



land case study

▶▶ making spreader banks work for your land

location: 'Gwenbrook', 60 km north-west of Roma, Queensland
project: increase water infiltration and halt erosion with spreader banks
undertaken: 2003 to 2004



March 2004

background

"Gwenbrook" has been in the Thomas family for a few generations and sheep used to graze the area that is now affected by erosion. The formation of sheep and cattle pads has made the undulating red loam belah softwood scrub soil susceptible to erosion. Not only had gully erosion made the land unusable, the top soil was washing into water courses and leaving the soil unfertile.

Above: After the rains came, the spreader banks showed 'amazing' results on "Gwenbrook".

The Thomas family had wanted to rehabilitate the area for some time but the opportunity of external funding gave them the impetus to start the work and relieved the financial burden on the family. The Thomas family are members of the Bymount Landcare group and it was through this association that they and their neighbours became aware of the Australian Government's Drought Recovery Round of Envirofund. Soil erosion control was prioritised by the group as a major issue and seven properties jointly applied for, and successfully received funding.

making a change

The Thomas family applied to construct 6 km of contour banks to protect 324ha of pasture country. As with most external funding requirements, the Thomases had to privately fund at least half the cost of the activity. The Department of Natural Resources and Mines provided in-kind support to the properties in the project.



August 2003

Above: these contour banks force water to spill over into stable pastures, instead of down gullies.

After funding was received, Bill Bryant from the Department of Natural Resources and Mines in Roma, surveyed the area to give advice on the most suitable structure to control the water flow. He advised water spreader banks, a type of contour bank where the water spills over to the stable pasture instead of just down the gully. This solution isn't suitable for every situation as there needs to be some stable pasture to spread the water to, otherwise the erosion will continue on the next area of land.

After the spreader banks were constructed, the existing gullies were reshaped and ripped to open up the area. The top soil was saved and spread out and cattle were kept away from the area as a final step to maximise grass growth.



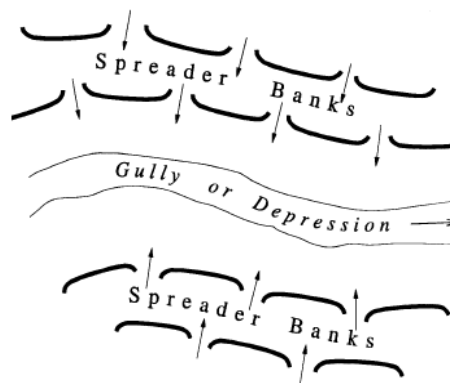


Diagram 1: Water is captured and spread out over the land or passed through to lower land.
Courtesy of DNR Water Facts

Spreader bank facts

Water spreading banks aim for maximum utilisation of runoff by first intercepting it and then disposing it on a broad front to irrigate low rainfall crop or pasture country.¹

Water spreading schemes are applicable at specific sites to:

- assist in the control of erosion of susceptible soils
- increase the infiltration of water into the soil following rainfall

The additional soil moisture increases the yield of fodder crops and pasture and may contribute to a general improvement in the condition of the soil.²

results

After the work was completed, a wet summer gave the site a good test. “We have seen spectacular results – the banks have held and there has been a lot of grass growth,” said David Thomas.

To share the new-found knowledge with the neighbours, an erosion control field day was held. “Gwenbrook” was one of the sites visited by the group.

David had success using pangola grass to stabilise vulnerable areas. It is a prostrate growing grass that sends out runners about one metre, creating the best opportunity for groundcover and soil protection.

David says “get advice on a solution for each unique situation.” It is also useful to have a look at what other people have done and learn from their successes.

future plans

The Thomas family has more soil conservation work to do on the property and will use spreader banks again in the right situation.

The Envirofund project success for the Bymount Landcare members has been instrumental in motivating 14 neighbours to write a sub-catchment plan with their Landcare Coordinator. Technical staff from QMDC provided tailored analyses of the water, land, vegetation and weeds condition in the area.

The sub-catchment plan for the ‘Upper Bungeworgorai Creek and Upper Bungil Creek’ was the first in the region to be funded by QMDC with funding from the state and Australian Government’s National Action Plan for Salinity and Water Quality. QMDC would like to thank David and Conny Thomas, ‘Gwenbrook’, for supplying the information for this case study.

References

¹ Quilty, J 2004, ‘Waterspreading and Waterponding in New South Wales and their relevance to Western Australia’, *Resource Management Technical Reports No. 51*, Department of Agriculture Western Australia.

² Wheeler, R 1994, ‘Water spreading’, *DNR Water Facts*, Brisbane.