

## Case Study #3 Step Diffusion Demonstration



### **Natural Sequence Landscape - demonstration of a step diffusion system**

This demonstration project provides a small-scale example of how Natural Sequence Farming could be applied to the Murray Darling system. The site design includes three contours, each set out at a particular point in the slope, with exacting depth and shape. They slow down and distribute water across the landscape, rebuild the groundwater and pressure, and create an infrastructure for optimal distribution and application of fertility.

The demonstration site is often used as a teaching site, and each time the contours are added to.

As a basis for the contours, an existing dam was extended into a 1 km 'long pond'. Using the material from the existing dam wall, roughly 500 mm of material was added to the height. All of the work was completed using an 8 ton excavator, including breaking through rock in some places and driving onto the dam wall to excavate material to increase the height. A vegetable garden was added below the lowest contour to demonstrate the spread of fertility.

*Designed by Peter Andrews. Implemented by Scott Middlebrook.*

Construction  
2017-2018



Start of the  
mid-level contour

Creates a pond  
across the gully

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Lower contour extends  
existing dam to  
eventually become an  
ephemeral wetland

Upper level long contour



Upper level long contour in the distance with mid-level contour in the foreground




Completed  
contours

Autumn  
2018

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Vegetable garden  
site on the lower  
contour

A photograph of a rural landscape showing a step diffusion demonstration. The foreground features a dirt path and a wire fence. The middle ground shows a grassy slope with a stone wall and a vegetable garden site. The background consists of a forested hillside under a blue sky.




Rain event

Summer  
Late 2018



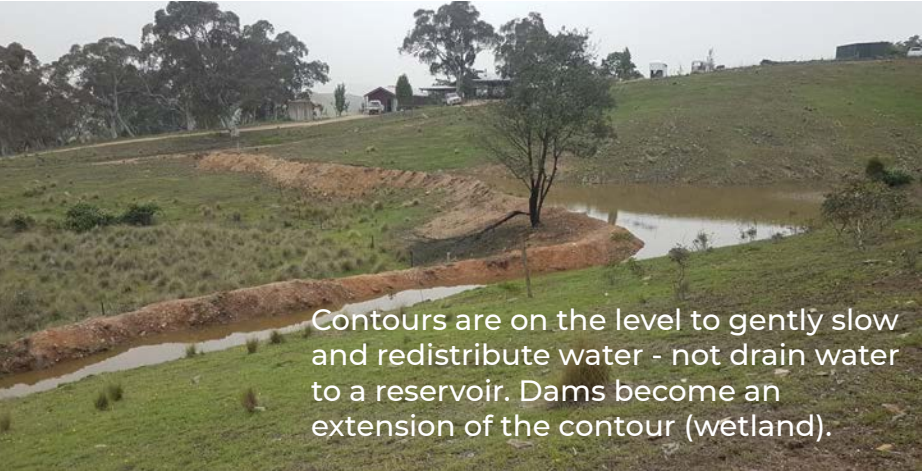
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Height of water level  
keeps wall moist,  
encouraging plant  
growth on dam wall



Level sill spill

Upper system  
overflow



Contours are on the level to gently slow  
and redistribute water - not drain water  
to a reservoir. Dams become an  
extension of the contour (wetland).

Rain event

Summer  
Late 2018



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Tricky contour  
construction in the  
gully - steep slope  
and rocky profile

Rain event

Summer  
Late 2018

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Dam and upper  
contour integration



## High Performance Landscapes

NSF Design & Implementation  
Case Studies

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