

## Fact Sheet: Erosion control methods

Common forms of erosion in the desert uplands: Sheet erosion involves the uniform loss of soil over large areas caused by the action of water or wind. In some areas all the topsoil may be removed, leaving a scalded appearance. Where runoff begins to concentrate, both rill and gully erosion may occur. Soils with dispersible subsoils may develop tunnel erosion. Stream bank erosion may occur along creeks and rivers.

### *1. Sheet erosion - recovering large, hardpan/scalded areas*



Photo left. Yeoman's plough breaks the soil's hardpan, enhancing water infiltration and root growth. Seeding introduces desired plants. Photo right. "Pushing stick contours" slows runoff and promoting water retention in the landscape. Use of these technique transformed a scalded area from 20% to 80% grass cover in 18 months.

### *2. Rill and gully erosion*

Rill erosion occurs when runoff water forms small channels as it concentrates down a slope. These rills can be up to 0.3m deep. If they become any deeper than 0.3m they are referred to as gully erosion. There are two essential components to managing the erosion problem: rehabilitate the landscape to control the source of soil loss (increase ground cover) and reduce sediment flow through the gully system.



#### **a. Use of sieve structures:**

The aim is to slow down gully water flows and allow for the build-up of sediment. More than one technique can be used, eg Wire mesh sieve rolls 50-100cm in diameter, pinned in place across the channel bed, and anchored onto opposite banks are most effective at narrow points. The roll can be empty or lightly stuffed with spinifex grass, shrubs or old tyres. Construction of timber, rock or earthen banks placed in "steps" along the flow of water.

Aerial photo shows extensive rill and gully erosion.

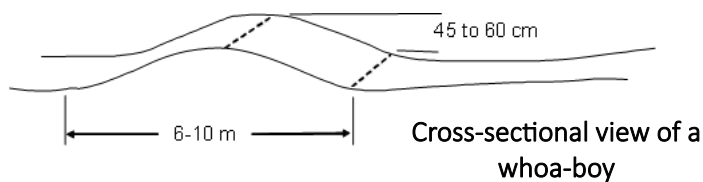


### 3. Roads & Tracks and Fenceline erosion – Whoa Boys

Whoa-boys are low profile, trafficable earth banks that intercept runoff flowing down a road, track, fence line or fire break and allow it to continue its natural flow direction down the landscape.



Photo. Eroded fence line



Suggested whoa-boy spacing.		
Slope %		Distance (m)
1		100
3		60
4		45
5-6		40
7-8		35
9-11		30



Photo. Eroded track/road.

#### b. Use of Whoa Boys

-the average length of a sill is usually 10m and 6-9m wide and between 20 to 30cm deep.

Closely spaced whoa-boys reduces individual catchment size and reduces runoff. This enhances whoa-boy durability, lowers maintenance costs, and improves their effectiveness in reducing erosion and enhancing water quality in the broader catchment area.

For detailed information refer to Qld Govt. Science Notes L240 and L241

### 4. Consider cost and benefit of mechanical solutions



Photo. Severe erosion moving uphill.

#### c. Rotation grazing

In highly eroded areas, the cost of restoration may not justify the benefits. The photo shows a "CHRRUP" project site where discussions centred on alluvial landscape features, their formation and degradation patterns. The agreed solution uses grazing management as the primary tool for improving landscape health and function.

Paddocks will be divided, and short-duration, high-impact herd grazing used to break down the hard crust and evenly distribute grazing pressure and manure.

Additionally, measures will be taken to disperse cattle around water points to prevent congregation.