

ERS Erskine Land System

Area:	61.7 km ²
Landscape:	Gently to moderately sloping pediments with rises with sandy to clay loamy, mostly calcareous soils with some shallow calcrete in places. Named after the Hundred of Erskine to the east of the unit.
Geology:	Tapley Hill Formation calc-siltstones and associated alluvium on pediments. Some red sand on lower slopes is associated with outwash from the ranges to the east. Appila Tillite occurs in places and is associated with red sandy to sandy clay loam soils on rises.
Topography:	North-west to south-east trending range-pediment land system with steep to undulating rises against the range to the east, grading to gently sloping plains to the west.
Elevation:	370 m at base of pediment rising to 450 m asl on crests of rocky rises along the eastern edge
Relief:	Typically 10 - 20 m on the pediment, increasing to around 20 - 30 m on the eastern range
Annual rainfall:	260 – 300 mm average
Typical soils:	<p>Shallow stony calcareous soils on basement rock. These are loamy and have moderate amounts of soft carbonate. Hard layers of carbonate rock (calcrete) are common. These soils mostly occur on steeper country.</p> <p>Loamy to clay loamy soils over rubble (Calcarosols) are found on broad slopes. Sheet rock (calcrete) may be present.</p> <p>Red sand to clay loam grading to red clay (Kandosols/Calcarosols) are found on broad, undulating slopes. Associated red sandy alluvial outwash is more prominent in the southern part. Small areas with ironstone gravel also occur.</p> <p>Clay loam over granular red clay soils (Sodosols/Chromosols) are found on lower slopes and plains.</p>
Main soils:	<p>C1 (22%) Gradational sandy loam (Calcic-Hypercalcic Kandosol-Calcarosol)</p> <p>C3 (19%) Friable gradational clay loam (Calcic-Hypercalcic Red Dermosol-Calcarosol)</p> <p>A5 (13%) Rubbly calcareous loam on clay (Supracalcic-Lithocalcic Calcarosol on clay)</p>
Minor soils:	<p>D2 (9%) Loam over red clay (Calcic-Hypercalcic Red Chromosol-Sodosol)</p> <p>A3 (9%) Deep moderately calcareous loam (Calcic Calcarosol)</p> <p>A2 (5%) Calcareous loam on rock (Paralithic Calcarosol)</p> <p>A4 (5%) Deep (rubbly) calcareous loam (Hypercalcic-Lithocalcic Calcarosol)</p> <p>D4 (4%) Loam over pedaric red clay (Pedaric Red Sodosol-Dermosol)</p>
Summary:	The Erskine Land System consists of a core of low hills formed on Tapley hill Formation siltstones surrounded by pediments with gradational, non-calcareous and calcareous soils and to a lesser extent, red duplex soils.



Soil Landscape Unit summary: Erskine Land System (ERS)

SLU	% of area	Component	Main soils	Prop#	Notes
ADI	3.7	Rolling low hills	L1	D	<p>Non-arable, rolling rocky low hills formed on limestones and calc-siltstones such as Skillagoollee Dolomite with very shallow loamy soils. Watercourses are eroded. Relief 30-90m; slopes 10-30%.</p> <p>Main soils: calcareous loamy, <u>Shallow stony soils on rock - L1</u>. Associated minor soils include: <u>Gradational red clay-loam over clay (Red clayey pedaric Dermosols) - C2</u> and <u>Calcareous clay loam on rock - A2</u>. Non-arable, limited pastoral use.</p>
EFB	0.8	Gently undulating rises	A2D7L1	D	<p>Rises and plains with moderately shallow soils overlying hard calcareous rocks, typically Hawker Group siltstones and limestones.</p>
EFC	0.9	Undulating rises	A2D7L1	D	<p>EFB Gently undulating rises with only minor scalding. Slopes are 1-3%; relief is less than 30m. EFC Undulating rises with only minor scalding. Relief is less than 30m, slopes are 3-10%.</p> <p>Main soils: <u>Calcareous loam on rock - A2</u>, <u>Loam over poorly structured clay on rock - D7</u> and <u>Shallow stony soils on rock - L1</u>.</p>
EZH	11.2	Undulating rises	A2A5 B2	V	<p>Undulating rises with rocky outcrops, with mostly shallow calcareous soils on weathered siltstones of the Tapley Hill Formation and the Tarcowie Siltstone. Gullying affects 10-20% of land, scalding affects around 5%. Slopes are 3-10%; relief is less than 30m.</p> <p>Main soils: Rises: <u>Calcareous loam on rock - A2</u>, <u>Rubblly calcareous loam on clay - A5</u> and <u>Shallow calcareous loam on calccrete - B2</u>. Rocky outcrops: <u>Bare rock - RR</u>. Pediments: <u>Calcareous loam on rock - A2</u>, <u>Rubblly calcareous loam on clay - A5</u> and <u>Shallow calcareous loam on calccrete - B2</u>.</p>
		Rocky outcrops	RR	C	
JKG	31.4	Pediments	D2A3 A5	D	<p>Gently undulating pediments with mostly sandy loam surfaced red duplex soils and calcareous gradational soils. 10-20% of land is gullied and 10-50% is scalded. Soils are moderately saline throughout with 10-50% highly saline (magnesia) patches. Slopes are 1-3%; relief is less than 9m.</p> <p>Main soils: <u>Loam over red clay - D2</u>, <u>Deep moderately calcareous sandy loam - A3</u> and <u>Rubblly calcareous loam on clay - A5</u>.</p>
JOI	0.9	Rolling pediments	JID4	D	<p>Rolling pediments with non-stony pedaric, texture contrast soils with ironstone gravelly surfaces and topsoils and with calcareous subsoils. Surface textures are clay loamy most commonly. Scalding and gullying affect up to 5% of land and subsoils are moderately saline. Slopes are 10-30%; relief is less than 9m.</p> <p>Main soils: <u>Ironstone texture contrast soil with calcareous subsoil - J1</u> and <u>Loam over pedaric red clay - D4</u>.</p>



