MSL Moseley Land System

Area: 244.9 km^2

Landscape: Plains formed over Tertiary sediments, mainly Blanchetown Clay equivalent, partially buried by alluvial sediments from basement rock highs to the north. Most of the sediments are veneered by highly calcareous Woorinen Formation deposits, blown in and leached into the soil. There are minor accumulations of Molineaux Sand as low sandhills. In the south east are the beds of several old lakes.

Annual rainfall: 290 – 355 mm average

Main soils:

Wiabuna - **A5** (Regolithic, Lithocalcic / Supracalcic Calcarosol)
Calcareous sandy loam to sandy clay loam grading to carbonate rubble, overlying Blanchetown Clay equivalent within 100 cm.

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.

Buckleboo - **D2** (Sodic, Lithocalcic, Red Chromosol)
Medium thickness sandy loam to sandy clay loam over a well structured red clay with rubbly carbonate within 50 cm, becoming less rubbly with depth over clay.

Minor soils:

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

Moornaba - **H2** (Calcareous, Arenic, Red-Orthic / 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).

Calcareous loam (shallow) - **A2** (Paralithic, Hypercalcic / Lithocalcic Calcarosol)
Calcareous loam grading to a highly calcareous clay loam over Class III A, B or C carbonate merging with weathering 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.

Summary: The land is mostly flat with relatively deep sandy loam to sandy clay loam soils of moderate fertility. Subsoil concentrations of salt and boron are often high, as underlying Blanchetown Clay prevents leaching. Sandy soils are minor overall, and are infertile and prone to wind erosion.

Soil Landscape Unit summary: 8 Soil Landscape Units (SLUs) mapped in the Moseley Land System:

SLU	% of area	Component	Main soils	Prop#	Notes
ETB	0.8	Stony rises	Calc loam / skeletal	D	Shallow soils and rocky outcrops - semi arable.
IkA	3.7	Flats	Wiabuna	V	Calcareous sandy loams of the flats are moderately fertile, although with moderate levels of subsoil salinity and boron. Sandhills are infertile and prone to wind erosion.
		Low sandhills	Moornaba	L	
IrA	81.5	Flats	Wiabuna	V	Both soils are deep and moderately fertile although subsoil boron and salt levels are commonly high. The soils are relatively resistant to erosion.
			Kimba / Buckleboo	C	
SQA	4.2	Gently undulating flats	Wiabuna (rubbly)	V	Calcareous sandy loams have marginal fertility, restricted waterholding capacity and slight to moderate potential for wind erosion. Sandhills are low in fertility, and have moderate to high susceptibility to wind erosion.
		Moderate to low sandhills	Moornaba	C	
SzA	8.5	Stony flats	Wiabuna (rubbly)	D	Stony calcareous sandy loams are similar to those of IrA, but with reduced water holding capacity.
U-D	0.4	Low sandhills	Moornaba	D	Low fertility and moderate wind erosion potential.
VGA	0.3	Old lake	-	-	-
VGL	0.6	Old lake	-	V	-
		Low sandhills	Moornaba	C	

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

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)

Further information: DEWNR Soil and Land Program