



# Water Works

## Barren Box Storage and Wetland Rehabilitation Plan

The Barren Box Storage and Wetland (BBSW) Rehabilitation Plan is in the final stages of completion. Developed by Murrumbidgee Irrigation (MI), with the input of community members and technical experts, the plan describes the development of a vision, objectives and targets to guide rehabilitation as well as the strategy for implementation. The plan aims to "create an ecologically diverse and functioning Black Box wetland and surrounding grassy woodland/chenopod shrubland that respects, preserves and enhances the cultural significance of the area, by example to promote stewardship of regional natural resources."

In recognition that the environment and conditions at BBSW have changed significantly since European settlement, the plan is a vision of rehabilitation, the repair of ecosystem processes, productivity and services, rather than intending a return to a historic state.

Implementation activities conducted at BBSW to date include the aerial sowing of 690ha of locally collected Black Box seed (*Eucalyptus largiflorens*) in July 2008, direct seeding of 300ha within the terrestrial zone of the wetland cell with a combination of Boree (*Acacia pendula*) and chenopod shrubland species in June 2009 and planting of 50 hectares around the perimeter of Barren Box with native tree species in June 2009.

The aim of this work is to assist with the re-establishment of a seed bank allowing natural regeneration to occur when favourable conditions return.

### Barren Box Wetland Waterbird Monitoring

A two-year fortnightly waterbird monitoring program is in progress with 12 months of data collection completed for the BBSW intermediate cell. The aim of the program is to establish baseline data about waterbird species and abundance and to gather information that will lead to better management to enhance waterbird populations in the MIA.

### Notable findings of the study have been:

- The significant breeding event of four species of cormorants and darters, with the maximum number of active nests at any one time being 354 for Great Cormorants and 61 for Pied Cormorants.
- A total of 52 wetland dependent species recorded throughout the survey period,
- Two threatened species, the Blue-billed duck and the Freckled duck were recorded and eight species were recorded breeding,
- The most numerous species were wildfowl (ducks and swans), grebes and cormorants.

For further information contact Karen McCann on 69620200.

**Photo Right:** Musk Ducks (*Biziura lobata*) are found at BBSW. Adult males have a distinctive large, leathery lobe underneath the bill. They are clumsy on land but in water they display an effortless agility, and often stay submerged for up to a minute at a time. They sleep on the water at night, staying well out from land. Adults are generally solitary except for breeding season in spring. They get their name from the strong musk odour they emit.

## Modernisation

*Have your say!* You are encouraged to attend workshops to discuss possible activities for the basis of a proposal for Commonwealth Government funding for **on-farm infrastructure modernisation**.

Workshops are being held from 21-24 September at Murrumbidgee Irrigation. The on-farm program proposed for funding will be required to include at a minimum, the type of infrastructure to be installed, estimated rates of customer participation, estimated water savings and cost share arrangements.

Further information on these workshops is available on our website [[www.mirrigation.com.au](http://www.mirrigation.com.au)] or from Bart Challacombe on 6962 0291.



## Biodiversity in the MIA

MIA EnviroWise's Biodiversity program has been busy in 2008-09 with the BioTender, Planting Incentives and Direct Seeding Trials. The Biodiversity program aims to rehabilitate our local environment by providing incentives for works and enhancing local knowledge of our environment.

### BioTender

The BioTender program aims to protect and enhance remnant native vegetation, a precious and scarce resource within the MIA, by encouraging landholders to tender for assistance payments for works and ongoing maintenance activities.

This program was run for the second time this year with nearly 1850ha of high quality remnant native vegetation successfully tendered for protection, following the first round in 2008 of nearly 900ha.

### Planting Incentives

Planting for 2008-09 has been completed with 95ha of new plantings undertaken and 516ha of remnant vegetation area direct seeded and restored,

including 30kms of fencing. The plantings enhance the reserves of native vegetation within our region and build vital green corridors for birds and animals between patches of remnant native vegetation.

### Direct Seeding Trials

A Native Grass seeding trial commenced in March 2009 as a joint initiative between MI, Rural Funds Management Chicken Farm and Natural Capital. The aim is to trial native grass seeding rates to determine the viability of this technique for future revegetation sites as an incorporated agricultural practice for grazing and potential to increase soil carbon. Treatments include irrigation, fertilized pasture, chemical control and slashing regime to simulate grazing. Outcomes will be released by Dec 2010.



