



# Caroona Land System

**Area:** 87.5 km<sup>2</sup>

**Landscape:** Gently sloping fans and pediments with mostly calcareous soils. Scalding occurs on lower slopes and in drainage lines where red, sodic, texture contrast soils occur in association with the calcareous soils.

**Annual rainfall:** 225 – 290 mm average

**Geology:** Remnant rises of Proterozoic Tapley Hill Formation siltstone occur within extensive alluvial plains of Holocene alluvium and older Pleistocene calcreted gravels and sheet calcrete.

**Main soils:**

- A4** (23%) Deep (rubby) calcareous loam (Hypercalcic-Lithocalcic Calcarosol)
- A6** (17%) Gradational calcareous clay loam (Pedal Hypercalcic-Lithocalcic Calcarosol on clayey subsoil)
- A3** (16%) Deep moderately calcareous loam (Calcic Calcarosol)
- D4** (15%) Loam over pederic red clay (Pedric Red Sodosol-Dermosol)
- A2** (10%) Calcareous loam on rock (Paralithic Calcarosol)

**Minor soils:**

- M1** (4%) Deep sandy loam (Brown-Grey-Red Kandosol-Tenosol)
- M3** (3%) Deep gravelly soil gravelly (Kandosol-Tenosol)

**Summary:** The Caroona Land System consists of gently sloping fans and pediments with mostly calcareous soils. Red texture contrast soils occupy lower slopes and drainage line. They are often scalded. Some Proterozoic calcareous siltstone rises occur in places.

**Soil Landscape Unit summary:** Caroona Land System (CRO)

SLU	% of area	Component	Main soils	Prop #	Notes
AAA	0.6	Rise	L1A2	D	Rises and hills with shallow rocky calcareous soils formed on fine-grained rocks. Rock outcrops are common.
AAB	1.4	Ridge	L1A2	D	<p><b>AAA</b> Undulating rises with shallow rocky soils or bare rock outcrop            Relief is less than 30m, slopes are 3-10%.</p> <p><b>AAB</b> Rolling rises as above.            Relief is 9-30m, slopes are 10-30%.</p> <p>Main soils: <u>Shallow stony soils on rock - L1</u>, <u>Rock outcrop - RR</u> and <u>Calcareous loam on rock - A2</u>.</p>
EHB	1.1	Gently undulating rise	A2A4	D	<p>Gently undulating rises on calcareous siltstones and limestones.            Slopes are 1-3%, relief is 9-30m.</p> <p>Main soils: <u>Calcareous loam on rock - A2</u> and <u>Deep (rubby) calcareous sandy loam - A4</u>.</p>
EPB	4.9	Rise	A2	D	<p>Gently undulating rises on basement rocks with shallow calcareous soils.            Relief is less than 30m, slopes are 1-3%.</p> <p>Main soils: <u>Calcareous loam on rock - A2</u></p>
EVC	0.3	Rise	A2L1	D	Undulating rises with rock outcrops and shallow calcareous soils formed on fine-grained calcareous rocks.



