

# CWH Coolawatinnie Hill Land System

Ranges and pediments east of Paratoo, which extend beyond the mapped area

**Area:** 19.8 km<sup>2</sup>

**Annual rainfall:** 225 – 245 mm average

**Geology:** The ranges are mostly formed on Ulupa Siltstone, which often outcrops

**Soils:** Soils on the ranges are shallow and stony with loamy surfaces. Deeper texture contrast and gradational soils with clay loamy surfaces occur on pediments.

### Main soils:

*On rock*

**L1** Shallow stony loam

**RR** Rock outcrop

*On pediment outwash*

**A5** Rubbly calcareous clay loam on clay

**D4** Clay loam over pedaric red clay

### Minor soils:

*On rock*

**A2** Shallow calcareous loam

**B2** Shallow calcareous loam on calcrete

**C2** Gradational loam on rock

**D1** Loam to clay loam over clay on rock

**D7** Clay loam over poorly structured clay on rock

*On pediment outwash*

**A3** Deep moderately calcareous loam

**Summary:** Ranges and pediments east of Paratoo. The ranges are characterized by shallow stony soils and extensive rock outcrop. The pediments have mostly deep clay loamy soils, both calcareous and non calcareous. Gully erosion and scalding are common.

**Soil Landscape Unit summary:** 14 Soil Landscape Units (SLUs) mapped in Coolawatinnie Hill Land System:

SLU	% of area	Component	Main soils	Prop#	Notes
AAh	6.0	Rolling rises	L1RR A2	D	Rolling rises with shallow rocky often calcareous, loam soils on rock or bare rock outcrop. 5-10% of land is affected by eroded watercourses and scalding affects 10-50% of land. Relief is 9-30m, slopes are 10-30%. Main soils: <u>shallow stony loam - L1</u> , <u>rock outcrop - RR</u> and <u>shallow calcareous loam - A2</u> .
AED	5.0	Steep rises	L1RR	D	Non-arable rocky rises and low hills formed on mostly fine grained rocks, sometimes calcreted. Soils are very shallow. <b>AED</b> Steep rises. Relief is 9-30m, slopes are 30-50%. <b>AEG</b> Undulating rises with eroded watercourses (5-10% of land affected). Relief is less than 30m, slopes are 3-10%. <b>AEJ</b> Steep low hills with eroded watercourses (5-10% of land affected). Relief is 30-90m, slopes are 30-50%. Main soils: <u>shallow stony loam - L1</u> and <u>rock outcrop - RR</u> , with <u>loam over clay on rock - D1</u> , <u>shallow calcareous loam - A2</u> and <u>shallow calcareous loam on calcrete - B2</u> .
AEG	7.3	Undulating rises	L1RR	D	
AEJ	2.0	Steep low hills	L1RR	D	



