## TOO Tooligie Land System

**Area:** 2,039.1 km<sup>2</sup>

Landscape: Plain of Ripon / Bakara Calcrete partly overlain by shell / quartz sands (Haslam Sand), minor

quartz sands (Lowan Sand) and highly calcareous silty sands (Woorinen Formation). The plains are flat with distinctive low calcrete ridges (old dune cores), but the jumbled dunes of

Haslam Sand and Lowan Sand are the most distinctive features.

**Annual rainfall:** 350 - 400 mm average

Main soils: Calcrete soil - B2 (Petrocalcic, Lithocalcic Calcarosol)

Thin calcareous sandy loam to clay loam over hard Ripon / Bakara Calcrete (**B2a**), or calcreted calcarenite (**B2b**), associated with abundant surface calcrete and sheet rock.

<u>Terre</u> - **B3a** <u>(Petrocalcic, Leptic Tenosol)</u>

Thin to medium thickness red sandy loam to clay loam over sheet calcrete. Deeper (up to 60

cm) variants (B3b) may occur.

<u>Haslam / Wookata</u> - **H1a** (Hypervescent, Regolithic, Supracalcic Calcarosol)

Highly calcareous loamy sand becoming slightly more clayey and very highly calcareous

with variable rubbly carbonate at depth

Minor soils: Shallow Wookata - Ala (Supravescent, Petrocalcic, Hypercalcic / Lithocalcic Calcarosol)

Very highly calcareous (more than 40% CaCO<sub>3</sub>) soft loamy sand to sandy loam grading to very highly calcareous sandy loam with variable rubble content, over calcrete at about 40

cm.

<u>Wookata</u> - **A1b** <u>(Supravescent, Hypercalcic / Lithocalcic Calcarosol)</u>

Very highly calcareous (more than 40% CaCO<sub>3</sub>) soft loamy sand to sandy loam grading to

very highly calcareous sandy loam with variable rubble content.

<u>Haslam</u> - **H1b** <u>(Supravescent, Hypercalcic Calcarosol / Shelly Calcarosol)</u>

Thick highly calcareous sand, becoming more calcareous with depth and continuing below

100 cm. These soils may consist of up to 90% fine shell fragments. Lowan - **H3** (Basic, Arenic, Bleached-Orthic Tenosol)

Thick to very thick bleached sand with a thin organically darkened surface layer, grading to

a yellowish sand (often with darker lamellae), over calcrete, usually deeper than 80 cm.

Rubbly Wiabuna - **A4** (Regolithic, Lithocalcic / Supracalcic Calcarosol)
Calcareous sandy loam to sandy clay loam grading to carbonate rubble.

<u>Shallow Wiabuna</u> - **B2c** <u>(Petrocalcic, Supracalcic Calcarosol)</u>

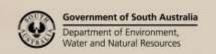
Calcareous sandy loam to sandy clay loam over carbonate rubble on sheet calcrete within

50 cm.

**Summary:** More than half of the land comprises calcrete plains with shallow stony calcareous and non

calcareous sandy loams. Restricted waterholding capacity, and workability problems are the main issues - significant areas are non arable. Associated with these soils are moderately shallow to shallow highly calcareous sandy loams with low fertility, moderate wind erosion potential, and moderate to low waterholding capacity. Superimposed on the plains are sand spreads and jumbled sandhills of highly infertile and highly wind erosion prone calcareous

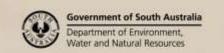
sands.





