

STE Stein Hill Land System

Steep dissected slopes on the eastern side of the Burra Hills

Area: 21.2 km²

Annual rainfall: 375 – 425 mm average

Geology: The western side of the land system is formed on siltstones of the Saddleworth Formation, and the eastern side is formed on interbedded tillites and quartzites of the Appila Formation. These rocks are sporadically mantled by soft carbonates of aeolian origin. There is very little accumulation of alluvium within the system - most has been washed out and deposited on the outwash fans to the east.

Topography: The Stein Hill Land System represents the east facing slopes of the Burra Hills south of the Burra - Morgan road. The western edge is defined by the watershed separating the Burra Creek catchment from the plains to the east. The slopes are moderately steep, very strongly dissected and characterized by extensive rocky outcrop, eroded water courses and scalded areas.

Elevation: 646 m in the extreme north (transitional to the Wandalla Land System). Stein Hill (in the main part of the Land System) is 605 m. Elevation along the eastern edge ranges from 480 m to 450 m.

Relief: Maximum relief is 100 m

Soils: Most soils are shallow to moderately deep over basement rock, without significant profile development. Sometimes there is a red clayey subsoil, and in other soils, there is a subsurface carbonate layer.

Main soils

- L1** Shallow stony sandy loam to loam - extensive (throughout)
- A2** Calcareous loam -extensive (throughout, usually on finer grained rocks)
- D1** Sandy loam to loam over red clay on rock - common (gentler slopes - sandier surface on tillites, loamy surfaces on siltstones)

Main features: The Stein Hill Land System is mostly moderately steep to steep, rocky and exposed. The soils are shallow and have been degraded in the past. Water courses are often severely gullied. Although the land is suitable for grazing, productive potential is low, and an essential element of management is control of stocking rates to prevent further damage.



Soil Landscape Unit summary: 5 Soil Landscape Units (SLUs) mapped in the Stein Hill Land System

SLU	% of area	Main features #
AAH AAI AAi AAj	15.5 5.5 66.1 6.7	Dissected very rocky slopes formed on siltstones with interbedded tillites and quartzites. There is up to 20% rock outcrop and 20% or more surface stone. AAH Undulating rises to 40 m high with slopes of 4-15% and eroded water courses. AAI Moderately steep low hills to 60 m high with slopes of 15-30% and eroded water courses. AAi Strongly dissected rocky slopes of 10-40%, with relief of up to 70 m, eroded water courses and sporadic scalding. AAj Steep eroded slopes of 25-75%, up to 100 m high, with scalded areas. Main soils: <u>shallow stony sandy loam to loam</u> - L1 (E) and <u>calcareous loam</u> - A2 (E), with shallow <u>sandy loam to loam over red clay on rock</u> - D1 (L). This land is non arable due to the roughness and steepness of the terrain, and many areas are so steep as to be inaccessible to vehicles. Runoff is rapid and exposure is high, so a proportion of rainfall does not infiltrate the soil. There is a significant amount of moderately deep fertile soils on the slopes and these are potentially productive for grazing. The scars of past erosion are still visible - this historic degradation makes the soils more erodible. Erosion control through grazing management is a major issue. Watercourses are particularly susceptible to erosion.
ETn	6.2	Moderate slopes of 10-20% formed on interbedded tillites and quartzites with extensive rock outcrop, severely eroded water courses and scalding. Main soils: <u>sandy loam to loam over red clay on rock</u> - D1 (E) and <u>shallow stony sandy loam to loam</u> - L1 (E) with <u>calcareous loam</u> - A2 (C). Most of the land is too stony, steep and eroded for cropping. It is suitable for grazing provided that stocking rates are managed to maintain sufficient protective cover so that further degradation is avoided.

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

(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** Calcareous loam (Paralithic, Hypercalcic / Supracalcic Calcarosol)

Calcareous loam grading to a very highly calcareous clay loam or rubble layer merging with calcareous weathering rock within 100 cm, usually 50 cm.

D1 Sandy loam to loam over red clay on rock (Calcic, Red Chromosol)

Hard red gravelly loamy sand to loam abruptly overlying a well structured red clayey subsoil, usually with fine carbonate at depth, over weathering rock within 100 cm. Sandier surface on tillites, loamy surfaces on siltstones.

L1 Shallow stony sandy loam to loam (Lithic, Leptic Tenosol / Rudosol)

Shallow stony sandy loam to loam, sometimes with a calcareous or clayey subsoil mixed with rock fragments, overlying basement rock within 50 cm.

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

