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## NRM Plan

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CARING FOR OUR COUNTRY

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# Sustainable Agriculture

## Contour Banking in the Northern and Yorke NRM Region

### What are contour banks and how do they work?

Contour banks reduce the risk of water erosion in the hilly cropping areas within the N&Y NRM region. Whenever water runs over the soil surface, there is a risk of soil loss. Contour banking systems are designed to reduce the volume and speed of water flowing over the land to help stop the erosion process.

Contour banks are surveyed using a slight grade (or fall) to ensure that water does not pond behind the bank, but runs to a waterway without scouring the bank channel itself. The standard contour bank used in South Australia is generally not big enough to handle extreme storms but will cope with most storm events when well designed, surveyed and constructed.

The banks intercept and collect run-off and divert it across the slope to a safe disposal site, such a waterway. These waterways must have the capacity and stability to carry all the water from the contour banks without causing erosion. The best waterways are natural, stable drainage lines.



### Why use contour banks?

Virtually all cropping land with a slope of 4% to 12% is likely to have a medium to high risk of water erosion. Land with a slope greater than 12% is considered to have too high a risk of water erosion to be managed with conventional cropping practices, even when contour banks are used.

Reduced tillage and stubble retention practices can reduce surface sealing and improve infiltration rates, and help to reduce the volume of surface run-off. Even with best tillage and stubble management practices, runoff will still occur. Contour banks will further reduce the risk of erosion.





### How are contour banks built?

Most modern contour banking systems are built using large road graders. The construction of contour banks needs to be accurate to ensure that water doesn't pond behind the banks or run so fast as to cause erosion of the bank channel itself. Contour bank systems can usually be designed to overcome problems with access and manoeuvrability of large machinery.

Many old contour banking systems were surveyed with less fall than is currently used, and have lost capacity and effectiveness because they have silted up. Some were also surveyed at a closer spacing than is practical for modern cropping machinery. Rather than try to rehabilitate the old system, it is usually more practical to remove the old contour banks and survey and construct new ones.

### How to get assistance to build your contour banks?

Contour bank systems must be designed and surveyed by people who have appropriate training and experience. Primary Industries and Resources SA (PIRSA) has trained a number of contour banking surveyors across the State and there is a contractor available in most districts, including in the N&Y NRM region. Consult your local PIRSA or NRM office for details.

#### Maintenance

Keep stock off banks until they have had time to settle. Do not over cultivate the land between the banks. Excessive cultivation leads to loss of soil structure which reduces the soil's ability to absorb water and makes it more susceptible to erosion.

When low spots develop, build them up with additional soil. Do not use stones as they will weaken the bank and let water through. Repair any breaks as soon as possible to prevent further damage.

Clean the channel out periodically to maintain the bank's capacity. The soil from the channel should be used to top up the banks. Make sure waterways are properly maintained and capable of safely conveying runoff from the banks.

#### Further Information

##### Other N&Y NRM Factsheets

Sustainable Agriculture – Healthy Soils in the Northern and Yorke NRM Region

Sustainable Agriculture – Managing according to Land Class in the Northern and Yorke NRM Region

##### Help and Assistance NRM Authorised Officers

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