## Soil Landscape Unit summary: 27 Soil Landscape Units (SLUs) mapped in the Tooligie Land System

SLU	% of area	Component	Main soils	Prop#	Notes
MgB	0.3	Calcarenite rises	Shallow Wookata	Е	Shallow stony soils - non arable.
			Calcrete	Е	1
OsE	1.1	High sandhills	Lowan	V	Dunefields where moderate to high jumbled
		Swales	Wiabuna	С	siliceous sandhills occupy more than 30% of
OsI	0.6	Swales	Wiabuna	Е	the land. Moderate sandhills have moderately
		Moderate sandhills	Lowan	E	high wind erosion potential, and high sandhills
					have high to extreme potential.  Typical soils:  Lowan: Very low fertility, moderate to high
					wind erosion potential, water repellent. <u>Wiabuna</u> : Moderately fertile calcareous sandy loam with slight wind erosion potential.
QEA	0.4	Very stony flats	Calcrete	V	Shallow stony calcareous sandy loams are
	0.1	Flats and low rises	Wookata	L	predominant - semi arable.
QHA	0.1	Stony flats	Shallow Wookata	D	prodominant som drazion
R-A	12.1	Very stony flats - sheet	Calcrete	D	Shallow non calcareous sandy loams to sandy
		rock	<b>G</b> arer etc		clay loams are predominant with varying
R-Ar	7.4	Very stony flats	Calcrete / Terre	Е	proportions of calcareous sand as spreads or
		Very stony low ridges	Calcrete / Terre	E	jumbled dunes.
		Sandspreads	Haslam / Wookata	L	Typical soils:
RBA	2.5	Very stony flats	Calcrete	E	<u>Calcrete</u> : Very shallow stony sandy loam
		Sand spreads	Haslam / Wookata	E	associated with more than 50% sheet
RUA	0.04	Very stony flats	Calcrete / Terre	V	calcrete.
		Stony flats	Terre	С	<u>Terre</u> : Shallow stony sandy loam to sandy clay
RVA	11.7	Very stony flats	Calcrete / Terre	V	loam - marginally arable due to low
	,	Sandspreads	Haslam / Wookata	C	waterholding capacity and surface stone /
RVAj	7.6	Very stony flats	Calcrete / Terre	V	sheet rock.
·j	7.0	Mod to high sandhills	Haslam	C	<u>Haslam / Wookata</u> : Moderately deep
RZA	0.1	Very stony flats	Calcrete / Terre	D	calcareous loamy sand with low fertility
RZB	17.8	Very stony rises	Calcrete / Terre	D	and moderate wind erosion potential.
RZE	0.8	Very stony	Calcrete / Terre	D	Haslam: Deep calcareous sand with very low
	0.0	depressions	Culcitate / Terre		fertility and high to extreme wind erosion potential.
SKA	0.4	Stony flats	Shallow Wiabuna	V	Calcareous sandy loams of moderate fertility
		Low sand rises	Haslam / Wookata	L	but restricted waterholding capacity, with
SLA	0.1	Stony flats	Shallow Wiabuna	V	moderately deep calcareous sands (Haslam /
		Very stony flats	Calcrete	С	Wookata as above). Some flats are non arable (too stony).
YHK	4.1	Sand spreads and rises	Haslam / Wookata	V	Very gently undulating flats with highly
		Flats	Wookata	L	calcareous sandy loams, and occasional very
YID	1.5	High to moderate sandhills	Haslam	E	stony patches, with calcareous sand deposits varying from sand spreads and low sandhills
		Flats	Wookata	E	through to moderate or high jumbled sandhills.
YIE	1.5	Moderate to high sandhills	Haslam	V	Typical soils: <u>Wookata</u> : Highly calcareous sandy loam with
		Stony flats	Shallow Wookata	Е	slightly limited waterholding capacity,
YIH	6.2	Moderate to high sandhills	Haslam	Е	low fertility and slight to moderate wind erosion potential.
		Stony flats	Shallow Wookata	Е	Shallow Wookata: As for Wookata, except that waterholding capacity is reduced, and
YIK	2.3	Sand spreads and rises	Haslam / Wookata	E	surface stone is increased to the point
		Flats	Wookata	E	where it interferes with tillage.
YKL	1.2	Sandspreads and rises	Haslam / Wookata	D	





YMI	0.3	Flats	Wookata	V	Haslam / Wookata: Moderately deep
		Moderate to high	Haslam	Ε	calcareous loamy sand with low fertility
		sandhills			and moderate wind erosion potential.  Haslam: Deep calcareous sand with very low fertility and high to extreme wind erosion potential.  Calcrete: Very shallow stony sandy loam associated with more than 50% sheet calcrete.  Low fertility, high wind erosion potential and low soil waterholding capacities are the characteristics of these units.
YNG	0.4	Flats	Wookata	V	
		High to moderate Has	Haslam	С	
		sandhills			
YfK	3.8	Flats	Wookata	V	
		Sandspreads and rises	Haslam / Wookata	С	
YgK	6.0	Flats	Wookata	Ε	
		Low to moderate	Haslam	E	
		sandhills			
YhK	9.7	Stony flats	Shallow Wookata	E	
		Very stony flats	Calcrete	Ε	
		Sand spreads and rises	Haslam / Wookata	Е	

## # PROPORTION codes assigned to soils within Soil Landscape Units (SLU):

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)

Further information: <u>DEWNR Soil and Land Program</u>

