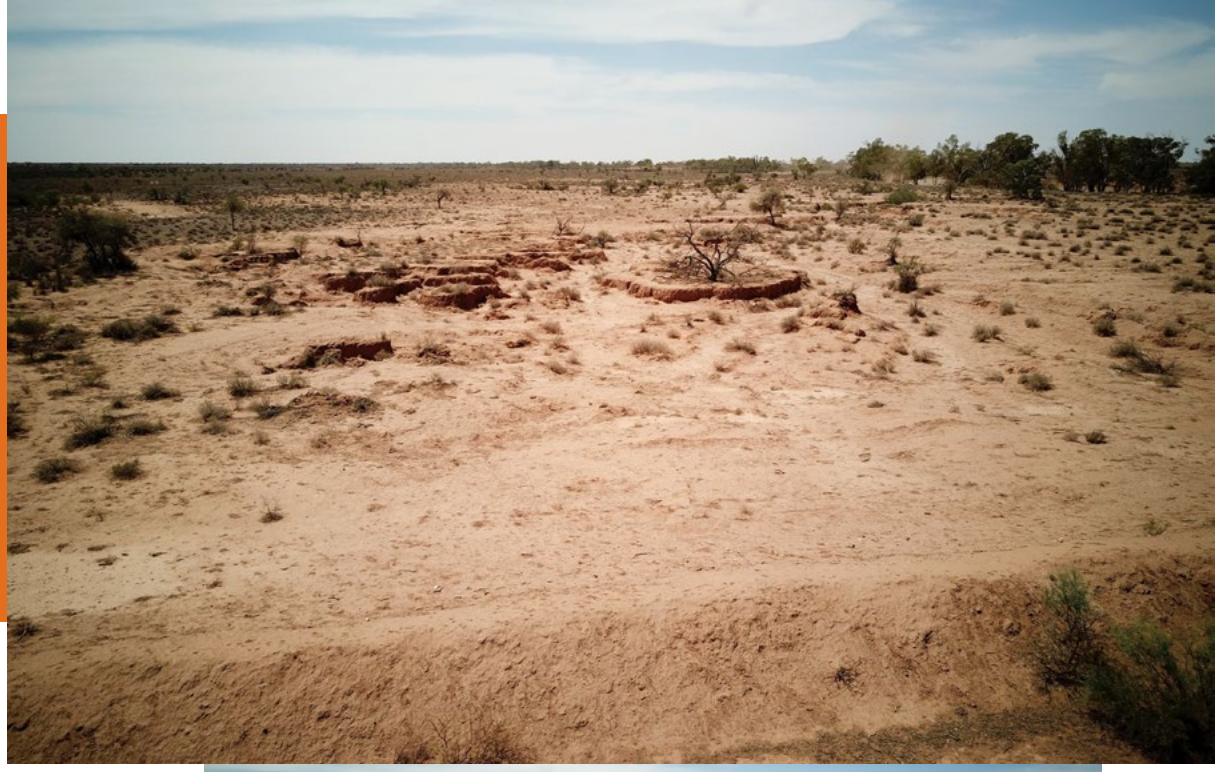
Recovering Eroded Land in SA's Pastoral Lands

When the Fargher family bought Wirrealpa in 1953, the land had been heavily grazed and had few watering points; at times it had carried more than 40,000 sheep.

Aerial imagery showing earthworks near Balcoracana Creek. Runoff from slopes flows from west to east and is intercepted by banks that divert it towards the north-east, away from gully heads that drain towards the creek. Land was levelled at the northern end of the second bank to spread flows over very gently sloping land, slowing them and enabling them to soak into the ground.

Initially stock numbers were reduced and more watering points installed over the property to improve the condition of the vegetation and the land. The Farghers bought a Paech potato ripper in the 1960's and started 'pitting' bare land (forming small depressions in the soil) to trap water and seed. They also ripped land with tined implements, forming furrows that stopped wind and water sweeping over bare ground and trapped seed, water and soil. The pits and furrows created niches for plants to germinate and grow in. Rabbit warrens were particularly extensive in the western part of the property and these were systematically ripped.

In 2010, the Farghers became involved in an 'Ecosystem Management Understanding' (EMU™) project to gain a better understanding of Wirrealpa's natural resources and how they could be sustainably used.



The bank in the foreground intercepts surface flows and diverts them to the left of this picture, away from gullying land near the creek. A sump in front of the bank holds and slows water; it has been ripped with bulldozer tines to increase infiltration of water into the soil.

They mapped the property's landforms, drainage, vegetation types, productive capacity and areas of cultural, biodiversity and historical significance, onto satellite images. Warren is a pilot and regularly flies over the property but now found himself looking at the landscape's features rather than looking for stock.

EMU™ landscape ecologists and project staff then undertook on-ground inspections to find sites for land rehabilitation works. They focussed on improving the more productive land on the property that would yield better economic returns.

Aerial view of first (western-most) bank near Balcoracana Creek. Gullies behind the bank have been battered and levelled to encourage regrowth. Flows are directed towards open, well-vegetated land to the left hand side of the picture.

