

The Barwon-Darling River

# Western Catchment people improving the Barwon-Darling



**The Barwon-Darling River is the life-blood of the Western Catchment and, with the assistance of the Western Catchment Management Authority (CMA), Western Catchment people are working hard to improve its health.**



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Three of the Western Catchment Management Authority's (CMA) management targets relating to improving rivers and groundwater are:

- Habitat improvement actions implemented on 20% of identified priority areas of stream, floodplain, wetland and riparian areas by 2016.
- Water quality and salinity levels meeting ANZECC drinking water and recreational use criteria for greater than 95% of the time at key town use sites by 2016.
- Water pressure stabilised in key regions of the Great Artesian Basin, as defined by NSW Great Artesian Basin Advisory Committee, by 2016.

Through a series of major projects, incentive funding, education and research programs, the Western CMA is working with individuals and communities throughout the Catchment to reach these targets.

## Major Projects

### Brewarrina to Bourke Demonstration Reach project

This joint initiative between the Western CMA and Industry and Investment NSW aims to restore aquatic habitat and see native fish populations protected and encouraged in the Barwon-Darling River from Brewarrina to Bourke. As a Demonstration Reach it will showcase techniques that landholders and community groups can use to restore and protect aquatic and riparian habitat. Extensive re-snagging has already occurred, and work on fishways at Brewarrina and Bourke is underway.



John and Angela Gordon with son, Thomas, at the re-snagging site on their property, West Mooculta, Bourke.

Outback Carp Musters have been held in conjunction with local angling clubs. Revegetation works to increase riverbank stability has been carried out with the assistance of local students and the Kurnu-Barkindji Landcare and Cultural Management Group who have been contracted to undertake maintenance and weed control measures along the River.

### Wilcannia River Rehabilitation project

As a result of the success of the Brewarrina to Bourke project, the Western CMA and Industry and Investment NSW have adopted similar methods to increase fish numbers in the Darling River through the Wilcannia Make More Fish project. After extensive research of a 61 km section of the River, twelve high priority sites were identified and at least 500 large woody snags were re-introduced. They will provide refuge and shelter, feeding and spawning sites for native fish.



Judy Drewery with two of the re-snagging sites on her property, Warramong Station near Wilcannia.

### Aerial survey of deep refuge pools and snags

During 2007 the Darling River experienced low or zero flow conditions between Wilcannia and Bourke, which provided the opportunity to use aerial digital photography to record 1,500 km of the river reach. Western CMA staff have analysed the photographs and conducted field surveys to assess water quality at the waterholes and ground-truthed salt visible in the photography. Features that impact on water quality and salinity, such as natural in-flows, major waterholes and snags have now been mapped and are a valuable resource for future water quality management decision-making.

### Stock watering points

This project promotes the use of alternative stock watering points away from river areas to enhance the riparian vegetation community. Alternative stock watering points can significantly decrease stock use of the riverine area, and in turn, improve riparian vegetation condition. To assist landholders, two publications: *Management of stock and waterways in the Western Catchment*, and *Case studies: How graziers are managing stock and waterways in the Western Catchment*, have been published. Both are available through Western CMA offices.

### Encouraging river fencing and off-river watering points

To improve river habitat and water quality along the Barwon-Darling River, 58 off-river watering points have been installed to stop stock accessing waterways and 383 km of waterways have been fenced. As a result, 17,060 hectares (170 km<sup>2</sup>) of riverine vegetation is now protected, which is equivalent in size to the Ledknapper Native Reserve near Enngonia.

### Community Gross Pollutant Trapping program

Pollution affects water quality in the Barwon-Darling River. A strategic stormwater review was undertaken for all councils with towns on the River. High priority areas were identified and 22 gross pollutant traps were installed in stormwater systems to capture larger items such as drink bottles, plastic bags, leaves, cigarette butts and other solid objects before they enter the waterways. School students and the general public are also being educated about stormwater pollution.



Gross pollutant traps will reduce pollution entering the Barwon-Darling River system.

