

DUR Dusthole Range Land System

Area:	92.6 km ²
Landscape:	Range of rocky steep low hills north-west of Oodlawirra
Annual rainfall:	255 – 330 mm average
Geology:	Neoproterozoic Ulupa Siltstone Formation consisting of grey-green and purple siltstones and shales. Holocene alluvium/colluvium flanks the ranges and is more common on the northern edge.
Main soils:	L1 (27%) Shallow soil on rock (Rocky Rudosol-Tenosol) A2 (22%) Calcareous loam on rock (Paralithic Calcarosol) RR (21%) Bare rock
Minor soils:	D4 (8%) Loam over pedaric red clay (Pedaric Red Sodosol-Dermosol) C1 (5%) Gradational sandy loam (Calcic-Hypercalcic Kandosol-Calcarosol) A3 (4%) Deep moderately calcareous loam (Calcic Calcarosol) A5 (4%) Rubbly calcareous loam on clay (Supracalcic-Lithocalcic Calcarosol on clay) C2 (3%) Gradational loam on rock (Shallow Red Dermosol-Kandosol-Calcarosol)
Summary:	The Dusthole Range Land System consists of steep rocky hills formed on siltstones and shales with shallow soils and rolling rises with calcareous soils and red texture-contrast soils on associated pediments.

Soil Landscape Unit summary: Dusthole Range Land System (DUR)

SLU	%of area	Component	Main soils	Prop#	Notes
AAA	1.4	Undulating rises	L1RRA2	D	Rises and hills with shallow rocky calcareous soils formed on fine-grained rocks. Rock outcrops are common. AAA Undulating rises with shallow rocky soils or bare rock outcrop. Relief is less than 30m, slopes are 3-10%. AAB Rolling rises as above. Relief is 9-30m, slopes are 10-30%. AAC Rolling low hills as above. Relief is less than 30m slopes are 10-30%. AAD Steep low hills as above. Relief is 30-90m, slopes are 30-50%. Main soils: <u>Shallow stony soils on rock - L1</u> , <u>Rock outcrop - RR</u> and <u>Calcareous loam on rock - A2</u> .
AAB	3.5	Rolling rises	L1RRA2	D	
AAC	10.6	Rolling low hills	L1RRA2	D	
AAD	34.1	Steep low hills	L1RRA2	D	
ABC	0.8	Rolling low hills	L1RR	D	Rolling low hills with shallow, often calcareous, soils on quartzite, or bare rock. Relief: 30-90m, slopes are 3-10%. Main soils: <u>Shallow stony soils on rock - L1</u> . <u>Rock outcrop - RR</u> is common.
AYB	13.9	Rolling rises	A2L1RR	D	Rolling rises with shallow calcareous loam on calcareous siltstone (Tapley Hill Formation) or other fine-grained rocks or bare rock. Relief is less than 30m, slopes are 10-30%. Main soils: <u>Calcareous loam on rock - A2</u> and <u>Shallow</u>



