

# BRL Brimpton Lake Land System

**Area:** 150.4 km<sup>2</sup>

**Landscape:** Gently undulating rises formed on deeply weathered and ferruginized Tertiary sediments, and alluvial sands, silts and clays. The Tertiary sediments are capped in part by Ripon / Bakara Calcretes and highly calcareous Woorinen Formation deposits. Shallow saline water tables underlie part of the area - about 20% of the land (where water tables are at or near the surface) is salt affected.

**Annual rainfall:** 420 – 460 mm average

**Main soils:**

Wharminda - G4 (Hypercalcic, Brown Sodosol)  
Medium to thick sand with a bleached A2 layer abruptly overlying a hard columnar structured dispersive brown mottled clay, highly calcareous with depth, grading to alluvial or Tertiary sediments.

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

Red brown earth - D2 (Calcic, Red Chromosol)  
Medium thickness loam to clay loam with a paler coloured A2 layer, over a well structured red or brown clay, highly calcareous from about 30 cm grading to Tertiary clay.

Wiabuna (rubbly) - A4 (Lithocalcic / Supracalcic Calcarosol)  
Calcareous sandy loam to sandy clay loam grading to carbonate rubble.

Wanilla - J2 (Ferric, Eutrophic, Brown Chromosol)  
30 cm sandy loam with a bleached A2 layer containing abundant ironstone gravel, overlying a yellowish brown mottled clay grading to Tertiary sediments.

**Minor soils:**

Wanilla (sodic) - J1 (Ferric, Brown Sodosol)  
30 cm sandy loam with a bleached A2 layer containing abundant ironstone gravel, overlying a yellowish brown poorly structured mottled sodic clay.

Wiabuna (shallow) - B2/A4 (Petrocalcic / Lithocalcic Calcarosol)  
Calcareous sandy clay loam over carbonate rubble grading to sheet calcrete 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.

Pedler - F1 (Brown Chromosol)  
Medium thickness sandy loam over a brown well structured clay grading to Tertiary sediments.

**Summary:** Gently undulating rises characterized by a range of soils. These vary from highly productive loam over clay profiles, through ironstone gravelly sandy loams with low fertility and impeded drainage, to sand over clay soils with low fertility and prone to wind erosion, waterlogging, water repellence and poor root growth conditions. Calcareous sandy loams dominate limited areas where carbonate deposits occur. These are moderately fertile with restricted waterholding capacity. In places, sheet or rubbly calcrete prevents cultivation. About 20% of the land is salt affected due to shallow saline groundwater tables. Most has potential for pasture production using tolerant species.



**Soil Landscape Unit summary:** 8 Soil Landscape Units (SLUs) mapped in the Brimpton Lake Land System:

SLU	% of area	Component	Main soils	Prop#	Notes
FZA	6.0	Sandy loam flats	Wanilla / Wanilla (sodic)	V	Flats and rises on deeply weathered alluvial sediments. Ironstone gravelly sandy loams predominant, with sand over clay. Low fertility, water logging and sporadic salinity are main issues. Soils are:
		Sandy flats	Wharminda	E	
FZB	20.2	Sandy loam rises	Wanilla / Wanilla (sodic)	V	<u>Wanilla</u> Deep gravelly sandy loam with low inherent fertility, prone to waterlogging and acidification. <u>Wanilla (sodic)</u> As for Wanilla but more prone to waterlogging and poor root growth. <u>Wharminda</u> Sand over poorly structured clay - low fertility, prone to wind erosion, waterlogging, water repellence and limited water holding capacity (impeded root growth).
		Sandy rises	Wharminda	E	
GcA	50.1	Gently undulating sandy flats	Wharminda	E	Flats formed on alluvial / Tertiary sediments, partly capped by calcareous Woorinen Formation materials. Soils are variable: <u>Wharminda</u> : Sand over poorly structured clay - low fertility, prone to wind erosion, waterlogging, water repellence and limited water holding capacity (impeded root growth). <u>Red brown earth</u> : Loam over well structured clay - deep, fertile, moderately well drained and potentially productive. <u>Wiabuna (rubbly)</u> : Calcareous sandy loam - moderately deep, moderately fertile, slight wind erosion potential. Sporadic salinity on lower lying areas.
		Gently undulating loamy flats	Red brown earth	E	
		Upper slopes of calcareous sandy loam	Wiabuna (rubbly)	E	
HKT	0.1	Depressions	Pedler	D	Marginally saline depressions underlain by alluvial / Tertiary sediments with soils prone to waterlogging.
QVA	1.7	Stony flats	Shallow	V	Flats and rises formed on calcrete, overlain by Woorinen Formation carbonates. Calcrete areas are non arable due to surface stone and shallow sheet rock. Shallow Wiabuna soils are arable, but low water holding capacity is a limitation.
		Very stony flats	Wiabuna Calcrete	C	
QVB	2.1	Stony rises	Calcrete	V	
		Sandy loam rises	Shallow Wiabuna	E	
ZA-	13.8	Marginally saline alluvial flats	Semi saline alluvial	D	Marginally saline flats are non arable but are suitable for grazing of salt tolerant pastures. Salt lakes have no agricultural value. Soils are potentially acid sulfate.
ZD-	6.0	Salt lakes	-	D	

# 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](#)