Aerial imagery showing earthworks on Little Belcrackna Creek. Water flows from the north-west towards the south-east. Level channels spread water from the watercourse onto gently sloping (<1%) plains to the north. Banks in the south-eastern area direct flows away from an active gully head.

Photo: The Farghers

Building a diversion bank above a gully head near Little Belcrackna Creek. All construction work was carried out with a bulldozer and a grader.

Level channels have been graded to spread flows from the Little Belcrackna Creek onto adjacent open country. Water will fan out, slow down and soak into the soil.

At a number of sites, a series of banks were surveyed and pegged, and were built as time and finances permitted

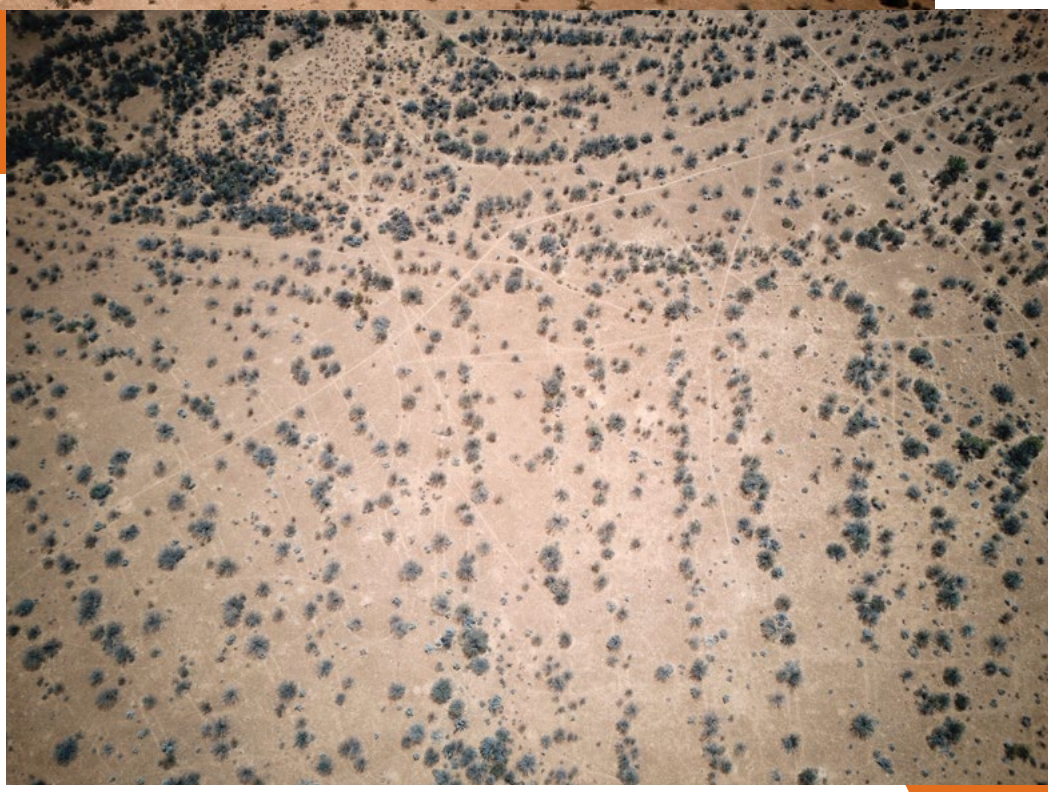
The purpose of the banks is to intercept, slow and divert surface water flows away from active gully heads. Runoff is spread out over a wide area of land which reduces its erosive power and allows it to soak into the soil. This promotes plant growth and further reduces the risk of erosion.

Runoff along the road is intercepted by small bank that directs flows onto a wide channel on adjacent land.

In various places on the property, small structures and treatments are used to slow water flows and hold the water on areas where it can soak into the soil and boost plant growth. Furrowing and pitting is used on bare areas to encourage regeneration of plants. Runoff from roads is diverted into wide, level channels that slow and spread the flows onto gently sloping adjacent lands.

Barbara and Warren Fargher have gained considerable personal satisfaction from viewing their property from a new perspective and implementing measures to slow runoff, increase soakage of water into the soil, improve plant growth and mitigate erosion.

Aerial views showing regeneration of bush on land that has been furrowed. Most of the bushes have grown along rip lines.



They recognise and appreciate the technical expertise that is required to plan, design and construct suitable structures and say that seeking advice before undertaking works is very important.

During the drought that started in 2017, the Farghers sold stock to reduce grazing pressure on their country. When better conditions prevail, they plan to slowly rebuild stock numbers to conservative flock and herd sizes. They aim to maximise the quality and productivity of individual animals rather than run more animals in poorer condition and less value. This will result in lower production costs and less pressure on the land.

This case study has been prepared as part of the *Landscape Legacies* project. This project is supported by SA Arid Lands NRM Board, through funding from the Australian Government's National Landcare Program.

The generosity and assistance of Barbara and Warren Fargher is gratefully acknowledged.

Written by Mary-Anne Young, Primary Industries and Regions SA, with the assistance of SA Arid Lands NRM Board staff. June 2019.

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