



rivers

arteries of the Australian environment



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research project

**SOUTHERN TABLELANDS
NEW SOUTH WALES**



Preventing erosion to maximise wool production

Gully erosion threatens large areas of land, impacting on whole farm productivity. It causes valuable soil and nutrients to be washed away, choking streams and rivers with sediment. If left unattended, gully erosion will eat away at farm productivity and result in areas that become hazardous for stock and make stock management difficult.

In the Southern Tablelands of New South Wales, a demonstration site has been established at Bookham that focuses on gully erosion, a problem common to many wool growers in the region. Wool growers and researchers will work together through the *Land, Water & Wool (LWW) River Management and Water Quality* sub-program, to measure the impact of gully erosion and decide on the most appropriate and cost effective treatments for gully erosion.

The first stage of the Southern Tablelands project involves monitoring selected gullies to determine how much sediment and nutrients the erosion is delivering to the stream on-farm. Then cost-effective treatments including flow diversion, increasing vegetation cover and limiting stock access will be applied and monitored to measure the improvements as they occur. An important part of this process will be to quantify the financial costs and benefits, as well as the benefits to farm productivity and the immediate environment.



Brendon Lunney (above) passionately believes in sustaining the land for the next generation so long as it works hand-in-hand with productivity and profitability.

The quick and easy solution, to combat gully erosion on his property near Yass, NSW, as a committed conservationist would be to remove all stock from affected areas. In severe cases this may be necessary, but Brendon is seeking practical, low-cost solutions that maintain profitability and demonstrate sustainable wool production to the wool industry.

Project Origins

This project is part of the *Land, Water & Wool River Management and Water Quality* sub-program. This sub-program aims to identify practical methods to improve river and riparian management that wool growers can incorporate into their grazing system in an economically-viable way.

The sub-program has established three demonstration sites nationally; the Macquarie River Catchment Tasmania, Mid North South Australia, and the project described in this sheet near Yass in the Southern Tablelands of NSW.

Land, Water & Wool (LWW) is a joint investment between the wool industry's peak research and development body, Australian Wool Innovation Limited, and the nation's premier investor in natural resource management research; Land & Water Australia.

River Management and Water Quality is one of eight *Land, Water & Wool* programs: The others are:

-  Benchmarking and Evaluation
-  Sustainable Grazing on Saline Land (SGSL)
-  Native Vegetation and Biodiversity
-  Managing climate variability
-  Managing pastoral country
-  Future woolscapes
-  Sustainable Grazing Systems Harvest Year



Stock tracks contributing to gully erosion



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A flying start – CSIRO Open Air Laboratory

Land, Water & Wool research near Yass is working with CSIRO's Open Air Laboratory (OAL) project which is monitoring landscape and river system processes like erosion, and sediment and nutrient transport in the Murrumbidgee catchment.

OAL monitoring sites have been located in Binalong, Bookham, Jugiong, Gundagai, Tarcutta Creek, Wagga, Narrandera and Darlington Point.

The OAL's research will study the complex relationship between large rivers like the Murrumbidgee and its sub-catchments by:

- **identifying** the main sources and processes which generate sediment input to rivers;
- **determining** nutrient sources;
- **quantifying** the differences in water quality upstream and downstream of instream wetlands;
- **examining** the effect of instream vegetation on sediment and nutrient supply;
- **measuring** rates of gully erosion and sediment and nutrient yield;
- **assessing** channel bank erosion and its causes; and



Gully erosion Bookham NSW

fast facts
on Bookham NSW

Catchment area:
96ha

Annual average rainfall
825mm

Wool growers in region:
337 (Commercial Agricultural census in 2001)

Average micron for shire:
19.5µm

Major soil type:
granite duplex soils with an average depth to B horizon of 40cm

For further information contact:

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Order information about other River Management and Water Quality Land, Water & Wool Projects:

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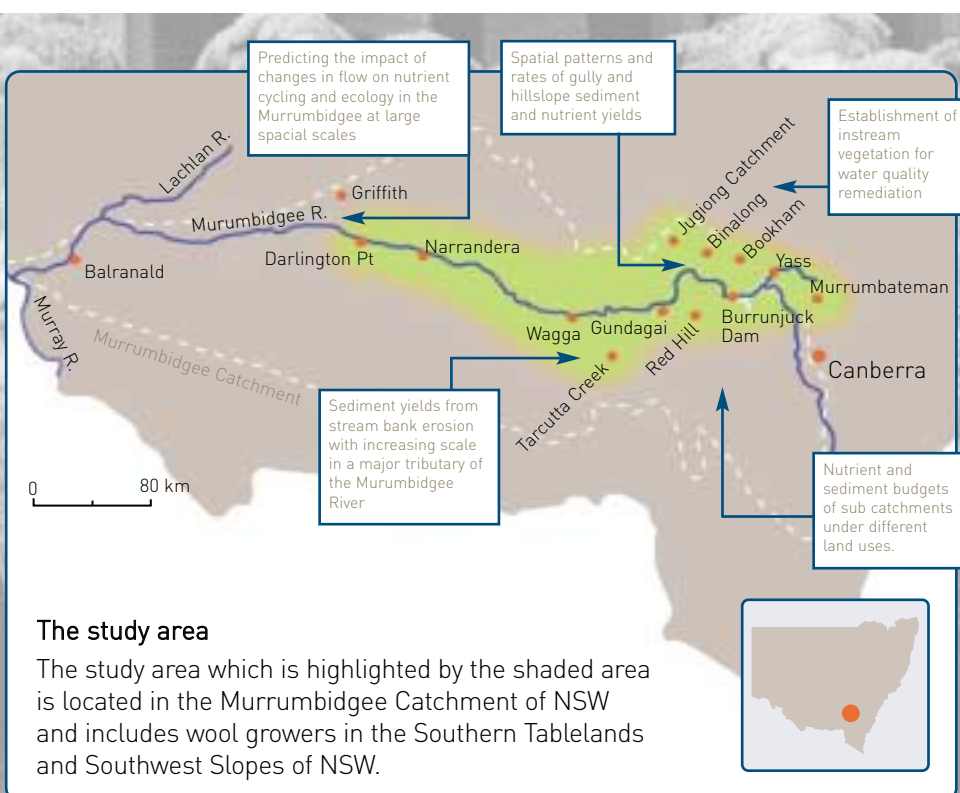
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- Managing riparian land
- Streambank stability
- Improving water quality
- Maintaining in-stream life
- Managing stock
- Managing woody debris in rivers
- Inland rivers and floodplains
- Planning for river restoration
- River flows and blue-green algae
- Managing phosphorus in catchments

Visit us on-line at www.landwaterwool.gov.au

project partners:



The study area

The study area which is highlighted by the shaded area is located in the Murrumbidgee Catchment of NSW and includes wool growers in the Southern Tablelands and Southwest Slopes of NSW.