

HAS Haslam Land System

Area: 1,567.0 km²

Landscape: Gently undulating rises formed on highly calcareous shell sands (Lowan Sand) and very highly calcareous silty sands of the Woorinen Formation. These materials are commonly underlain by Bridgewater Formation calcretes. Near the coast are modern coastal dunes and associated back swamps, tidal swamps and mangrove swamps.

Annual rainfall: 275 – 390 mm average

Main soils:

Wookata - A1a (Supravescent, Regolithic, Hypercalcic / Lithocalcic Calcarosol)
Very highly calcareous (more than 40% CaCO₃) soft loamy sand to sandy loam grading to very highly calcareous sandy loam with variable rubble content.

Haslam - H1a (Supravescent, Regolithic, Hypercalcic Calcarosol OR Shelly Calcarosol)
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.

Haslam / Wookata - H1/A1 (Supravescent, Regolithic, Hypercalcic Calcarosol)
Very highly calcareous loamy sand with minor carbonate nodules over rubbly or sheet calcrete at variable depth.

Wookata (shallow) - A1/B1 (Supravescent, Petrocalcic, Hypercalcic / Lithocalcic Calcarosol). Highly calcareous (more than 40% CaCO₃) soft loamy sand to sandy loam grading to very highly calcareous sandy loam with variable rubble content, over calcrete at about 40 cm.

Minor soils:

Semaphore - H1b/H3 (Shelly / Arenic Rudosol)
Very thick sand comprising mixed shell and quartz grains.

Russell - B1a (Supravescent, Petrocalcic, Lithocalcic Calcarosol)
Medium thickness highly calcareous loamy sand to sandy loam containing increasing amounts of rubble with depth, over sheet calcrete at less than 50 cm.

Chintumba - B1b (Hypervescent, Petrocalcic, Lithocalcic Calcarosol)
Medium thickness highly calcareous sandy loam to sandy clay loam containing increasing amounts of rubble with depth, over sheet calcrete at less than 50 cm.

Magnesia soil - A1b (Hypervescent, Regolithic, Hypercalcic Calcarosol)
Highly calcareous fine sandy loam grading to very highly calcareous sandy clay loam with variable carbonate nodules, continuing below 100 cm. Saline throughout.

Yamba - N2a (Hypersalic Hydrosol)
Variable highly saline sand and clay of coastal flats and swamps.

Saline soil - N2b (Salic / Hypersalic Hydrosol)
Miscellaneous wet saline soil influenced by saline groundwater tables.

Summary: Gently undulating rises dominated by highly calcareous sandy loams and sands. The land is mostly arable (exceptions are minor high sandhills), although moderate to high wind erosion potential, marginal fertility and high subsoil salinity / boron restrict productive potential.

Soil Landscape Unit summary: 29 Soil Landscape Units (SLUs) mapped in the Haslam Land System

SLU	% of area	Component	Main soils	Prop#	Notes
MzC	<0.1	Stony slopes	Russell	E	Shallow stony soil with high coastal exposure - non arable.
		Sand spreads	Semaphore	E	
QHA	0.2	Stony depressions	Chintumba	D	Shallow stony soil - semi arable.
WFC	1.5	High sand dunes	Semaphore	D	Coastal land including dunes, Bridgewater Formations calcretes,
WFE	<0.1	Low sand dunes	Semaphore	D	



WFH	0.5	High sand dunes	Semaphore	E	saline back swamps and mangrove swamps. Soils: <u>Semaphore</u> Deep highly infertile sand with extreme wind erosion potential. <u>Russell</u> Shallow stony loamy sand, with very low water holding capacity. <u>Yamba</u> Highly saline swamp soil - usually wet and extremely saline. This land has virtually no agricultural value - conservation is paramount. Saline soils, particularly of mangrove swamps are potentially sulfidic. Rises formed on highly calcareous Woorinen Formation deposits, with mixed highly calcareous sandy loams, and highly calcareous sands. The land is mostly arable (exceptions are minor high sandhills), although moderate to high wind erosion potential, marginal fertility and high subsoil salinity / boron restrict productive potential. Main soils: <u>Wookata</u> Highly calcareous sandy loam with slightly limited water holding capacity, low fertility, subsoil boron and salt, and slight to moderate wind erosion potential. <u>Shallow Wookata</u> As for Wookata, except that water holding capacity is reduced, and surface stone is increased to the point where it interferes with tillage. <u>Haslam</u> Highly calcareous sand with very low fertility and high wind erosion potential. <u>Magnesia</u> : Calcareous sandy loam with high salinity throughout. Sporadic occurrences.
		Salt flat	Yamba	E	
WFc	0.1	High sand dunes (bare)	Semaphore	D	
WG-	0.1	Low dunes and flats	Semaphore	D	
WM-	2.4	Mangrove swamps	Yamba	D	
WMU	0.1	Mangrove swamps	Yamba	E	
		Salt flats	Yamba	E	
		High sand dunes	Semaphore	L	
WO-	0.3	Salt flats	Yamba	D	
WR-	0.1	Salt flats	Yamba	V	
		High sand dunes	Semaphore	E	
WX-	0.6	Cliffs / coastal slopes	Semaphore	E	
			Russell	E	
WY-	0.2	Cliffs / coastal slopes	Russell	V	
			Semaphore	C	
YEI	4.6	Sandy loam rises	Wookata /	E	
		Low sandhills/ spreads	Magnesia Haslam	E	
YEL	0.1	Sandy loam rises	Wookata /	V	
		Sandspreads	Magnesia Haslam	C	
YID	3.8	Moderate sandhills	Haslam / Wookata	E	
		Sandy loam rises	Wookata / Magnesia	E	
YIH	2.0	Moderate sandhills	Haslam	E	
		Sandy loam rises	Wookata	E	
YIK	58.9	Sandspreads	Haslam / Wookata	E	
		Sandy loam rises	Wookata / Magnesia	E	
YII	2.0	Low sandhills	Haslam	E	
		Sandy loam rises	Wookata / Magnesia	E	
YIp	1.0	Low sandhills	Haslam	V	
		Sandy loam rises	Wookata / Magnesia	C	
YKA	0.9	Very high sandhills	Haslam	D	
YKB	0.2	High sandhills	Haslam	D	
YKD	1.9	High sandhills with coastal exposure	Haslam	D	
YKE	9.5	Moderate sandhills	Haslam	D	
YNL	0.2	Sandy loam rises - sand spreads	Wookata/ Haslam	D	
YOL	6.7	Sandy loam rises	Wookata / Magnesia	V	
		Sandspreads	Haslam	C	
YeL	1.3	Sandy loam rises	Wookata / Magnesia	V	
		Stony rises	Shallow Wookata	E	
ZC-	<0.1	Highly saline flats	Saline soil	D	
ZH-	0.6	Flats with variable salinity	Saline soil	D	

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) |

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

