



Well-established concrete 'wildlife ponds' provide water access for native birds as the Wimmera Mallee open channel systems are replaced. BCG/Jonathon Starks

## DIY billabongs to protect farm biodiversity

Thanks to an innovative community organisation known as the Birchip Cropping Group, farmers in Victoria's north-west Wimmera Mallee region are being encouraged to establish low-cost wildlife ponds on their farms, to help maintain biodiversity as the area replaces its open channels with pipes.

A major wheat and grain growing region, the Wimmera Mallee region has traditionally relied on open channels to provide water for domestic use and livestock watering. However, because channels lose up to 85 per cent of their water due to evaporation and seepage, they will be progressively replaced by pipes over the next 10 years.

In response to landholder concerns about the potential impact of the new system on wildlife, the Birchip Cropping Group commenced a study to determine how negative impacts on wildlife could be reduced and specifically whether artificial sources of water could mitigate potential biodiversity losses.

Project leader Jonathon Starks says the Wimmera Mallee's natural hydrological

system 'has been almost totally disrupted'. Water flows have been harvested by farm dams, swamps have been drained and the natural drainage system has been diverted into the open channels. Nevertheless, native fauna have come to rely on this modified water supply, and the impending pipe installation will alter the system further and seriously limit their access to water.

'As a general principle, when you remove water from a habitat, you will lose biodiversity,' says Dr Geoff Barrett from CSIRO Sustainable Ecosystems.

With scientific input from Dr Barrett to help with site selection, trial design and data analysis, Starks set about establishing 36 study sites to assess the biodiversity value of farm dams, channels, stock troughs, open paddocks and woodlands.

Importantly, he also designed and tested the wildlife ponds, which consisted of an in-ground concrete trough with a sloping floor, holding 6000 litres of water and planted with aquatic vegetation. Wildlife surveys then assessed birds, mammals, reptiles and frogs at each site.

'Our main finding was that the use

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of purpose-built ponds for wildlife can maintain wildlife values on the farm comparable to farm dams and can increase the biodiversity value of a woodland where there was no water previously,' says Starks.

Starks's research shows that this was true for all fauna except for frogs and the Common Long-necked Turtle. According to Dr Barrett, the artificial ponds, for some reason, weren't providing suitable habitat for the frogs. Bats may also miss out on the benefits of the wildlife ponds. The Birchip Cropping Group will now focus on how frog diversity might be maintained in a piped water system.

The Birchip Cropping Group started in 1992, when farmers decided to address the lack of research in their area by running their own local crop trials. Since then, it has become a leading provider of rural research and extension. Local-grower ownership continues to drive the success of the group, which seeks to improve the profitability and long-term viability of Wimmera Mallee communities.

In 2007 the group won a Banksia Award for its wildlife pond work, which also includes producing a fact sheet on how to build a wildlife pond and promoting the installation of wildlife ponds at field days and public talks.

According to Starks, the Birchip Cropping Group's efforts to help farmers prepare for wildlife conservation before the pipes are installed in the Wimmera Mallee region will take advantage of a 'narrow window of opportunity before it's too late to make a difference to the wildlife that still exists'.

He credits the success of the project so far to the enthusiasm of the farmers involved – but the real test of the project, he adds, will come when the pipes are laid and farmers decide whether or not to install ponds.

● **Sophie Clayton**

**More information:**  
Birchip Cropping Group,  
[www.bcg.org.au/cb\\_pages/DIPS.php](http://www.bcg.org.au/cb_pages/DIPS.php)