

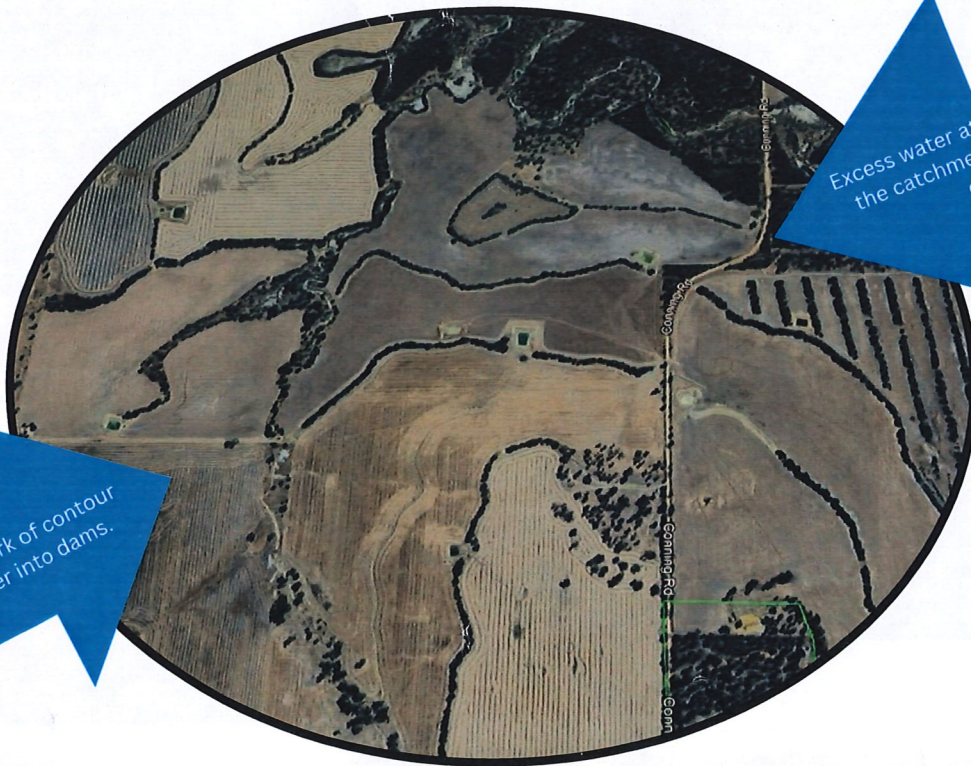


# IMPROVING THE EFFICIENCY OF FARM DAMS

There is a predicted 54% decrease in run off in the South West WA per 1 degree increase in average temperatures. (1)

## CONTOUR BANKS

Contour banks are used to intercept and divert surface water run-off into dams or waterways, to limit soil erosion. Contour banks are usually designed as a set in the middle and upper slopes of hills that have a slope of 2% to 10%. Where possible, broad-based banks are preferred to allow cropping and other machinery to work across the banks.



Inter-connected network of contour banks channels water into dams.

Excess water at the lower levels of the catchment discharge into a creekline.

### Why use contour banks?

Contour banks are an effective and efficient ways of reducing the risk of surface water run-off causing erosion, flooding and waterlogging. Contour banks can also direct surface water into farm dams for farm water self-sufficiency, instead of water running off paddocks and being lost to creeks or salt flats.

### BETTER APPROACH

An integrated, multi-faceted approach to better managing water on-farm has reaped rewards for the Conning family since the first contour banks were installed in 1995.

### Meet the Farmers

- Name: Rob and Steve Conning
- Location: East Katanning, Great Southern
- Farm Size: 2,900 acres / 1,150 ha
- Number of livestock: 1,700 ewes
- Ha crop: 450 ha
- Number of dams: 24

Reference: (1) DPIRD



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# CONTROLLING WATER



## CHALLENGES OVERCOME

In the early 1990s, some areas of the Connings' farm were too waterlogged to crop in wet years. Overflowing dams caused problematic flooding across cropping paddocks. This was happening at many dams on the farm.

A contractor with significant knowledge about drainage systems installed the contour banks, with 20 of the farm's 24 dams included in the network.

Steve said: "Quite a few waterlogged areas of between 2 and 10 hectares were recovered and when we get heavy summer storms, the water goes to the nearest dam or seeps away. We don't get the flooding anymore."

More recently, the role of the contour banks has changed slightly with improved tillage methods helping to soak up most of the rain. The contour banks now receive seepage from the paddocks more so than direct run-off during average rainfall events, as well as handling surface run-off from intense rainfall events.

With less rainfall predicted in a drying climate, Steve is looking at converting some end sections of contour banks closest to the dams into roaded catchments to help run more water in lighter rainfall events, while still retaining the majority of the contour bank network for moderate to heavy rainfall events.

Rows of trees were planted and fenced behind the contour banks to help soak up some of the excess water that escapes behind the banks. This section of contour bank nearest the dam has been converted to a roaded catchment to help catch more water in light events.



### Benefits of Contour Banks

- Reduce erosion from surface water run-off.
- Reduce sediment content in run-off.
- Reduce waterlogging at the base of slopes.
- Allow collection and re-use of surface water.
- Lead to increased crop and pasture yields where seasonal waterlogging occurs.
- Reduce flood peak flows.

"The whole farm system is working well to better manage water. It's made areas more productive and reclaimed unproductive land."  
- Steve Conning

## REFLECTIONS

In the 1990s, most of the Connings' neighbours were installing water management features on their farms as well.

The Connings believe that the Carrolup creek system has improved because everyone has better managed their surface water. Steve said there are a lot less bare scald areas in the creeklines, with wheat grasses and samphire vegetation growing again.