					Slopes are 3-10%, relief is less than 9-30m.  Main soils: <u>Calcareous loam on rock - A2</u> and <u>Shallow stony soils on rock - L1</u> .
EZB	10.6	Rise	A2A4	E	Rises and associated fans with shallow calcareous sandy loam over rock, or deep rubbly calcareous sandy loam over clay.  <b>EZB</b> Gently undulating rises and fans. Slopes are 1-3%, relief is less than 30m. <b>EZC</b> Undulating rises and fans. Relief is less than 30m, slopes are 3-10%.
		Fan	A3A4	E	
EZR	2.8	Rise	A2A4	E	Main soils: <b>Rises:</b> <u>Calcareous loam on rock - A2</u> and <u>Deep (rubbly) calcareous sandy loam - A4</u> . <b>Fans:</b> <u>Deep moderately calcareous loam - A3</u> and <u>Deep (rubbly) calcareous sandy loam - A4</u> .
		Fan	A3A4	E	
JPU	1.0	Flat	D4	D	Pediments and plains with texture contrast soils formed on outwash sediments derived from basement rocks. Calcareous in some part of the profile. More than 20% of soils are pederic (fine crumbly structure in subsoils).  <b>JPU</b> Flats, 10-50% scalped. <b>JPV</b> Gently sloping pediments. Moderately scalped (5-10%). Slopes are 1-3%, relief is less than 9m. <b>JPo</b> Drainage depressions. Moderately gullied (10-20%) and scalped (10-50%). <b>JPp</b> Plains. Severely scalped (over 50%). <b>JPyy</b> Drainage depression. Severely gullied (over 20%) and scalped (over 50%).  Main soils: <u>Loam over pederic red clay - D4</u> .
JPV	2.2	Fan	D4	D	
JPo	1.7	Drainage depression	D4	D	
JPp	10.2	Flat	D4	D	
JPyy	11.4	Flat	D4	D	Main soils: <u>Gradational calcareous clay loam - A6</u> , <u>Deep (rubbly) calcareous sandy loam - A4</u> and <u>Deep moderately calcareous loam - A3</u> .  <b>KFA</b> Plains with deep rubbly calcareous clay loam on clay. Slopes are less than 1%. <b>KFV</b> Gently sloping pediments. Moderately scalped (10-50%). Slopes are 1-3%, relief is less than 9m. <b>KFI</b> Gently sloping pediments. Moderately gullied (10-20%) and scalped (10-50%). Slopes are 1-3%, relief is less than 9m.
KFA	1.6	Flat	A6A4	D	
KFV	29.9	Gently undulating plain	A4A6	E	
		Flat	A6A4	E	
KFI	0.6	Fan	A3A4	D	
KLB	4.7	Flat	A4A5	V	Flats and gentle rises with clay loamy calcareous soils. Slopes are 1-3%, relief is less than 9m.  Main soils: <b>Flats:</b> <u>Deep (rubbly) calcareous sandy loam - A4</u> <b>Rises:</b> <u>Deep (rubbly) calcareous sandy loam - A4</u> and <u>Rubbly calcareous loam on clay - A5</u>
KVA	2.3	Rise	A4	C	
		Flat	A3A4	D	
KVA	2.3	Flat	A3A4	D	Level plains formed on calcareous outwash sediments derived from basement rock with gradational, often rubbly calcareous soils. More than 90% of soils are calcareous throughout (Calcarosols).  Main soils: <u>Deep moderately calcareous loam - A3</u> and <u>Deep (rubbly) calcareous sandy loam - A4</u> .
KZE	10.4	Flat	M1M3	D	Flats with sometimes gravelly, alluvial soils. Soils may be



			A3		calcareous throughout.  Main soils: Deep <u>alluvial loam</u> - <b>M1</b> , <u>Deep gravelly soil</u> - <b>M3</b> and Deep moderately calcareous loamy sand - <b>A3</b> .
KgB	2.2	Gently undulating plain	A4A6	D	Gently undulating plains with over 50% gradational calcareous soils of which most have more than 20%gravel or stone (non-pedogenic). Slopes are 1-3%, relief is less than 9m.  Main soils: <u>Deep (rubbly) calcareous sandy loam</u> - <b>A4</b> and Gradational calcareous clay loam - <b>A6</b> .

# 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)

Gradational calcareous sandy loam over clay loam on weathered rock.

**OR** Shallow stony loam (Calcareous, Paralithic, Leptic Tenosol) (L1)

Shallow calcareous sandy loam on rock.

**A3** Deep moderately calcareous (sandy) loam (Calcic Calcarosol)

Calcareous (sandy) loam topsoil grading into loamy-clay loamy subsoil without a significant CO<sub>3</sub> build-up in the subsoil (<20% CO<sub>3</sub> 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 CO<sub>3</sub> build-up 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.

**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.

**L1** Shallow stony loam (Paralithic, Leptic Tenosol)

Shallow stony loam, often calcareous throughout or with depth, overlying weathering rock shallower than 50 cm.

**M1** Alluvial loam (Orthic Tenosol)

Very thick loam with variable gritty or more-clayey lenses, formed over recent alluvium.

**M3** Deep gravelly soil (Gravelly Kandosol-Tenosol)

Deep uniform loamy alluvial soils with at least 50% gravel in the major part of the profile.

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

