Soil erosion solutions

Helping North Coast landholders reduce soil erosion

Fact sheet 2: Indicators of erosion

Some soil erosion is unmistakable. Gullies cutting across paddocks and landslips moving down the hill are easy to see. But there are many less obvious indicators of erosion that if acted on quickly can prevent further erosion. It is far easier to fix small problems than repair gullies and landslips. This leaflet outlines some of these early indicators of erosion and what they mean.

Bare soil

If you have bare soil you will inevitably have erosion because soil particles are easily carried away by the force of wind and water.

Exposed tree roots

Exposed tree roots mean that soil has eroded within the tree's lifetime possibly due to excessive shade, removal of natural groundcover, or fast flowing surface water underneath the tree.

Muddy runoff water

Muddy water is carrying soil particles eroded from further up the catchment.

Silted dams

Silt in dams is soil that has been eroded by water from further up the catchment.

Rills

Rills are small channels up to 30cm deep that form when surface water gathers enough force to remove soil. They are most common on recently cultivated bare soil or batters of dams and roads.

Soil pillars

Soil pillars or pedestals form when pieces of gravel, rock or organic matter prevent soil beneath them being washed away with the rest of the soil. The height of the pillar shows how much surface soil has washed away elsewhere. Soil pillars are an early indicator of water erosion.

Reduced soil organic matter

The organic matter fraction of the soil is the lightest and most easily eroded. If you get your soil tested regularly, and notice a decline in soil organic matter levels this may indicate soil loss by erosion.

Sediment fans

Soil eroding from slopes often spreads out in a fan shape further down the slope.

Soil build up along fences

Eroded soil can build up on the upslope side of structures such as fences and gates.

Thin topsoil, coarse gravelly soil

As soil erodes the topsoil becomes thinner. Where all topsoil has eroded the soil surface may appear hard and pavement-like or coarse and gravelly if finer material has been removed. Underlying rock may also be exposed.

Cracks across the slope

As land begins to slip down a slope, small cracks will appear above the slip. This is the first sign that your land is at risk of mass movement (landslips).

Tunnels

Water can enter the subsoil through cracks and holes in the soil surface. If the subsoil is susceptible to erosion it will erode more readily than the surface soil and form a tunnel. As the tunnel becomes larger the roof will collapse to form a pothole or gully.

More information

NSW DPI's website has information on soil erosion at: http://www.dpi.nsw.gov.au/agriculture/resources/soils/erosion

To discuss your specific soil erosion issues, contact NSW DPI soils advisory officer Abigail Jenkins, Wollongbar, on 6626 1357 or abigail.jenkins@dpi.nsw.gov.au.

Northern Rivers CMA CATCHMENT MANAGEMENT AUTHORITY

Produced by NSW DPI Wollongbar for Northern Rivers CMA project 'Revegetation/improved management of areas with high erosion risk'.

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