

5. Soils of the Grampians

The soils within Grampians National Park are very variable. In general however the soils of the ranges are described as skeletal - an appropriate term for the thin layer of nutrient poor soil that overlies the bedrock. These shallow soils are often stony and sandy, and the bedrock is often as little as 30 cm below the surface. The skeletal soils on steep slopes in the park are very vulnerable to erosion if the vegetation cover is damaged or removed.

In valleys such as Fyans Valley in which Halls Gap lies, the soils are deeper and more fertile. Much of this land has now been cleared for farming or grazed in the past.

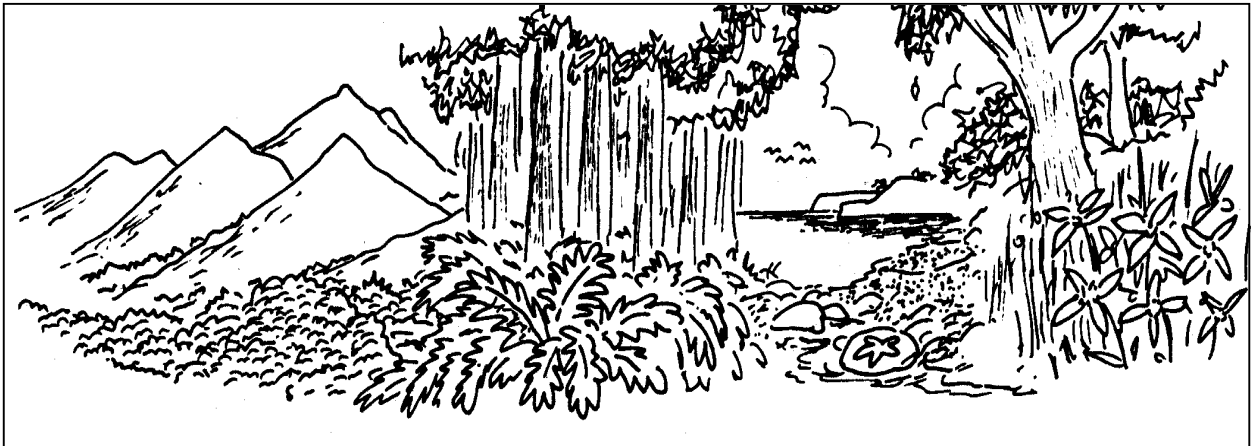
Soils derived from Grampians sandstones are low in the nutrients required for plant growth (particularly nitrogen, phosphorus and zinc) since they are derived from sediments that are already leached and weathered. These sandy soils generally drain quickly and hold little or no moisture in dry periods.

Soils derived from igneous rock are relatively rich in mineral content compared with sandstone since igneous rock forms from magma originating deep within the earth's crust.

In low-lying areas, the soils tend to be more clayey and so are heavier. They hold water well and are also more fertile, especially those derived from the granitic outcrops.

For more information

The Grampians – a noble range.
Jane Calder. Victorian National Parks Association. 1987.



5a. Viewing soil influences in the Grampians

In places where the Wonderland trail follows a sill, look for evidence of the difference in fertility and water-holding capacity between granite and sandstone derived soils. Tall trees grow on soils derived from the granitic sill, whereas low shrubs and heaths grow on the less fertile soils derived from the sandstone into which the sill has intruded.

Alluvial deposits have formed the flat plains along streams in the park. Heathland and woodland communities grow in the places where the slightly raised sand sheet allows the soils to be better drained. The lower lying areas become swampy in winter and spring and support the more moisture requiring Red Gum woodlands and swampland communities.

Scree deposits are generally deep and composed of colluvial material ranging in size from clay particles to large boulders. Some of the most productive forests in the Grampians occur on scree slopes because, although stony, the soils are deep, have good moisture retention and are generally in sheltered locations.

Dip slopes by contrast have skeletal soils and low sparse vegetation.

The **slopewash plains** have sandy soils derived from the ranges and are deep, leached and infertile. Sometimes the subsoil becomes chemically hardened into a hardpan layer called 'coffee rock'. It is difficult for water or for tree roots to penetrate this 'coffee rock' and so these areas usually support heathland communities rather than woodland.