Cathy Semmler from MIA Envirowise inspects new plantings germinated from direct seeding with Peter Flanagan and his granddaughter Teagan.

For information on the BioTender and Planting incentives contact Bonnie Lessels on 6962 0200.

For information about the Native Grass seeding trials contact Cathy Semmler on 6962 0200.



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## St Patrick's Primary School Cocoparra Visit

Educating our next generation is a key strategy of MI in improving the environment for all future generations to enjoy. St Patrick's year three students participated in an exciting bush excursion recently, hosted by several Murrumbidgee Irrigation MIA EnviroWise education staff.

'Recognising the importance of local biodiversity' was the focus of the day, with students participating in a variety of activities to enhance their knowledge.

The day started with a hide-and-seek activity, where students learnt about the native habitat of local Cocoparra animals during a bushwalk along the Store Creek trail. This was followed by lunch in the great scenery of our local bush with a short session on local geology. After a short walk back to the main Store Creek campsite students had the opportunity to rotate through several activities, including:

- Leaf rubbings – creating art with leaves,
- Plant identification,
- Leaf characteristics,
- Endangered species, and
- Native seeds.



St Patricks primary school students at Cocoparra National Park.

The students were kept busy all day and had a great time enjoying their natural environment. They did a great job taking all their rubbish home and leaving the Store Creek site clean.

MIA EnviroWise Education Co-ordinator Kerri-Anne Keely is establishing a series of workshops where the MIA EnviroWise staff visit schools or organise excursions that involve students in hands-on learning about the environment. The topics fit into the primary and secondary school curriculum in many areas, particularly HSIE, Science and Geography and several COG units.

If schools are interested in participating in Environmental education programs, please contact Kerri-Anne Keely, MIA EnviroWise Education Co-ordinator, Murrumbidgee Irrigation on 6962 0200.

## Mirrool Creek Restoration Project Update

The Mirrool and Little Mirrool Creek Restoration Project is progressing with a plan being developed for the rehabilitation of the natural vegetation community.

Two major aspects of this project are establishing a monitoring program and managing invasive weeds.

### The Monitoring Project

In May 2009 the Mirrool Creek Restoration and Monitoring Program report was completed. The main objectives of the report are to:

1. Assess establishment, growth and condition of plants at revegetation patches;
2. Provide information to guide management actions (such as weeding) at revegetation patches;
3. Involve landholders and other community members in monitoring activities; and
4. Assess long-term biodiversity outcomes from revegetation activities.

The program will monitor both revegetation progress and biodiversity outcomes.

### The Woody Weed Control Program

Invasive weeds are among the most serious threats to Australia's natural environment and primary production industries. They displace native vegetation, alter habitat, reduce farm productivity and contribute to land degradation.

As part of biodiversity rehabilitation, Murrumbidgee Irrigation has initiated a woody weed control program within the Mirrool Creek Crown Reserve boundary. This project involves the removal of four invasive woody weeds:

- African boxthorn (*Lycium ferocissimum*),
- Briar Rose (*Rosa rubiginosa*),
- Blackberry (*Rubus fruticosus*), and
- Willow (*Salix sp.*)

The project commenced in June 2009 and is expected to be completed by 30 September 2009.



BEFORE: African boxthorn (foreground) near Mirrool Creek.



AFTER: African boxthorn and other woody weeds are being controlled within the Mirrool Creek boundary.

## Upcoming Courses Register Now!

### Micro Irrigation Workshops

Griffith: 24 Sept 2009 - 8:30am to 4pm

Farm drip irrigation systems focusing on monitoring and maintenance.

### Precision Irrigation Management

Griffith: 24 Sept 2009 - 5pm to 9pm

Evening course on improving farmers' skills and knowledge of their irrigation controllers.

### Native Grasses Workshop

Griffith: 26 Oct 2009 - 9am to 4pm

Identification and management of native grass pastures.

For any further information or to register interest for any of these courses please ring Kerri-Anne Keely on 6962 0225 or 0427 228492 or visit [www.mirrigration.com.au/EnviroWise](http://www.mirrigration.com.au/EnviroWise)