

FPH Frying Pan Hut Land System

Area: 69.4 km²

Landscape: Gullied and eroded land where the Burra Creek cuts across pediments abutting the ranges. The associated outwash has also been eroded and dissected. The landscape is relatively unstable and subject to erosion.

Annual rainfall: 220 – 285 mm average

Geology: Holocene alluvium associated with modern streams and creeks. Older alluvium forms lateral terraces and floodplain deposits. Pleistocene age calcreted and calcareous gravelly sediments also occur in a few places. Proterozoic Adelaide Geosyncline rocks outcrop in the middle of the land system where exposed by stream erosion. They include: Appila Tillite, Tapley Hill, Tarcowie Siltstone, Wilyerpa and Waukaringa Siltstone Formations.

Main soils:

- A4** (22%) Deep (rubbly) calcareous loam (Hypercalcic-Lithocalcic Calcarosol)
- D4** (19%) Loam over pедaric red clay (Pedaric Red Sodosol-Dermosol)
- A3** (14%) Deep moderately calcareous loam (Calcic Calcarosol)
- A6** (12%) Gradational calcareous clay loam (Pedal Hypercalcic-Lithocalcic Calcarosol on clayey subsoil)
- A2** (11%) Calcareous loam on rock (Paralithic Calcarosol)

Minor soils:

- L1** (9%) Shallow soil on rock (Rocky Rudosol-Tenosol)
- A5** (5%) Rubbly calcareous loam on clay (Supracalcic-Lithocalcic Calcarosol on clay)
- M1** (4%) Deep sandy loam (Brown-Grey-Red Kandosol-Tenosol)
- B2** (4%) Shallow calcareous loam on calcrete (Petrocalcic Calcarosol-Rudosol)

Summary: The Frying Pan Hut land system consists of alluvium deposited by the Burra Creek and other minor creeks. The landscape is highly erodible and is dissected. Soils are mostly calcareous with red pедaric sodic duplex soils common. Shallow soils on Proterozoic rocks are found where erosion has cut deeply into the landscape.

Soil Landscape Unit summary: Frying Pan Hut Land System (FPH)

SLU	% of area	Component	Main soils	Prop#	Notes
AKB	14.3	Rocky slope	A2L1	D	Rolling rises with very shallow rocky calcareous soils formed on calcareous sandstones, siltstones, shales and fillites. Relief is 9-30m, slopes are 10-30%. Main soils: <u>Shallow stony soils on rock - L1</u> and <u>Calcareous clay loam on rock - A2</u> .
IYB	4.0	Rise	A6A4	V	Rises and flats formed on unconsolidated clay sediments (eg. Blanchetown Clay Formation) or highly weathered rock. Soils have non-sandy surfaces, and are gradational calcareous soils (Calcarosols). More than 30% are highly calcareous with clay subsoil and over 30% are texture contrast with clay subsoil. More than 10% are rubbly loamy-clay loamy and over 10% are shallow over calcrete. Main soils: Rises: <u>Gradational calcareous clay loam - A6</u> and <u>Deep (rubbly) calcareous sandy loam - A4</u> .
		Flat	D4	C	
		Stony	B2A4	L	



