

Water Quality

Urban Sustainability Project
Case Study 5



Council: Cootamundra Shire Council
Theme: Water Quality
Project Name: Boundary Road to Muttama Creek Drainage Improvements

Project Summary

Financial

Total Cost	\$45,000
Grant Funding	\$25,000
Estimated annual savings	NA

Environmental & Community

	TARGETS	ACTUAL OUTCOMES
Water saving through conservation	Nil	NA
Improvement in catchment water quality	20%	15% (to date)
Number of Individuals engaged as active participants	15	15
Project Partners	4	4



Erosion and scouring was a problem prior to the project

Overview of the Project

The Project is located in Cootamundra at the junction of the Muttama Creek and the open grassed stormwater drain which runs from Boundary Road along the rear of properties facing Inala Place and Cutler Avenue. At the junction of the open drain and Muttama Creek the flow of water was causing erosion and sedimentation problems which in turn caused turbidity and creek water quality problems. The project's goal was to strengthen the outlet of the open drain into the Creek and to constrict water flow to one location in order to minimise erosion.

The drainage improvements undertaken included the construction of rock mattress and gabion structures.

These were located at the discharge end of the Boundary Road to Muttama Creek drain. The gabions were designed and installed to act as a gross pollutant trap by reducing the velocity of the water to allowing the sediment to drop out. They are easily cleaned which will minimise ongoing maintenance. Installation was done by Cootamundra Shire Council together with Revegetation and Erosion Control Services.



The project involved excavation at the junction of the open drain and Creek to a depth suitable to install rock filled gabions and concrete edging to protect the Creek's banks and constrict the open drain flow to one manageable location.

The project was completed on schedule. The gabions are functioning well, with numerous rubbish items and leaves being collected. The mattresses and gabions have also stopped the erosion problems and sediment build up into the creek.

Cootamundra Shire Council conducts regular water testing downstream from the township. The heavy rainfalls that have been experienced in the LGA since the completion of the project have resulted in a large amount of runoff carting pollutants and sediment directly to the Creek. As a consequence the target of improving catchment water quality by 20% has not been achieved to date. The water quality will continue to be monitored with regular water testing and is expected to improve over time.



The point at which the drainage water enters the pond on the Muttama Creek. The drainage water eroded the Creek banks and the works will direct water into the pond and provide scour and erosion protection

Benefits and advantages



Installation of the rock mattress

The installation of the rock mattresses and gabions has reduced the amount of pollutants and sediment entering the Muttama Creek. Consequently the Creek's water quality is greatly improved, which in turn will encourage the return of various native flora and fauna. Maintenance on the rock mattresses and gabions is fairly minimal and inspections are carried out periodically and after significant storm events. Damaged areas are repaired as soon as practicable using fencing wire or geotextile. Aesthetically they are quite pleasing as the rock gives the structure a natural, watercourse look.

Where to next?

Cootamundra Shire Council plans to undertake further drainage and water quality improvements along Muttama Creek. This will include further Gross Pollutant Trap installations (whether large concrete units or smaller pollutant traps) along with various rock mattress and gabion structures to reduce the amount of erosion along the banks of the Creek. It is hoped that a further six or seven smaller pollutant traps will be installed in the near future.

As a result of this project Stream/Waterwatch/Community Stream Sampling will be conducted by Cootamundra High School at specific sites along the Creek. Measures taken will include: salinity, water temperatures, phosphate levels, turbidity, faecal coli forms, dissolved oxygen, habitat assessment etc. Measures taken by OzGREEN in 2002 and 2006 have been recorded and will be compared with these tests. Each quarter, on a rotating basis, Cootamundra High School and Sacred Heart Central School will present their findings to the Muttama Creek Regeneration Group which will analyse and retain the data. The Muttama Creek Regeneration Group will also conduct periodic tests at various parts of the Creek to



monitor water quality. The Muttama Creek Regeneration Group is a community-based environmental group whose goal is the maintenance and improvement of the ecological values of the Creek.

What could be done differently next time?

No problems were encountered during the majority of the project. The only dilemma that was faced was working with Council's machinery around the existing trees and gardens near the project as these were located on privately owned land. This was overcome by liaising with the landowner who agreed that for the duration of construction, trees and shrubs could be relocated to allow Council machinery to operate comfortably. On completion of construction the trees and shrubs were replanted.

Project Funding

REROC Councils received \$1,918,400.00 grant funding in September 2008 from the NSW Environmental Trust for the Total Urban Water Management in the Eastern Riverina project to complete 26 projects. The Urban Sustainability Program aims to facilitate projects of significant environmental benefit to be delivered by local government in partnership with other government agencies, local businesses, and community organisations.

Water access, quality, quantity and sustainability were identified by member councils of REROC as the most pressing issues and projects identified were categorised under five environmental themes; Water Harvesting, Water Conservation, Water Quality, Salinity Management, and Environmental Flows. Read about the other projects on the REROC website www.reroc.com.au



Completed construction



The receiving pond on the Muttama Creek that is protected from pollutants as a result of the project

REROC

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