

BKB Buckleboo Land System

(Equivalent to EYB3-Oxys Land Type of Rangelands)

Area: 1,220.8 km²

Landscape: Very gently undulating plains and rises formed on Tertiary clays (Blanchetown Clay equivalent), capped by highly calcareous windblown silty sands (Woorinen Formation). There are minor deposits of Moornaba Sand as low to moderate linear sandhills, and scattered granitic outcrops protruding through the clay substrate.

Annual rainfall: 285 – 365 mm average

Main soils:

Kimba - D3 (Hypercalcic, Red Sodosol)
Medium thickness hard loamy sand to loam overlying a strongly subangular blocky red clay, highly calcareous (Class I carbonate) from about 30 cm, grading to Blanchetown Clay equivalent.

Wiabuna - A6 (Hypercalcic Calcarosol)
Calcareous loam becoming more clayey and calcareous with depth, grading to a very highly calcareous clay (Class I carbonate) over Tertiary clay.

Minor soils:

Moornaba - H2 (Calcareous, Arenic, Yellow-Orthic Tenosol)
Very thick red to brown sand, becoming weakly calcareous and often grading to an orange clayey sand with depth, overlying variable carbonate (fine to rubbly, occasionally sheet).

Skeletal soil - L1 (Lithic / Leptic Tenosol / Rudosol)
Variable gravelly loamy sand to sandy clay loam over basement rock, shallower than 50 cm.

Cleve (shallow) - D1 (Calcic, Red Chromosol)
Thin to medium thickness gravelly sandy loam to clay loam over a red well structured clay, calcareous with depth, grading to weathering metamorphic rock within 50 cm.

Calcrete - B2 (Petrocalcic, Lithocalcic Calcarosol)
Thin calcareous sandy loam to clay loam over hard calcrete, associated with abundant surface calcrete and sheet rock.

Summary: The land is 99% arable with moderately deep and relatively fertile soils. The gentle slopes have some potential for water erosion, and the lighter soils are prone to wind erosion. The underlying clayey sediments restrict leaching, so accumulation of boron at toxic concentrations in the potential rootzone is common. Lack of leaching capacity has similarly caused the concentration of salts in some soils to the point where scattered magnesia patches have formed.



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

SLU	% of area	Component	Main soils	Prop#	Notes
A-g	0.3	Granite outcrops	Skeletal	D	Non arable
A-kg	0.2	Granite outcrops	Calcrete-skeletal	D	Calcrete capped granite - non arable.
EDB	0.2	Gently undulating rises	Shallow Cleve	V	Moderately fertile, but erosion prone sandy loam soils with minor rocky reefs.
			Skeletal	L	
ETB	0.1	Semi arable slopes	Shallow Cleve	D	Slopes with rocky outcrops - semi arable.
HEB	94.3	Very gentle slopes	Kimba	E	Gentle slopes with mixture of sandy loam over clay soils and calcareous sandy clay loams - moderately deep and relatively fertile. Minor wind erosion potential, minor to moderate water erosion potential. Boron toxicity common. Magnesia patches affect up to 2% of land.
			Wiabuna	E	
	Low sandhills	Moornaba	M		
IeB	1.2	Very gentle slopes	Wiabuna	D	Calcareous sandy loams with restricted water holding capacity and slight wind and water erosion potential.
IeV	1.8	Very gentle slopes	Wiabuna	D	As for IeB with 2-10% of the land affected by magnesia patches.
		Magnesia patches		M	
U-C	1.0	Moderate sandhills	Moornaba	D	Moderately high wind erosion potential, low fertility and some water repellence.
UkI	0.4	Very gentle slopes	Kimba / Wiabuna	E	Slopes as for HEB , sandhills as for U-C .
		Moderate sandhills	Moornaba	E	
UkJ	0.5	Very gentle slopes	Kimba / Wiabuna	V	Slopes as for HEB , sandhills as for U-C , except wind erosion potential is less (smaller sandhills).
		Low sandhills	Moornaba	E	

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](#)

