

Erosion and sediment control near Coomonderry Swamp, Berry

Location: Berry, NSW

NRM Region: Southern Rivers CMA

Industry: Beef farming / lifestyle

Issues:

- ◆ Erosion Control
- ◆ Shelter for stock
- ◆ Linking remanent vegetation

Funding:

The Bundaberg Rum Bush Fund assists communities undertaking Landcare projects to improve the health of Australia's land and waterways. Working in partnership with Landcare, the Bundaberg Rum Bush Fund aims to foster that same spirit in the belief that community involvement in environmental repair is the best hope for Australia's environment.



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Small Farms and Rural Living Network

SOUTHERN COUNCILS GROUP

Background

A major drainage line from Agar and Wire Lane's was eroding a path through Wayne and Gail Brown's property. The volume of water channelling down this gully (500m) is quite significant after each rainfall event and carries sediment, fertiliser and chemical residues eventually into the significant Coomonderry Swamp.



Significance of Coomonderry Swamp

Coomonderry Swamp is a part of the Seven Mile Beach National Park and is the only large semi-permanent freshwater wetland on the south coast. The swamp supports a diverse range of bird, reptile and frog species, including a significant population of the threatened green and golden bell frog *Litoria aurea*. The swamp contains a diverse array of plant communities including the largest area of freshwater sedge land / reed land in the region. Several plants are regionally rare or at the limits of their ranges. The swamp contains a very large population, possibly the largest in NSW, of the uncommon plant *Villarsia reniformis* (Mitchell McCotter, 1991). *Eucalyptus robusta* (Swamp Mahogany forest), which occurs along the eastern edge of the swamp, is uncommon and restricted in distribution in the state. Other threatened fauna recorded at Coomonderry Swamp include the Australasian Bittern *Botaurus poiciloptilus* and Black-necked Stork *Ephippiorhynchus asiaticus* (Plan of Management, NPWS 1998).

The Project

A series of bed control structures (7 in total) were constructed within the gully using a low cost erosion control technique. These structures have been designed to raise the bed level in steps to arrest erosion, reduce water velocity and trap sediment moving down the system.

The gully area has been fenced out (200m in length) to a width of 30m and planted with native trees, shrubs and grasses. Stock has been excluded from the area.

The project was used as a demonstration site for electric fencing of watercourses and vegetation in partnership with Gallagher Australia and Bishops South Nowra produce store. The field day included an explanation of erosion control techniques and promotion of the Bundaberg Rum Grant.



Photographs from top: 1. Bottom end of the gully - looking west towards the main erosion site pre project; 2 & 3. Forty-five landholders attended an electric fencing field day at the project site in conjunction with Gallagher Australia and Bishops South Nowra.

Planning & On Ground Works

The project design is based on successful work undertaken by the Riparian Officer for the Southern Rivers Catchment Management Authority, Rebecca Cole. Rebecca recommended a series of bed control structures to raise the bed level in steps to arrest erosion, reduce water velocity and trap sediment moving down the system, creating a series of pools. Seven structures were constructed, each raising the bed level by 300 mm. Given the dimensions of the gully, these structures were constructed out of old strainer posts obtained on site reducing the cost of construction. A mini excavator was used to sink the posts in place. The structures were then covered in geo-fabric before being back filled and stabilised by 200-400 mm rocks and soil.



Revegetation of gully

The paddock which the gully occurs in has an extensive cover of annual grasses, Kikuyu and Parramatta grass. Grass cover occurring in the gully is minimal, therefore, the aim is to revegetate the gully with a mixture of native grasses to assist in stabilising the soil. A variety of native trees and shrubs will be established off the gully to create a wildlife corridor linking existing stands of Casuarinas and Turpentines with Coomonderry Swamp. Wayne already has installed some off stream watering troughs and the fence installed has allowed for greater stock movement between neighbouring paddocks.

Has the project worked ?

With good rainfall occurring during the 2006 Winter period, the erosion control structures have been tested quite extensively. While some movement of rock has occurred, the structures have held up and created a series of pools along the gully, resulting in sediment build up and reducing erosion. The site will be planted in Spring 2006, and it is expected the establishment of native grass species and other native tubestock in the area will further strengthen the current success of the structures. On going monitoring by the landholder and the Small Farms Coordinator will occur to ensure the project continues to work successfully.

Small Farms Discussion Group - Electric Fencing Day

Forty landholders attended an electric fencing workshop at the project site on Friday 19th May 2006, which was supported by Bishops South Nowra and Gallagher Australia. Craig Thomas, from Gallagher Australia demonstrated correct and easy fencing techniques, dispelled rural myths about energisers and earthing spikes, while participants erected over 200 metres of fencing. This fence has been used to protect the project gully from livestock and in preparation for planting.

A summary of the project was given by the Small Farms Coordinator and the Bundaberg Rum grant was discussed.

For more information on the Small Farms Network, contact Andrew Britton on Ph: (02) 42 32 32 00 or www.smallfarms.net.au

Species List

Native Trees and Shrubs

Acacia maidenii
(Maidens Wattle)

Acacia melanoxylon
(Blackwood)

Eucalyptus pilularis
(Blackbutt)

Casuarina cunninghamiana
(River She Oak)

Casuarina glauca
(Swamp She Oak)

Eucalyptus robusta
(Swamp Mahogany)

Syncarpa glomulifera
(Turpentine)

Melaleuca ericifolia
(Swamp Paperbark)

Synoum glandulosum
(Scentless Rosewood)

Kunzea ambigua
(White Kunzea)

Native Grasses

Carex appressa
(Tall Sedge)

Lomandra longifolia
(Mat Rush)

Phragmites australis
(Common Reed)



Photographs from top: 1. Ian Vardanega installing the erosion control structures; 2. Geo-fabric in place ready to be backfilled with rock; 3. Control structures working after first rain storm, creating a series of pools; 4. Craig Thomas, Gallagher Australia, with Lindsay and Phil from Bishops South Nowra - Electric Fencing field day.