Managing erosion

Erosion refers to the loss of soil from landscapes. While erosion is a natural process driven by wind and water, it is exacerbated by habitat loss and degradation. Erosion degrades habitat and threatens waterways, air quality and agricultural land.

Location and habitat

This information is relevant across Victoria, however some soil types are particularly susceptible to erosion.

General information

- Soil is naturally protected by a crust of plants and lichens, leaf litter and soil organisms. This crust helps soils absorb water
- Trees, shrubs and grasses with deeper roots also help soils absorb water
- When this crust is destroyed and vegetation removed, soil can lose its capacity to absorb water
- Increased runoff can remove soil and cause erosion
- Bare soils are also vulnerable to wind erosion
- Erosion can take many forms including gully (in which water cuts a gully into soil), mass movement (such as landslips), rill and sheet erosion (removal of soil from flat areas) and tunnel erosion (movement of water under the ground, causing the formation of tunnels)
- Erosion can be cause by clearing, overgrazing by livestock and other herbivores such as rabbits, vehicle and foot traffic, changes to and concentration of water flow, compaction from livestock, and climate events such as fire, flood and drought

Methods

Prevention

- Protect existing habitat to prevent future erosion, through fencing and controlling grazing by herbivores
- Minimise vehicle and foot traffic to avoid damage to soil and vegetation
- Avoid funneling water and concentrating the movement of water through the landscape

Restoration

- Restoring eroded areas depends on the type and cause of erosion however the general principle include:
    - Dispersing water flow across the landscape
    - Slow the movement of water, increasing the opportunity for water to soak into the soils
    - Protect the soil structure and crust
    - Encourage vegetation reestablishment
- Branches, logs or coir logs can be lain across the flow of water to slow the movement of water, trap silt, leaf litter and encourage vegetation growth
- Restoring vegetation and groundcover helps bind soils and increase water uptake
- Control grazing and compaction through fencing habitat and controlling introduced herbivores such as rabbits
- In serious cases, water can be diverted from eroded areas. Restoring natural flow of water across land can prevent further erosion
- Coordinate erosion management across catchment with other landholders for greatest impact

Above: Gully erosion. Image: CSIRO

Maintenance and monitoring

- Monitor eroded areas on property for increase in erosion
- Monitor grazing activity
- Be particularly mindful after extreme climate events such as fire, drought and floods
- Maintain health of habitat to prevent erosion

Further information

If you have a conservation covenant, please consult with your Trust for Nature regional staff member to ensure land management activities are in line with your covenant deed.

For further advice and support, please contact Trust for Nature.

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Safety

Always wear appropriate personal protective equipment (PPE) when undertaking land management. Follow all label instructions on equipment and local regulations. Be mindful of weather conditions. Do not conduct land management on days of extreme or catastrophic fire danger or total fire ban.

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