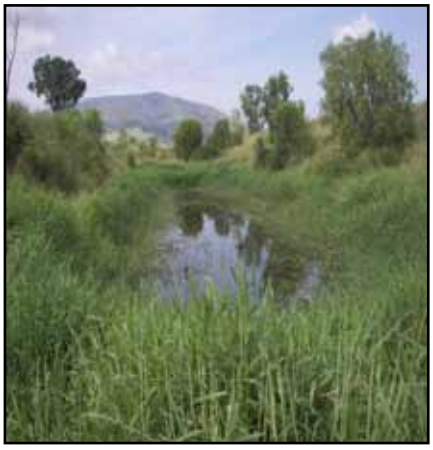
Sediment ponds in agriculture

Sediment ponds at a glance

- Sediment ponds control soil movement, reducing the loss of valuable topsoil off farms and protecting the quality of our waterways.
- Sediment ponds intercept overland flow and slow water velocity, allowing sediment to drop out.
- Able to be incorporated into individual property management
- Attention to design and construction is critical to avoid costly maintenance and repairs into the future.



Above: Established ponds can provide a water resource and wildlife habitat in modified landscapes.This pond also provides some fodder when dry.

Top right: Strategically located sediment ponds can act as a last line of defence for our waterways.

Sediment ponds for soil management

Maintaining soil on a property can be a challenge. Sediment ponds are a valuable tool for controlling soil movement and erosion as well as improving water quality.

Ponds are particularly useful in agriculture for sediment control where permanent groundcover is not feasible.

Effectively, they help to keep soil on the property, preventing it being lost downstream or onto neighbouring properties.

Sediment ponds together with drainage improvements have been incorporated into a number of property management plans in the Blackfellow Creek catchment as part of both grazing and horticultural enterprises.

Right: Often the extent of soil loss is difficult to determine. Troughs at the end of a cropping field collect soil lost following a rain event.

Design & construction

Design and construction are critical to the performance of a sediment pond.

Ponds strategically located in natural drainage lines can protect waterways from sediment entry as well as retain productive topsoil on farms.

Under legislation, sediment trap construction requires approval from state and local government. In Queensland, applications can be made to Department of Environment and Resource Management (DERM) and local council.

Right, above: Pond located to collect road runoff.

Right, below: Construction of a sediment trap to intercept drainage from horticultural fields before flow enters the waterway, at the treeline in the background. Grassed drains have been incorporated into this trap design.

Left, top: Shallow trap for off field sediment collection and ultimately respreading.

Left, below: Full sediment trap being desilted. Sediment will be sundried and eventually respread onto cultivation.

The amount of sediment in this pond highlights how much sediment can potentially move off horticultural and grazing lands and the effectiveness of these traps in reducing sediment losses from the production system into waterways.

Maintenance

A sediment pond does require regular cleaning out. Desilting and respreading ensures a pond is most effective in the production system and in waterway protection.

Best management practices

Sediment ponds are being used effectively as part of an overall system for sediment control, which also includes improvement of ground cover, improved soil and tillage management practices, wide flat-bottomed grassed drains which feed into ponds and well vegetated riparian areas.

Preventing soil as well as nutrients and organic matter from moving off a field or paddock in the first place is the best management practice.

Management practices to reduce erosion potential during high risk periods include maintenance of cover (eg through grazing management, cover cropping, inter-row cover) and minimising tillage. In the event that these are not possible then infrastructure such as sediment ponds are ideal for ensuring that soil is not lost off farms and into waterways.

SEQ Catchments
PO Box 13204
George St Brisbane
Qld 4003
www.seqcatchments.com.au

For further information contact:
Fiona Bengtsson
Healthy Country project coordinator- Lockyer
ph 0417 764 754/ 5465 2011
fiona@seqcatchments.com.au