KGG	24.6	Gently undulating pediments	C3C1	D	Pediments and plains with sandy surface-textured red gradational soils with calcareous subsoils. KGG Gently undulating pediments, with 5-10% of land affected by gully and 0-5% scalded. Subsoils are moderately saline. Slopes 1-3%; relief < 9m. KGI Gently undulating pediments with 10-50% scalding and 10-20% gully which is locally more severe along drainage lines. Subsoils are moderately saline. Slopes are 1-3%; relief is less than 9m. Main soils: <u>Friable gradational sandy clay loam</u> - C3 and <u>Gradational sandy loam</u> - C1 .
KGI	9.5	Gently undulating pediments	C3C1	D	
KHH	12.0	Undulating pediments	A4D4 C1	D	Undulating pediments formed on outwash with red gradational sandy soils, calcareous at depth. Gullying affects 5-10%. Slopes 3-10%; relief < 9m. Main soils: <u>Deep (rubbly) calcareous sandy loam</u> - A4 , <u>Loam over pedaric red clay</u> - D4 and <u>Gradational sandy loam</u> - C1 .
KJJ	1.5	Drainage line	C4C3 A6	D	Moderately sloping, broad drainage line on pediment with clay loam surface-textured red gradational soils with calcareous subsoils and gradational calcareous soils. Gullying affects 5-10%. Main soils: <u>Hard gradational clay loam</u> - C4 , <u>Friable gradational sandy clay loam</u> - C3 and <u>Gradational calcareous clay</u> - A6 .
KLB	2.6	Pediment	A5	D	Gently undulating pediments with predominantly calcareous gradational soils Slopes are 1-3%, relief is less than 9m. Main soils: <u>Rubbly calcareous loam on clay</u> - A5
XHB	0.6	Creek flats	M1C1 C3	D	Creek flats with mostly coarse textured soils. Stable banks predominantly. Main soils: <u>Deep alluvial loam</u> - M1 , <u>Gradational sandy loam</u> - C1 and <u>Friable gradational sandy clay loam</u> - C3 .
XKA	0.4	Alluvial plains	M1M3 D4	D	Alluvial plains with deep silty calcareous clay loamy soils with stable banks and gully walls. Main soils: <u>Deep alluvial loam</u> - M1 .

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.
- B2** Shallow calcareous loam on calcrete (Petrocalcic Calcarosol-Rudosol)
Shallow, grey to reddish calcareous sandy to clay loamy soil on calcrete. This includes calcareous Petrocalcic Rudosols.
- C1** Gradational sandy loam (Calcic-Hypercalcic Kandosol-Calcarosol)
Friable sandy to loamy topsoil grading into massive red-brown alkaline loamy to clay loamy subsoil.
- C3** Gradational clay loam (Calcic / Hypercalcic Red Dermosol)
Loam to clay loam grading to a friable red clay with soft Class I carbonate within 50 cm, grading to alluvium within 100 cm.
- C4** Hard gradational clay loam (Calcic-Hypercalcic Sodic Red Dermosol-Calcarosol)
Topsoil <30 cm over a poorly structured subsoil. Often hard setting clay loam to loam grading into prismatic/poorly structured/sodic red (-brown) alkaline clayey to clay loamy subsoil. Includes eroded former texture contrast soils.
- D2** Hard loam over red clay (Calcic / Hypercalcic, Red Chromosol)
Hard setting sandy loam to clay loam (with variable quartzite stones) abruptly overlying a well structured red clay with soft Class I carbonate at depth.
- D4** Loam over red friable clay (Calcic, Pedaric, Red Sodosol)
Thin to medium thickness fine sandy loam to loam over a finely structured friable red clay, calcareous from about 50 cm, grading to fine or medium grained alluvium.
- D7** 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.
- J1** Ironstone soil with calcareous lower subsoil (Ferric Calcic Brown Sodosol-Chromosol-Dermosol)
Ironstone gravelly soil with brown alkaline clayey subsoil which has a calcareous layer within the profile.
- 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.
- RR** Bare rock

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