					<u>stony soils on rock - L1</u> and <u>Bare rock - RR.</u>
DSI	2.5	Shallow pediment	D1C2 D7	V	Pediments and rises complexes with shallow, clay-loamy surfaced, duplex soils over rock with more than 20% outcropping rock.
		Rock outcrop	L1RR	C	
DSn	1.5	Shallow pediment	D1C2 D7	V	<p>DSI Gently undulating pediment. 20-30% bare rock. Moderately gullied (10-20%) and scalded (10-50%). Slopes are 1-3%, relief is less than 9m.</p> <p>Dsn Rolling pediment plain. Moderately gullied and scalded. Slopes are 10-30%, relief is up to 30m.</p> <p>Main soils: <u>Clay loam over pedaric red clay on rock - D1</u>, <u>Gradational red-brown clay loam over rock-C2</u>, <u>Loam over poorly structured clay on rock -D7</u> and <u>Shallow stony soils on rock - L1.</u></p>
		Rock outcrop	L1RR	C	
DaKz	1.0	Plains	D1D4 C2	D	<p>Plains and pediments with pedaric (crumbly), texture-contrast soils with calcareous subsoils over basement rock within 1 metre of the surface. Soils have clay-loamy surfaces. Moderately gullied, saline and scalded.</p> <p>Main soils: <u>Loam over clay on rock- D1</u>, <u>Loam over pedaric red clay - D4</u> and <u>Gradational loam on rock - C2.</u></p>
EDC	4.1	Undulating rises	C2L1	D	<p>Undulating rises with gradational red loamy sand on rock or very shallow loamy sand on rock. 10-30% rock outcrop. Relief is less than 30m, slopes are 3-10%.</p> <p>Main soils: <u>Gradational loam on rock -C2</u> and <u>Shallow stony soils on rock - L1.</u></p>
EOKz	2.6	Plains	A2A6	D	<p>Plains with pulverulent gradational calcareous sandy loam over clay loam on weathered rock; or deep gradational calcareous loam over rubbly clay loam. Moderately gullied, saline and scalded.</p> <p>Main soils: <u>Calcareous loam on rock - A2</u> and <u>Gradational calcareous clay loam - A6.</u></p>
EVC	0.5	Undulating rises	A2	V	<p>Undulating rises with gradational calcareous sandy loam over clay loam on weathered rock; 10-30% shallow calcareous sandy loam on rock, or bare rock. 20-30% bare rock. Slopes: 3-10%, relief is less than 9-30m.</p> <p>Main soils: <u>Calcareous loam on rock - A2</u> and <u>Bare rock - RR.</u></p>
		Rocky outcrops	RR	C	
JKYz	8.6	Flood plains	D4A3 C1	D	<p>Flood plains with texture contrast sandy loam over crumbly red clay, or gradational moderately calcareous sandy loam over clay, or gradational loam over red clay. Severely gullied (over 20% affected), moderately saline throughout profiles and 10-50% scalded.</p> <p>Main soils: <u>Loam over pedaric red clay on rock - D1</u>, <u>Deep moderately calcareous loam - A3</u> and <u>Rubbly calcareous loam on clay - A5.</u></p>
JLLz	1.9	Pediments	D4	D	<p>Pediments with more than 20% pedaric, texture contrast (loam over crumbly red clay) soils, but less than 20% calcareous gradational soils. Highly saline throughout soils, 10-20% gullied and 10-50% scalded. Slopes are 1-3%, relief is less than 9m</p> <p>Main soils: <u>Clay loam over pedaric red clay - D4</u> and</p>



					<u>Loam over pedaric red clay on rock - D1</u> , with minor occurrences of <u>Deep moderately calcareous loam - A3</u> .
JMB	0.8	Pediments	D4	D	Moderately scalded pediments with stony, pedaric, red, texture contrast soils with quartz gravel on the surface. JMB Gently sloping pediments with clay loam over crumbly red clay. Slopes are 1-3%, relief is less than 9m JMI Gently sloping pediments as above. Moderately gullied and scalded. Main soils: quartz gravelly variants of <u>Clay loam over pedaric red clay - D4</u> .
JMI	2.2	Pediments	D4	D	
JZG	0.6	Pediment	D4A5	V	Pediment-basement rock complex with red texture contrast soils on pediments and 20-30% rocky rises with shallow texture contrast soils. JZG Gently sloping pediments with clay loam over crumbly red clay, or rubbly calcareous loam on clay. 20-30% rocky outcrops. Moderately gullied (10-20%). Main soils: <u>Loam over pedaric red clay - D4</u> and <u>Rubbly calcareous loam on clay - A5</u> . Rocky rises: Main soils are: <u>Bare rock - RR</u> .
		Rocky outcrops	RR	C	
KcG	1.2	Pediment	A5A4	D	Pediments with mostly gradational calcareous soils, but with more than 20% <u>non</u> -calcareous gradational soils (Kandosols). KcG Gently sloping pediments with deep rubbly calcareous clay loam on clay, or clay loam on crumbly red-brown clay, or gradational sandy clay loam over massive red clay. Moderately gullied. Slopes are 1-3%, relief is less than 9m. KcH Undulating pediments as above. Moderately gullied. Slopes are 3-10%, relief is less than 9m. Main soils: <u>Rubbly calcareous loam on clay - A5</u> and <u>Friable gradational clay loam - C3</u> .
KcH	1.7	Pediment	A5A4	D	
KLB	1.0	Pediment	A5	D	Gently sloping pediments with deep rubbly calcareous loam over clay. 10-30% shallow calcareous loam over rock or calcrete. Slopes are 1-3%, relief is less than 9m. Main soils: <u>Rubbly calcareous clay loam on clay - A5</u> . Minor soils include: <u>Calcareous clay loam on rock - A2</u> , <u>Gradational red-brown clay loam over rock - C2</u> and <u>Shallow calcareous loam on calcrete - B2</u> .
KQB	1.2	Pediment	A5	V	Pediment and basement-rise complexes with mostly calcareous gradational soils. Here gently sloping pediments occur with deep rubbly calcareous loam over clay soils. 10-30% clay loam over crumbly red clay. 20-30% rises with shallow calcareous loam over rock or bare rock. Slopes are 1-3%, relief is less than 9m. Main soils: <u>Rubbly calcareous loam on clay - A5</u> on pediments and <u>Calcareous loam on rock - A2</u> on rises.
		Shallow rises	A2	C	
KXB	4.2	Pediment	C1	D	Gently sloping pediments with gradational sandy loam over red clay on rock; 10-30% deep calcareous sandy loam over, often rubbly, clay. Slopes are 1-3%, relief is less than 9m. Main soils: <u>Gradational sandy loam - C1</u> .