### Incentives

The Western CMA has administered funding for individuals and groups to undertake training and on-ground works to improve natural resource management improvements in their local area. Numerous landholders have implemented projects to improve the condition of their waterways.

### Education

#### Barwon-Darling Canoe Trip

Members of the Aboriginal Reference Advisory Group (ARAG) designed and implemented a three-day canoe trip with eighteen students in August 2007. Students from Goodooga, Brewarrina and Bourke schools paddled approximately 15 km per day down the Barwon-Darling learning about water and river health issues and undertaking bushwalking and outdoor educational activities. Western CMA staff and members of the ARAG provided information on past and present ways of life, animal species, Aboriginal tools, cultural sites of significance and much more.



Louise Denis and Marinda Simpson of Brewarrina School took part in the Barwon-Darling Canoe Trip.

### Community Stream Sampling Program

The Community Stream Sampling Program (CSSP) seeks to raise awareness and promote community monitoring activities along local waterways. The Community Stream Sampling Program is improving community understanding of the major river systems, the Darling, Culgoa, Birrie, Warrego and Paroo Rivers and their tributaries within the Western Catchment. It is the only monitoring program in the region actively engaging a broad sector of the community in water quality and catchment health issues.

## Wetlands on farms

The Western CMA has funded an officer to work on Best Management Practice guidelines to complement wetland management plans being drafted for the Western CMA by Industry and Investment NSW. These plans will recognise the importance of both the conservation and productive value of wetlands and to develop strategies for grazing and conservation to coexist. Landholders who receive negotiated plans of management will be in a good position to receive funding from the Western CMA for conservation management.

## Research

### Riparian mapping and prioritising for future management – the intersecting streams

This research project assessed the condition of the riparian zone of the Queensland/NSW intersecting streams (the Moonie, Narran, Birrie, Bokhara, Culgoa, Warrego and Paroo Rivers). The assessment was based on a range of natural features within each river reach and the level of threat affecting each reach based on the presence of infrastructure, water storages, cultivation and scald development. While there was not enough information to prioritise individual reaches for future management, the project provided some basic guiding principles that the Western CMA can use to direct management investment.



*Patrick and Ellen Knight of Glenogie Station collect mussels for researchers investigating the condition of the Lower Balonne river system.*

### Lower Balonne floodplain research projects

The Lower Balonne floodplain is part of the Condamine-Balonne River system, which straddles the Queensland-NSW border, and feeds into the Barwon-Darling River. Three research projects have been undertaken by the University of Canberra under contract with the Western CMA to determine the current condition of the rivers and floodplain of this system which encompasses the

Narran, Birrie, Bokhara and Culgoa Rivers. The projects resulted in improved understanding of the condition of floodplain vegetation, factors influencing vegetation health, the relationship between river flows, water quality and river health, the type and rate of change to river flows, and sedimentation of the river and water quality since pre-European settlement.

### Warrego River scoping study

Community concern regarding the lack of good scientific information on the Warrego River system led the Western CMA to engage independent consultants to undertake the Warrego River Scoping Study. The study:

- collated existing information/knowledge relating to the surface water hydrology and environmental assets of the Warrego River and its tributaries
- provided an overview of the surface water hydrology and environmental assets of the Warrego River Catchment based on existing information and data sets
- evaluated the impacts that water resource development has had, or could have, upon the regional flow regime and environmental assets
- identified gaps in available data sets, assessment tools and performance indicators and make recommendations to assist future water resource planning.

### References and further reading – available through the Western CMA

Management of stock and waterways in the Western Catchment 2007

Case studies: How graziers are managing stock and waterways in the Western Catchment

Western Catchment Action Plan 2006-2016

Lower Balonne Scoping Study

Warrego Scoping Study

Riparian Zone Management Barwon-Darling

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Through the Western Catchment Management Authority 2009

Disclaimer: The information contained in this publication is based on knowledge and understanding at the time of writing (November 2009). However, because of advances in knowledge, users are reminded of the need to ensure that information upon which they rely is up-to-date and to check currency of the information with the appropriate officer of the Western Catchment Management Authority or the user's independent advisor.

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