

BHI BARRA HILL Land System

Area:	90.3 km ²
Landscape:	Range of low rocky hills trending north-south to the north of Peterborough.
Annual rainfall:	265 – 375 mm average
Geology:	Appila Tillite, Burra Group siltstones, dolomites, and quartzites.
Topography:	Low, round hills, trending north-north-east, south-south-west, mostly rolling with much rock outcrop. Some pediments and valley floor deposits are included.
Elevation:	Up to 670 m asl at Barra Hill, but mostly 520 – 600 m asl
Relief:	40 – 60 m relief commonly
Soils:	Shallow calcareous clay-loam to loam over hard rock (Tenosols/Calcarosols) Calcareous loam-clay loam grading to highly calcareous clay loam-clay (Calcarosols) occur on lower slopes and valley floors.
Main soils:	L1 (35%) Shallow soil on rock. Rocky (Rudosol-Tenosol) A2 (30%) Calcareous loam on rock (Paralithic Calcarosol) RR (22%) Bare rock
Minor soils:	D1 (4%) Loam over clay on rock (Shallow Calcic-Hypercalcic Red Chromosol) D4 (3%) Loam over pedaric red clay (Pedaric Red Sodosol-Dermosol)
Summary:	The Barra Hill land system is a range of rocky hills with shallow, mostly calcareous soils formed over tillite and calc-siltstones, dolomites and quartzites. Red duplex soils also occur on rock, pediments and valley floor deposits.

Soil Landscape Unit summary: Barra Hill Land System (BHI)

SLU	% of area	Component	Main soils	Prop#	Notes
APB	7.6	Rolling rises	L1D1	D	Rolling rises on coarse-grained basement rocks particularly Appilla Tillite Formation. Relief is 9-30m, slopes are 10-30%. Main soils: <u>Shallow stony soils on rock - L1</u> and <u>Loam over pedaric red clay on rock - D1</u> .
AQD	9.0	Steep low hills	L1	D	Steep low hills formed on quartzite (mostly on the Minburra Quartzite Member of the Saddleworth Formation) with shallow rocky soils. Much rock outcrop. Relief is 30-90m, slopes are 30-60%. Main soils: <u>Shallow stony soils on rock - L1</u> . Minor soils include <u>Red clayey pedaric Dermosols - C2</u> . Suitable for limited grazing land use only, scenic value is high.
AYB	67.3	Rolling rises	A2L1RR	D	Hills and rises on fine-grained rocks, especially siltstones of the Tapley Hill Formation. More than 20% of soils contain secondary carbonate. AYB Rolling rises. Relief: less than 30m, slopes: 10-30%. AYD Steep low hills.
AYD	1.3	Steep low hills	A2L1RR	D	



					Relief is 30-90m; slopes are 30-50%. Main soils: <u>Calcareous loam on rock</u> – A2 and <u>Shallow stony soils on rock</u> - L1 and <u>Bare rock</u> – RR .
ECB	0.8	Gently undulating rises	L1C2	D	Rises formed on Tapley Hill Formation siltstones with shallow gradational soils containing carbonate-enriched subsoils. Subsoils are also moderately saline. ECB Gently undulating rises. Slopes are 1-3%, relief is less than 30m. ECC Undulating rises. Relief: less than 30m, slopes: 3-10%. Main soils: calcareous loamy, <u>Shallow stony soils on rock</u> - L1 and <u>Gradational loam on rock</u> - C2 .
ECC	2.1	Undulating rises	L1C2	D	
EHm	4.9	Undulating pediments	A2	V	Undulating pediments on calcareous shales, siltstones and limestones such as those of the Tapley Hill Formation. Rocky rises occur in places. Main soils: <u>Calcareous loam on rock</u> – A2 and <u>Bare rock</u> – RR .
		Rocky outcrops	RR	L	
ESC	0.8	Undulating rises	A2A5	V	Undulating rises with rocky outcrops and shallow loamy surface soils on calcareous shales and limestone rocks of the Wonoka Formation. Up to 5% of land is affected by gullyng. Slopes are 3-10%, relief is 9-30m. Undulating rises: More than 20% of land within this component is gullied. Slopes are 3-10%, relief is 9-30m. Rocky outcrops: The rocky outcrops have no gullyng. Main soils: <u>Calcareous loam on rock</u> – A2 , <u>Rubby calcareous loam on clay</u> - A5 and <u>Bare rock</u> – RR .
		Rocky outcrops	RR	C	
JLH	2.8	Undulating pediments	D4	D	Plains and pediments with more than 20% pedaric, texture contrast (loam over crumbly red clay) soils, but less than 20% calcareous gradational soils. JLH Undulating pediments. Moderately gullied. Slopes are 3-10%, relief is less than 9m. JLJ Creek flat. Moderately gullied. Main soils: <u>Clay loam over pedaric red clay</u> - D4 and <u>Loam over pedaric red clay on rock</u> - D1 , with minor occurrences of <u>Deep moderately calcareous loam</u> - A3 .
JLJ	0.9	Creek flat	D4D1	D	
KKB	1.4	Gently undulating pediments	A6A5	D	Pediments formed on outwash sediments with mostly gradational calcareous soils (Calcarosols) and more than 10% of associated soils have clayey surfaces. KKB Gently undulating pediment. Slopes are 1-3%, relief is less than 9m. KKG Gently undulating pediments with 10-20% gullied land and 0-5% scalded. Subsoils are moderately saline. Slopes are 1-3%, relief is less than 9m. Main soils: <u>Gradational calcareous clay</u> - A6 and <u>Rubby calcareous loam on clay</u> - A5 .
KKG	1.0	Gently undulating pediments	A6A5	D	

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/L1** Shallow calcareous loam (Paralithic, Hypercalcic / Lithocalcic Calcarosol) (A2) OR Shallow stony loam (Calcareous, Paralithic, Leptic Tenosol) (L1)
- 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.
- C2** Gradational loam on rock (Calcic / Hypercalcic Red Dermosol)
Loam to clay loam grading to a 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 red clay, friable and finely structured, 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 a 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.
- RR** Bare rock

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