AGA	6.9	Undulating rises	L1RR	D	Hills and rises formed on mostly fine grained rocks. <b>AGA</b> Undulating rises with extensive rock outcrop. Relief is 9-30m, slopes are 3-10%.
AGH	21.9	Rolling rises	L1RR	D	<b>AGH</b> Rolling rises with extensive rock outcrop and eroded watercourses (5-10% of land affected). Relief is less than 30m, slopes are 10-30%. Main soils: <u>shallow stony loam</u> - <b>L1</b> and <u>rock outcrop</u> - <b>RR</b> , with <u>loam over clay on rock</u> - <b>D1</b> .
AYD	3.1	Very steep low hills	A2L1RR	D	Hills and rises on fine grained rocks, especially siltstones of the Tapley Hill Formation.
AYG	2.9	Undulating rises	L1RR	D	<b>AYD</b> Very steep low hills with extensive rock outcrop. Relief is 30-90m; slopes are 50-100%. Main soils are <u>shallow calcareous loam</u> - <b>A2</b> , <u>shallow stony loam</u> - <b>L1</b> and <u>rock outcrop</u> - <b>RR</b> . <b>AYG</b> Undulating rises with extensive rock outcrop and shallow soils, some on calcrete. 5-10% of land is gullied. Relief is less than 30m, slopes are 3-10%. Main soils: <u>shallow stony loam</u> - <b>L1</b> and <u>rock outcrop</u> - <b>RR</b> , with <u>loam over clay on rock</u> - <b>D1</b> .
DTI	3.1	Gently undulating rises	D1D7	D	Gently undulating rises formed on fine grained rock. 10-30% very shallow or rock outcrop, with up to 20% outcrop. Moderately gullied (5-10%) and scalded (5-10%). Slopes are 1-3%, relief is less than 30m. Main soils: <u>clay loam over (pedaric) clay on rock</u> - <b>D1</b> and <u>clay loam over poorly structured clay on rock</u> - <b>D7</b> with <u>rock outcrop</u> - <b>RR</b> and <u>shallow stony loam</u> - <b>L1</b> .
JPH	12.2	Pediments	D4A5	D	Pediments and plains formed on outwash sediments derived from basement rocks. Moderately gullied (10-20%). Slopes are 3-10%, relief is less than 9m. Main soils: <u>clay loam over pedaric red clay</u> - <b>D4</b> and <u>rubbly calcareous clay loam on clay</u> - <b>A5</b> , with <u>gradational loam on rock</u> - <b>C2</b> .
JYv	11.8	Pediments	D4D1D7	D	Gently undulating pediments formed over fine grained outwash and rock. Moderately gullied (10-20%), severely scalded (over 50%). Slopes 1-3%, relief less than 9m. Main soils are: <u>clay loam over pedaric red clay</u> - <b>D4</b> , <u>clay loam over (pedaric) clay on rock</u> - <b>D1</b> and <u>clay loam over poorly structured clay on rock</u> - <b>D7</b> , with <u>rubbly calcareous clay loam on clay</u> - <b>A5</b> , with <u>gradational loam on rock</u> - <b>C2</b> .
JZC	0.8	Pediments	D4A5	V	Complex of undulating pediments formed on fine grained outwash, and minor rocky outcrops. Slopes are 3-10%, relief is less than 9m. Main soils: <b>Pediments and plains:</b> <u>clay loam over pedaric red clay</u> - <b>D4</b> and <u>rubbly calcareous clay loam on clay</u> - <b>A5</b> with <u>deep moderately calcareous loam</u> - <b>A3</b> . <b>Rocky rises:</b> <u>rock outcrop</u> - <b>RR</b> , with <u>shallow stony loam</u> - <b>L1</b> .
		Rocky outcrops	RR	M	
KQI	11.0	Pediments	A5	V	Complex of pediments formed on fine grained outwash, and 20-30% low rises formed on fine grained rocks. <b>KQI</b> Gently sloping pediments. Moderately saline subsoils, moderately scalded (10-50%) and 5-10% gullied. Slopes are 1-3%, relief is less than 9m.
		Low rises	A2	C	
KQm	6.1	Pediments	A5	V	<b>KQm</b> Moderately sloping pediments and undulating rises. Moderately saline subsoils, moderately gullied (10-20%) and scalded (5-10%). Slopes 3-10%, relief less than 9m. Main soils: <b>Pediments:</b> <u>rubbly calcareous clay loam on clay</u> - <b>A5</b> with <u>clay loam over pedaric red clay</u> - <b>D4</b> . <b>Rises:</b> <u>shallow calcareous loam</u> - <b>A2</b> with <u>shallow calcareous loam on calcrete</u> - <b>B2</b> and <u>rock outcrop</u> - <b>RR</b> .
		Low rises	A2	C	



# 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)

### Detailed soil profile descriptions:

- A2** Shallow calcareous loam (Paralithic, Hypercalcic / Lithocalcic Calcarosol)  
Calcareous stony loam grading to soft or rubbly carbonate over weathering dolomite or calc-siltstone within 50 cm.
- A3** Deep moderately calcareous loam (Regolithic, Calcic Calcarosol)  
Calcareous loam grading to a loamy to clayey subsoil without a significant carbonate accumulation in the subsoil, grading to medium to fine grained alluvium.
- A5** Rubbly calcareous clay loam on clay (Regolithic, Supracalcic / Hypercalcic Calcarosol)  
Calcareous clay loam grading to a very highly calcareous rubbly clay loam to light clay, over a clayey substrate deeper than 60 cm, but within 120 cm.
- B2** Shallow calcareous loam on calcrete (Petrocalcic, Calcic / Lithocalcic Calcarosol)  
Stony calcareous loam, often with a very highly calcareous more clayey subsoil, over sheet calcrete within 50 cm. This grades to rubbly carbonate over weathering basement rock within 150 cm.
- C2** Gradational loam on rock (Calcic / Hypercalcic Red Dermosol)  
Loam grading to a friable red clay with soft Class I carbonate within 50 cm, grading to weathering rock within 100 cm.
- D1** Loam to clay loam over clay on rock (Hypercalcic / Calcic, Red Chromosol)  
Medium thickness hard gravelly loam to clay loam over a friable and finely structured red clay, calcareous with depth, grading to weathering basement rock within 100 cm.
- D4** Clay loam over red friable clay (Calcic, Pedaric, Red Sodosol)  
Thin to medium thickness clay loam over a finely structured friable red clay, calcareous from about 50 cm, grading to fine or medium grained alluvium.
- D7** Clay loam over poorly structured clay on rock (Calcic / Hypercalcic, Red Sodosol)  
Medium to thick hard clay loam sharply overlying a coarsely structured dispersive red clay, calcareous with depth, grading to highly weathered kaolinized siltstone or quartzite.
- L1** Shallow stony loam (Paralithic, Leptic Tenosol)  
Shallow stony loam, often calcareous with depth, overlying weathering fine grained rock shallower than 50 cm.
- RR** Rock outcrop

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