					<p>Flats: <u>Clay loam over pedaric red clay - D4</u> Stony plains: <u>Shallow calcareous loam on calcrete - B2</u> and <u>Deep (rubbly) calcareous sandy loam - A4.</u></p>
IuC	3.5	Undulating slope	A4A5	D	<p>Undulating slopes on which the soils are underlain by deeply weathered, kaolinised fine-grained rock. Moderately scalded. Relief is less than 30m, slopes are 3-10%.</p> <p>Main soils: <u>Deep (rubbly) calcareous sandy loam - A4</u> and <u>Rubbly calcareous loam on clay - A5.</u></p>
Iunn	2.6	Eroded slope	A4A5	D	<p>Rolling slopes, eroded, with severe gullyng (over 20% of land affected) and moderate scalding (5-10%). Relief is 9-30m, slopes are 10-30%.</p> <p>Main soils: <u>Deep (rubbly) calcareous sandy loam - A4</u> and <u>Rubbly calcareous loam on clay - A5.</u></p>
JLU	5.7	Flat	D4	D	<p>Plains and rises with more than 20% pedaric, texture contrast (loam over crumbly red clay) soils, but less than 20% calcareous gradational soils.</p> <p>JLU Plains. Moderately scalded (10-50%). Subsoils are moderately saline. JLp Flats and rises. Moderately gullied (stable banks) and scalded (10-50%).</p> <p>Main soils: Flats and depressions: <u>Clay loam over pedaric red clay - D4.</u> Rises: <u>Gradational calcareous clay loam - A6</u> and <u>Deep (rubbly) calcareous sandy loam - A4.</u></p>
JLp	3.2	Flat	D4	D	
JPo	10.1	Flat	D4A6	D	<p>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 pedaric (fine crumbly structure in subsoils).</p> <p>JPo Flats. Moderately gullied (10-20%) and scalded (10-50%). JPq Gently sloping fans. Severely scalded (over 50%). Slopes are 1-3%, relief is less than 9m.</p> <p>Main soils: <u>Clay loam over pedaric red clay - D4</u> and <u>Gradational calcareous clay loam - A6.</u></p>
JPq	5.5	Gentle slope	D4A6	D	
KFB	1.4	Gentle slope	A5A4	D	<p>Pediments and plains with calcareous gradational soils and more than 20% red pedaric texture contrast soils.</p> <p>KFB Gently sloping plain. Slopes are 1-3%, relief is less than 9m. KFU Plains. 10-50% scalded.</p> <p>Main soils: Slopes: <u>Rubbly calcareous loam on clay - A5</u> and <u>Deep (rubbly) calcareous sandy loam - A4.</u> Flats: <u>Gradational calcareous clay loam - A6</u> and <u>Deep (rubbly) calcareous sandy loam - A4.</u></p>
KFU	0.9	Flat	A6A4	D	
KIG	12.0	Fan	A4A6	E	<p>Gently sloping fans-basement rock complex with gradational soils, which are calcareous throughout. Moderately gullied (10-20%) Slopes are 1-3%, relief is less than 9m.</p> <p>Main soils: Fans: <u>Deep (rubbly) calcareous sandy loam - A4</u> and <u>Gradational calcareous clay loam - A6.</u> Rises: <u>Calcareous loam on rock - A2</u> and <u>Shallow stony soils on rock - L1.</u></p>
		Rise	A2L1	E	
KLC	5.1	Dissect slope	A4A3	D	<p>Undulating dissected pediments with clay loamy calcareous soils.</p>



					<p>Slopes are 3-10%, relief is less than 9m.</p> <p>Main soils: <u>Deep (rubbly) calcareous clay loam -A4</u> and <u>Deep moderately calcareous clay loam - A3.</u></p>
KMm	17.7	Fan	A4D4	E	<p>Undulating dissected fans and rises on which gradational calcareous soils are dominant with red texture contrast soils. Shallow soils on calcrete are also common on rises. Slopes are 3-10%, relief is less than 9m. Moderately gullied (10-20%) and scalded (10-50%).</p> <p>Main soils: Fans: <u>Deep (rubbly) calcareous sandy loam -A4</u> and <u>Clay loam over pederic red clay - D4.</u> Rises: <u>Deep (rubbly) calcareous sandy loam -A4</u> and <u>Shallow calcareous loam on calcrete - B2.</u></p>
		Rise	A4B2	E	
KVA	3.5	Flat	A3A4	D	<p>Flats formed on calcareous outwash sediments derived from basement rock. More than 90% of soils are calcareous throughout (Calcarosols). Moderately saline soils throughout.</p> <p>Main soils: <u>Deep moderately calcareous sandy loam - A3</u> and <u>Deep (rubbly) calcareous sandy loam -A4.</u></p>
KgB	1.2	Flat	A4A6	D	<p>Gently undulating flats 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.</p> <p>Main soils: <u>Deep (rubbly) calcareous sandy loam -A4</u> and <u>Gradational calcareous clay loam - A6.</u></p>
XAB	7.8	Creek flat	M1A3	D	<p>Creek flat with mixed alluvium. Eroded watercourses with stable banks.</p> <p>Main soils: <u>Deep alluvial loam - M1</u> and <u>Deep moderately calcareous sandy loam - A3.</u></p>
XKA	1.6	Flat	A3	D	<p>Alluvial depression with deep silty calcareous clay loamy soils with stable banks and gully walls.</p> <p>Main soils: <u>Deep moderately calcareous sandy loam - A3</u> and <u>Rubbly calcareous clay loam on clay - A5.</u></p>

PROPORTION codes assigned to Soil Landscape Unit (SLU) components:

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|---|--|---|-----------------------------------|
| 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 CO₃ build-up 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 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.
- 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.
- 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.
- M1** Alluvial loam (Orthic Tenosol)
Very thick loam with variable gritty or more-clayey lenses, formed over recent alluvium.

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