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)

Detailed soil profile descriptions:

- A2/L1** Shallow calcareous loam (Paralithic, Hypercalcic / Lithocalcic Calcarosol) (A2) OR Shallow stony loam (Calcareous, Paralithic, Leptic Tenosol) (L1).
- A3** Deep moderately calcareous (sandy) loam (Calcic Calcarosol)
Calcareous (sandy) loam topsoil grading into loamy-clay loamy subsoil without a significant CO₃ buildup in the subsoil (<20% CO₃ in subsoil). Pediment type Calcarosols.
- A4** Deep (rubbly) calcareous loam (Hypercalcic-Lithocalcic Calcarosol)
Calcareous sandy-clay loamy topsoil grading into loamy-clay loamy subsoil with a significant CO₃ buildup in the subsoil. Often rubbly. Soil usually >120 cm in depth.
- A5** Rubbly calcareous loamy sand on clay (Supracalcic-Lithocalcic Calcarosol on clay)
Calcareous loamy sand topsoil grading into loamy-clay loamy subsoil on a clayey substrate. Usually rubbly. Clayey substrate occurs at >60 cm and <120 cm.
- A6** Gradational calcareous clay loam (Pedal Hypercalcic-Lithocalcic Calcarosol on clayey subsoil)
Calcareous loams to clay loams grading into brown-red clay. Often rubbly.
- C1** Gradational sandy loam (Calcic-Hypercalcic Kandosol-Calcarosol)
Friable sandy to loamy topsoil grading into massive red-brown alkaline loamy to clay loamy subsoil.
- C2** Gradational loam on rock (Calcic / Hypercalcic Red Dermosol)
Loam to clay loam grading to friable red clay with soft Class I carbonate within 50 cm, grading to weathering rock within 100 cm.
- D1** Loam over red clay on rock (Hypercalcic / Calcic, Red Chromosol / Sodosol)
Medium thickness hard gravelly loam over a red clay, friable and finely structured (D1), to hard, coarsely structured and dispersive (D7), calcareous with depth, grading to weathering basement rock within 100 cm.
- D4** Loam over red friable clay (Calcic, Pedaric, Red Sodosol)
Thin to medium thickness fine sandy loam to loam over finely structured friable red clay, calcareous from about 50 cm, grading to fine or medium grained alluvium.
- D7** Loam over dispersive red clay on rock (Calcic / Hypercalcic, Red Sodosol)
Medium to thick hard sandy loam to clay loam sharply overlying a coarsely structured dispersive red clay, calcareous with depth, grading to highly weathered kaolinized siltstone.
- L1** Shallow stony loam (Paralithic, Leptic Tenosol)
Shallow stony loam, often calcareous throughout or with depth, overlying weathering rock shallower than 50 cm.
- RR** Bare rock

Further information: [DEWNR Soil and Land Program](#)

