



## Improving soil & water health: Maranoa River



Above: Australian Government's Colin Steele interviews QMDC's Jamie Gorry and grazier Jeff Campbell, about the success of soil projects funded near Mitchell.

### The state of our soils and water

Erosion and degradation of waterways from soil run off has been an ongoing challenge for land managers in much of Australia's prime grazing areas. In fact, in the Maranoa River catchment, near Mitchell, an estimated average of 30,000 tonnes of soil is washed down streams and waterways every year. With additions from inflows and depositions on floodplains, an average of 41,000 tonnes of sediment will be exported into the Balonne River system at Beardmore Dam (near St. George).

Combating this problem without affecting production needs has always been difficult. Yet, the members of the Mitchell & District Landcare Group are making headway.

Since 2000, graziers in the Maranoa River catchment have been working with the Queensland Murray-Darling Committee (QMDC) and Landcare to improve soil and water condition and prove that their industry is slowly returning these resources back to a sustainable condition.

The passion and drive have been there, with a range of changed practices and works being undertaken to reduce soil loss and improve water quality in the area. However, the challenge has been in measuring the benefits, especially given the prolonged drought and the episodic nature of rainfall (and, therefore, of runoff and erosion) in Queensland.

So, QMDC has used the results a computer model – known as the Environmental Monitoring Support System (EMSS) – to estimate what the benefits of funded on-ground works will be to soil condition and water quality.

### What is being done?

With support from QMDC and funding from government programs (especially the Natural Heritage Trust and National Action Plan for Salinity and Water Quality), a number of on-ground works have been undertaken across the Maranoa River catchment that will enhance the area's natural resource condition.

Works funded by private landholders, supported through government programs and coordinated by QMDC and Landcare have been evaluated using a computer model, including:

- development of infrastructure (e.g.: fencing and watering points) to support improved grazing practices – 78,000 ha
- renovating and re-establishing well managed pastures – 3,500 ha
- fencing riverine areas to better manage riparian vegetation – 76 km



Above: Despite prolonged drought, funded projects to fence of rivers and better manage pastures are paying off.



Funded by:



act on Salinity & Water AUSTRALIA



Natural Heritage Trust



Australian Government Department of Agriculture, Fisheries and Forestry National Landcare Programme



Queensland Government



LANDCARE & CATCHMENT MANAGEMENT QUEENSLAND



## Amount of soil being saved

As a result of these works, the EMSS modelling exercise has predicted that approximately 1,300 tonnes per year **less** soil will wash into streams. This means that landholders in the Maranoa River catchment will keep an extra **four ute loads of soil**, per day, in the paddock.

## What these results mean for graziers

The results from the EMSS exercise, supported by the on-ground monitoring of funded projects, prove that land managers can make significant improvements in water quality and soil health without sacrificing production or profit.

This work has shown that large scale investment in on-ground works, coupled with community monitoring and computer modelling, is a great way to ensure benefits of NRM investment in the catchment and show that land managers can make a difference!!

**Right:** QMDC Water Quality Officer, Paul Webb, explains the meaning of the modelling results to Maranoa River graziers.



### Note on the results

The information entered into EMSS was based on records QMDC has of soil conservation and riparian projects approved and funded (up to June 2006), and does not include other efforts of private landholders. Therefore, it can be assumed that actual impacts of current management practices in the Maranoa River area are greater than what QMDC can currently demonstrate.

Further, these results would be expected to occur after all contracted works are completed, and vegetation has had time to regenerate.

## Future opportunities for landholders

QMDC continues to work with landholders and other sub-catchment groups to develop monitoring programs that will help to improve the accuracy and confidence in modelled stream sediment load estimates. This will assist landholders across the whole Maranoa-Balonne region to demonstrate the significant improvements they have achieved in the condition of both water and soil.

If you or your local Landcare or Catchment group is interested in saving your soils and rivers, contact QMDC on 07 4637 6201 and mention this fact sheet.

QMDC would like to thank the Water Quality State Investment Project Team and Dave Waters for their support. For more technical information about the EMSS program, please refer to the Waters (2006) report online at [http://www.wqonline.info/Documents/Report\\_EMSS\\_QMDC.pdf](http://www.wqonline.info/Documents/Report_EMSS_QMDC.pdf).

Other fact sheets about managing and monitoring productive landscapes for water quality can be found at [www.qmdc.org.au](http://www.qmdc.org.au), or by phoning QMDC on 07 4637 6201.

- FSWAT01 - Monitoring our streams and waterways
- FSWAT02 - Productively managing water quality

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For further information, contact QMDC on (07) 4637 6201 or visit [www.qmdc.org.au](http://www.qmdc.org.au)

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