

LAB Laura Bay Land System

- Area:** 752.2 km²
- Landscape:** Very gently undulating plain formed on Bridgewater Formation calcretes, with some Ripon / Bakara calcretes, almost entirely overlain by highly calcareous silty sands of the Woorinen Formation, with minor highly calcareous Lowan Sands. Along the coast are modern frontal dunes, exposed Bridgewater calcretes and back swamps.
- Annual rainfall:** 290 – 390 mm average
- Main soils:**
- Wookata - A1a (Supravescent, 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.
- Shallow Wookata - A1b (Supravescent, Petrocalcic, 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, over calcrete at about 40 cm.
- Haslam - H1a (Supravescent, 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.
- Minor soils:**
- Chintumba - B1a (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.
- Calcrete - B2 (Petrocalcic, Lithocalcic Calcarosol)
Thin calcareous sandy loam to clay loam over hard calcrete, associated with abundant surface calcrete and sheet rock.
- Russell - B1b (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
- Shallow Haslam - H1b (Supravescent, Petrocalcic, Hypercalcic Calcarosol)
Very highly calcareous loamy sand over calcrete at depth usually between 50 and 100 cm.
- Semaphore - H1c/H3 (Shelly Rudosol)
Very thick sand comprising mixed shell and quartz grains.
- 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 rising saline groundwater tables.
- Summary:** Very gently undulating plain with some low rises characterized by highly calcareous sandy loams. These are mostly arable although productivity is affected by wind erosion potential, marginal fertility and limited water holding capacity, the latter especially on shallow stony soils which account for 10 - 15% of the area. Limited areas of sand spreads are highly infertile and particularly susceptible to wind erosion.



Soil Landscape Unit summary: 26 Soil Landscape Units (SLUs) mapped in the Laura Bay Land System:

SLU	% of area	Component	Main soils	Prop#	Notes
MaA	1.8	Stony flats	Chintumba	V	Very stony land formed on calcreted Bridgewater Formation calcarenites. Soils are shallow and mostly non arable, except for the Wookata and Haslam soils which have marginal fertility and are moderately to highly susceptible to wind erosion.
			Rocky reefs	L	
MaBr	0.2	Stony rises	Chintumba	E	
		Sandy loam rises	Wookata	E	
		Stony rises	Rocky reefs	L	
		Sand spreads	Shallow Haslam	M	
MzC	<0.1	Steep rocky exposed slopes	Russell	D	
			Rocky reefs	M	
Q-A	0.8	Very stony flats	Calcrete	V	
			Rocky reefs	C	
QFA	0.2	Very stony flats	Calcrete	E	Very stony flats formed on Ripon Calcrete - non arable. Limited areas of deeper Wookata and Haslam soils are arable but have marginal fertility and are moderately to highly susceptible to wind erosion.
			Rocky reefs	L	
		Sand spreads	Shallow Haslam	L	
QTA	0.8	Very stony flats	Calcrete	E	
			Rocky reefs	L	
		Sandy loam flats	Wookata	E	
WFC	0.3	High coastal dunes	Semaphore	D	
WFD	<0.1	Moderate coastal dunes	Semaphore	D	
WFE	0.3	Low coastal dunes	Semaphore	D	
WFc	0.2	High bare coastal dunes	Semaphore	D	
WG-	0.1	Saline flats	Yamba	E	Coastal landscape complex of dunes and marginally to highly saline flats (back swamps). This land has no agricultural value and is at severe risk of degradation.
		Low coastal dunes	Semaphore	E	
WR-	0.1	Highly saline flats	Yamba	V	
		High coastal dunes	Semaphore	E	
YAL	22.3	Sandy loam flats	Wookata	D	
YAp	2.6	Sandy loam rises	Wookata	D	
YEL	11.9	Sandy loam flats	Wookata	V	
		Stony flats	Shallow Wookata	C	
YFL	0.3	Sandy loam flats	Wookata	V	
		Stony flats	Shallow Wookata	L	
YIL	4.4	Sandspreads	Haslam	V	Flats and rises formed on highly calcareous Woorinen Formation materials with mainly highly calcareous sandy loams. There are limited highly calcareous Lowan Sands as sand spreads and limited stony areas. Main factors affecting productivity are wind erosion potential, marginal fertility and limited water holding capacity. 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.
		Sandy loam flats	Wookata	C	
YKA	0.2	High sandhills	Haslam	D	
YLL	20.7	Sandy loam flats	Wookata	V	
		Stony flats	Shallow Wookata	C	
		Sandspreads	Haslam	L	
YOL	15.6	Sandy loam flats	Wookata	V	
		Sandspreads	Haslam	C	
YbL	0.7	Sandy loam flats	Wookata	E	
		Stony flats	Shallow Wookata	E	
		Sandspreads	Haslam	C	
Ybp	2.6	Sandy loam rises	Wookata	V	
		Stony rises	Shallow Wookata	L	
YcL	13.1	Sandy loam flats	Wookata	V	
		Stony flats	Shallow Wookata	E	
ZC-	0.2	Salt flats	Saline soil	D	Saline land of little or no agricultural value, but some with revegetation potential.
ZD-	0.5	Salt lakes	-	D	
ZH-	0.1	Complex of marginally to highly saline flats and salt lakes	Saline soil	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)

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

