

TEG Telowie Gorge Land System

Steep rugged frontal range of the Southern Flinders Ranges from Port Germein Gorge to east of Warnertown

Area: 125.8 km²

Annual rainfall: 450 - 600 mm average

Geology: Massive sandstones (Nelshaby Formation), quartzitic sandstones (Rhynie Formation) and minor interbedded siltstones, sandstones and shales of the Wirrabara Formation.

Topography: Steep to very steep range of hills rising abruptly from the coastal plains between Pt. Germein and Warnertown. The high silica parent materials are strongly resistant to weathering causing the range to stand much higher than adjacent hills to the east. A well defined north - south oriented ridge forming a watershed between east and west flowing streams runs almost the full length of the Land System. Slopes are steeper and much more strongly dissected on the western side where deep gullies such as Telowie Gorge have been incised to depths of up to 300 m. Slopes commonly exceed 100% in these features and are almost always more than 50%. On the eastern side of the divide, slopes are gentler (generally in the range 20-50%). The eastern edge is bounded by a series of low parallel ridges. The entire land system is characterized by very rough rocky ground, with abundant surface sandstone and quartzite and rocky outcrops. Cliffs are common in the steeper gorges and as a discontinuous rampart below the main ridge on the western side.

Elevation: Elevations along the western footslopes range from 150 to 200 m. The central ridge varies in elevation from about 400 m in the north to 740 m at The Bluff (the highest point of the land system).

Relief: Relief is highly variable; between 50 and 100 m in places (mostly on the eastern side) to 300 m in some of the deep gorges.

Soils: Most soils are shallow to very shallow, very stony and coarse textured. Deeper soils with clayey subsoils are less common.

Main soils:

- L1a** Shallow stony sandy loam
- L1b** Shallow leached stony sandy loam
- K4** Sandy loam over brown or red clay
- K5** Gradational sandy loam

Main features: The Telowie Gorge Land System is steep, very rough and rocky hill country characterized by shallow stony and gritty sandy loam soils, often without subsoils. This land has very little agricultural potential, and most is covered by natural vegetation.



Soil Landscape Unit summary: 6 Soil Landscape Units (SLUs) mapped in the Telowie Gorge Land System

SLU	% of area	Main features #
AMD AME AMF AMX	11.1 33.1 5.8 30.1	<p>Rocky hills formed on coarse grained rocks:</p> <p>AMD Steep rocky slopes grading from the central ridge toward the east. Slopes are 20-50% and relief is up to 100 m. The slopes are dissected by eastward flowing watercourses on approximately 200 m spacings.</p> <p>AME Steep rocky hills with slopes of 20-80% (generally 30-60%) and relief to 250 m. The slopes are dissected by deeply incised watercourses occupying narrow gullies.</p> <p>AMF Steep to very steep rocky gorges with slopes of 60% to more than 100% and some vertical cliff faces. These gorges are up to 300 m deep and have been formed by the down-cutting of the major watercourses flowing from the central ridge towards the sea. Telowie Creek is the largest of these streams. There are extensive rock outcrops and surface stones and boulders covering up to 50% of the area.</p> <p>AMX Steep to very steep western slopes of the range, dissected by several deeply incised watercourses, each fed by very closely spaced minor creeks. Slopes vary from 40-100% and have up to 250 m relief. Scree slopes are common on the steeper slopes. These are linear features, up to 30 m wide and 200-300 m long.</p> <p>Main soils: <u>shallow stony (leached) sandy loam</u> - L1a/L1b (E) and <u>sandy loam over brown or red clay</u> - K4 (E) with <u>gradational sandy loam</u> - K5 (C). These hills are steep, very rocky and largely inaccessible. Soils are shallow with low fertility and waterholding capacity. Landslides are common in places. Productivity potential is low and consequently most of the land is under native vegetation.</p>
ASD	18.6	<p>Series of two to three parallel steep low rocky ridges formed on interbedded quartzites, sandstones and siltstones within the Rhynie Sandstone. Slopes are typically 20-50% with up to 80 m relief. The continuity of the ridges is broken every one to two km by eastward flowing watercourses. Tributaries of these run parallel to and between the ridges.</p> <p>Main soils: <u>shallow stony (leached) sandy loam</u> - L1a/L1b (E) and <u>sandy loam over brown or red clay</u> - K4 (E) with <u>gradational sandy loam</u> - K5 (C). These ridges are steep and rocky with limited accessibility. Soils are generally shallow and low in fertility although there are some deeper more fertile types on finer grained rock strata.</p>
ChD	1.3	<p>Slopes of 10-20% with relief to 30 m, formed on coarse grained rocks. There is up to 10% surface sandstone and quartzite.</p> <p>Main soils: <u>sandy loam over brown or red clay</u> - K4 (V), with <u>shallow stony (leached) sandy loam</u> - L1a/L1b (C). These slopes are moderately steep and stony - only semi arable. Soils have a range of minor to moderate limitations due to their shallowness, poor structure and fertility. However, erosion potential is the over-riding restriction.</p>

PROPORTION codes assigned to soils within Soil Landscape Units (SLU):

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| (D) | Dominant in extent (>90% of SLU) | (C) | Common in extent (20–30% of SLU) |
| (V) | Very extensive in extent (60–90% of SLU) | (L) | Limited in extent (10–20% of SLU) |
| (E) | Extensive in extent (30–60% of SLU) | (M) | Minor in extent (<10% of SLU) |



Detailed soil profile descriptions:

- K4** Sandy loam over brown or red clay (Eutrophic, Brown / Red Chromosol)
Medium to thick stony sandy loam to sandy clay loam overlying a well structured brown or red sandy clay to clay grading to weathering sandstone between 50 and 100 cm.
- K5** Gradational sandy loam (Mesotrophic, Brown Kandosol)
Medium thickness stony loamy sand to sandy loam grading to a brown massive stony light sandy clay loam to sandy clay loam over weathering sandstone within 50 cm.
- L1a** Shallow stony sandy loam (Basic / Acidic, Lithic, Leptic Rudosol)
Shallow very stony loamy sand to sandy clay loam, over hard sandstone or quartzite within 50 cm.
- L1b** Shallow leached stony sandy loam (Basic, Lithic, Leptic Tenosol)
Shallow very stony loamy sand to sandy clay loam with a paler coloured A2 horizon, over hard sandstone or quartzite within 50 cm.

Further information: [DEWNR Soil and Land Program](#)

