

MAU Maurice Hill Land System

Pekina Range, from west of Orroroo to west of Tarcowie

Area: 79.4 km²

Annual rainfall 320 – 500 mm average

Geology: Tillites, siltstones and quartzites of the Appila, Kadlunga, Tarcowie and Gilbert Range Formations. There are minor interbeds of calcareous rocks and small accumulations of localized outwash sediments.

Topography: Moderately steep to steep range of hills (Pekina Range), running in a narrow band from about seven km south west of Tarcowie to about six km west of Orroroo. There is a branch running south west from Pekina Hill to Mt. Robert. The Land System also includes Hogshead Range, a prominent hill south of Pekina. Slopes vary from 10% to 50%, with 20 to 40% being the most common range. There is extensive rock outcrop and surface stones and boulders.

Elevation: The highest points are Hogshead Hill and Maurice Hill (both approximately 780 m) and Pekina Hill (718 m). The range loses elevation in a southerly direction, and at the southern end, the highest points are between 500 and 550 m. The lower slopes in this area are about 450 m.

Relief: Relief is up to 200 m (Maurice Hill area), but as low as 50 m near Tarcowie.

Soils: Shallow stony loams associated with calcareous loams and loam over red clay soils account for most of the area.

Main soils

- A2** Shallow calcareous loam - extensive (slopes throughout)
- D1** Loam over red clay on rock - common (gentler slopes)
- L1/B3** Shallow stony loam over (calcreted) rock - limited (steep rocky slopes)
- L1** Shallow stony loam over calcareous rock - limited (throughout)
- C2** Shallow gradational loam - limited (gentler slopes)

Minor soils

- D2** Loam over red clay - lower slopes
- C3** Gradational loam - lower slopes

Main features: The Maurice Hill Land System is characterized by mostly moderately steep to steep rocky non arable hills with shallow calcareous and non calcareous loamy soils. The slopes are useful for grazing, the main soil management issue being maintenance of surface cover to control erosion. Limited areas of arable land have shallow, stony soils and some deeper texture contrast soils with rocky outcrops. Erosion potential is moderate to high on these slopes.



Soil Landscape Unit summary: 10 Soil Landscape Units (SLUs) mapped in the Maurice Hill Land System:

SLU	% of area	Main features #
ABB ABC ABD ABE ABI	1.4 51.0 7.4 19.2 11.2	<p>Rocky rises, low hills and hills formed on mainly fine grained rocks with interbedded quartzites and with 20-50% surface tillite, quartzite and siltstone.</p> <p>ABB Rises with slopes of 8-20%.</p> <p>ABC Low hills with slopes of 10-30%.</p> <p>ABD Steep ridges with slopes of 30-40%.</p> <p>ABE Steep ridges and hills with slopes of 30-50%.</p> <p>ABI Low hills with slopes of 10-30%, eroded watercourses and minor scalding.</p> <p>Main soils: <u>shallow calcareous loam</u> - A2 (E), with <u>loam over red clay on rock</u> - D1 (C), <u>shallow stony loam over calcareous rock</u> - L1 (L), <u>shallow loam over (calcreted) rock</u> - L1/B3 (L), and <u>shallow gradational loam</u> - C2 (L). This is non arable land; steep, rocky and largely inaccessible to machinery. Main soils: shallow, stony and prone to moisture deficit early in spring, limiting pasture productivity. There is a high to very high risk of erosion if the soil is bare. The slopes nevertheless provide useful grazing.</p>
DXB DXC	3.1 2.3	<p>Lower slopes with accumulations of outwash sediments (one third of area), interspersed with low basement rock rises (two thirds of area).</p> <p>DXB Very gentle slopes of 2-3%.</p> <p>DXC Gentle slopes of 3-8%.</p> <p>Main soils: deep <u>loam over red clay</u> - D2 (L) and <u>gradational loam</u> - C3 (L) on outwash sediments and soils as for ESC on rises. This land is almost all arable, with the predominantly deep soils potentially productive. Poor surface structure and erosion potential are the main management issues.</p>
ESC ESD	0.6 3.2	<p>Rocky rises and low hills formed on mainly fine grained basement rocks.</p> <p>ESC Rises with slopes of 5-10% and 10-20% rocky outcrop.</p> <p>ESD Low hills with slopes of 10-20% and 10-20% rocky outcrop.</p> <p>Main soils: <u>shallow calcareous loam</u> - A2 (E), with <u>shallow stony loam over calcareous rock</u> - L1 (L), <u>shallow loam over (calcreted) rock</u> - L1/B3 (L), <u>loam over red clay on rock</u> - D1 (L) and <u>shallow gradational loam</u> - C2 (L). This land is semi arable due to rocky reefs and moderate slopes with potential for moderate to high erosion. The most common soils are shallow with limited waterholding capacity. Productive potential is restricted accordingly.</p>
XAT	0.6	<p>Miscellaneous watercourses and associated narrow terraces with variable alluvial soils. This land is extremely susceptible to erosion and the need to stabilize the watercourse limits suitable use to light grazing.</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:

- A2** Shallow calcareous loam (Paralithic, Calcic / Lithocalcic Calcarosol)
Calcareous stony loam to clay loam grading to soft or rubbly carbonate over weathering rock at less than 50 cm.
- C2** Shallow gradational loam (Calcic / Lithocalcic, Red Dermosol)
Medium thickness loam to clay loam grading to well structured red clayey subsoil with fine to rubbly carbonate at depth over weathering rock within a metre.
- C3** Gradational loam (Calcic / Supracalcic, Red Dermosol)
Medium thickness loam to clay loam grading to well structured red clayey subsoil with fine to rubbly carbonate at depth over alluvium continuing below a metre.
- D1** Loam over red clay on rock (Calcic / Lithocalcic, Red Chromosol)
Medium thickness loam to clay loam abruptly overlying red clay, calcareous and sometimes rubbly with depth grading to weathering rock within a metre.
- D2** Loam over red clay (Calcic / Hypercalcic, Red Chromosol)
Medium thickness loam to clay loam abruptly overlying red clay, calcareous with depth grading to alluvium continuing below a metre.
- L1** Shallow stony loam over calcareous rock (Calcareous, Paralithic, Leptic Tenosol)
Stony loam grading to weathering siltstone with accumulations of soft carbonate within 50 cm.
- L1/B3** Shallow stony loam (Lithic / Petrocalcic, Leptic Rudosol)
Shallow stony loam over hard rock or sheet calcrete.

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

