

PUR Pureba Land System

(Equivalent to Land Type GVD6-Corrobinnie of Rangelands)

Area: 1,650.1 km²

Landscape: Parallel siliceous sand ridges superimposed on a landscape of Ripon / Bakara Calcrete and highly calcareous windblown Woorinen Formation deposits. The sand ridges vary from low to high and are formed from siliceous Molineaux sand. Minor granite outcrops indicate that hard rock underlies the area, although at highly variable depth.

Annual rainfall: 225 - 325 mm average

Main soils:

Bookabie - A4 (Regolithic, Hypercalcic / Lithocalcic Calcarosol)
Calcareous soft sandy loam to sandy clay loam, becoming more clayey and calcareous with depth, over rubbly Class III B or C carbonate (**A4a**) or fine Class A carbonate (**A4b**) in a sandy clay loam to light clay matrix, from about 40 cm.

Moornaba - H2 (Calcareous, Arenic, Red-Orthic / Brown-Orthic Tenosol)
Very thick red to brown sand, becoming weakly calcareous and often grading to an orange clayey sand deeper than 50 cm, overlying sheet calcrete (**H2a**) or fine to rubbly carbonate (**H2c**).

Chintumba - B1 (Hypervescent, Petrocalcic, Lithocalcic Calcarosol)
Medium thickness highly calcareous sandy loam to sandy clay loam containing increasing amounts of rubble with depth, over sheet calcrete at less than 50 cm.

Minor soils:

Shallow Moornaba - H2b (Regolithic, Calcic / Supracalcic Calcarosol)
Thick calcareous sand to loamy sand, grading to a highly calcareous sandy loam to sandy clay loam from about 50 cm, with variable rubble.

Magnesia soil - A1 (Hypervescent, Regolithic, Hypercalcic Calcarosol)
Highly calcareous loam becoming more clayey and calcareous at depth with variable rubble, continuing below 120 cm, and saline throughout

Saline soil - N2 (Salic / Hypersalic Hydrosol)
Miscellaneous wet saline soil influenced by rising saline groundwater tables.

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

Summary: Dunefields superimposed on rises. High to moderate parallel siliceous sandhills account for more than 30% of the area. They are infertile with moderate to extreme wind erosion potential and susceptible to water repellence. The calcareous sandy loams of swales have moderate fertility with elevated subsoil boron and salt. They are slightly susceptible to wind erosion. Stony swales have limited waterholding capacity and are difficult to cultivate - many are non arable.



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

SLU	% of area	Component	Main soils	Prop#	Notes
A-g	<0.1	Rock outcrop	Skeletal	D	Rocky outcrop - non arable
QHA	0.6	Stony flats	Chintumba	D	Shallow stony soils on calcrete - semi arable.
QHB	0.3	Stony rises	Chintumba	D	
SXB	0.2	Sandy loam rises	Bookabie	V	
		Moderate sandhills	Shallow Moornaba	L	Rises with calcareous sandy loam soils, overlain by up to 30% parallel sandhills with moderate to moderately high wind erosion potential. Soils as described below.
			Moornaba	L	
SxB	0.4	Sandy loam rises	Bookabie	V	
		Low sandhills	Shallow Moornaba	L	
			Moornaba	M	
UJH	95.1	Sandy loam swales	Bookabie	E	Dunefields where parallel siliceous sandhills account for more than 30% of the area. Wind erosion potential and low fertility are the main issues on sandhills, with slight erosion potential on slopes and sporadic magnesia patches in swales. Main soils are: Bookabie: Moderate fertility calcareous sandy loam with moderate subsoil boron and salt. Slight wind erosion potential. Moornaba: Deep low fertility sand with moderate to extreme wind erosion potential, depending on dune size. Some water repellence. Shallow Moornaba As for Moornaba, but with calcareous materials at less than 50 cm. Chintumba: Very shallow, restricted waterholding capacity, extensive surface stone, often semi arable.
		High sandhills	Moornaba	E	
			Shallow Moornaba	L	
		Stony swales	Chintumba	L	
UJI	2.1	Sandy loam swales	Bookabie	E	
		Moderate sandhills	Moornaba	E	
			Shallow Moornaba	L	
		Stony swales	Chintumba	L	
UJJ	1.1	Sandy loam swales	Bookabie	E	
		Low to moderate sandhills	Moornaba	C	
			Shallow Moornaba	C	
		Stony swales	Chintumba	L	
UJd	0.1	Sandy loam rises	Bookabie	E	
		High sandhills	Moornaba	C	
			Shallow Moornaba	L	
		Stony rises	Chintumba	L	
ZB-	0.1	Saline flats	Saline soil	D	Non productive land.

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](#)

