YAB Yabmana Land System

Area: 193.3 km^2

Landscape: Discrete low rounded hills formed on granites and gneisses, surrounded by extensive outwash fans formed on gravelly clayey sands to sandy clays of the Pooraka Formation. The fans account for 60% of the land area, with the prominent basement rock highs protruding through them creating a distinctive landscape pattern.

Annual rainfall: 300 - 400 mm average

Main soils:

Nobby - **D3** (Calcic, Red Sodosol)
Medium thickness coarse sandy loam to sandy clay loam over a coarsely structured red clay, moderately calcareous with depth grading to alluvial sediments derived from eroded granitic rocks

Red brown earth - **D2** (Hypercalcic, Red Chromosol / Dermosol)
Medium thickness friable loam to clay loam with a paler coloured A2 layer, over a well structured red clay, highly calcareous from about 30 cm grading to clayey alluvium

Nobby (shallow) - **D1** (Calcic, Red Chromosol)
Medium thickness coarse sandy loam to sandy clay loam over a well structured red clay, moderately calcareous with depth, grading to weathered granitic or gneissic rock

Skeletal soil - **L1** (Lithic, Leptic Tenosol / Rudosol)
Variable gravelly loamy sand to sandy clay loam over basement rock at depths usually less than 50 cm

Minor soils:

Gradational alluvial soil - **M4a** (Eutrophic, Red Kandosol)
Medium to thick sandy loam grading to a red sandy clay loam to clay, sandier with depth

Uniform alluvial soil - **M1** (Calcareous, Regolithic, Red-Orthic Tenosol)
Very thick brown loamy sand to sandy loam, continuing below 100 cm

Saline alluvial soil - **M4b** (Calcic, Red Dermosol / Kandosol)
Thick sandy loam over a red clay, calcareous with depth. Saline throughout

Summary: The majority of the land comprises gentle slopes of deep moderately fertile sandy loam over clay soils with few limitations other than susceptibility to water erosion. However, the isolated rocky rises which are scattered throughout and account for almost 40% of the area, are mostly non arable, and generate significant runoff on to the surrounding lower slopes.

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

SLU	% of area	Component	Main soils	Prop#	Notes
AKB	17.7	Rocky rises	Skeletal	D	Shallow stony soils and rock outcrop - non arable.
AKC	10.0	Rocky slopes	Skeletal	D	Shallow stony soils, rock outcrop and moderately steep slopes - non arable.
ALB	7.0	Rises	Skeletal	E	Less rocky than **AKB**, but mostly non arable.
			Shallow Nobby	E	
ALI	2.3	Moderately steep slopes	Skeletal Shallow Nobby	E E	Extensive moderately deep soils, but non arable due to moderately steep slopes and rocky outcrop.

DZH	2.6	Gently sloping rises and lower slopes	Shallow Nobby	E	Complex of moderately deep to shallow sandy loam soils on rises (semi arable), and deep moderately fertile sandy loam over clay soils on lower slopes. Moderate water erosion potential and some gully erosion.
			Nobby / RBE	E	
			Skeletal	L	
JKH	6.0	Gentle slopes	Nobby / RBE	D	Deep moderately fertile soils with moderate water erosion potential and extensive water course erosion.
JWB	47.8	Very gently sloping outwash fans	Nobby / RBE	V	Deep moderately fertile sandy loams, with similar but shallower soils on rises. Slight water erosion potential throughout.
		Rises	Shallow Nobby	L	
JWH	4.1	Gently sloping fans	Nobby / RBE	V	As for **JWB**, with moderate water erosion potential and some water course erosion.
		Rises	Shallow Nobby	E	
XEK	1.2	Creek flats	Gradational / uniform alluvial	D	Alluvial soils deep and fertile with high productive potential. Salt affected areas suitable for revegetation with salt tolerant species. Most water courses eroded or at risk. Flats subject to flooding.
XEN	1.3	Creek flats with 2-10% saline seepage patches	Gradational / uniform alluvial	D	
			Saline alluvial	M	

PROPORTION codes assigned to Soil Landscape Unit (SLU) components:

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

Further information: DEWNR Soil and Land Program