

# WRW Warrow Land System

- Area:** 229.3 km<sup>2</sup>
- Landscape:** Gently inclined outwash fans formed on sediments washed out from the Marble Range and North and South Blocks (Marble Range Land System). These sediments have been deposited between rises of deeply weathered Tertiary sediments. Sporadic basement highs protrude through both the Tertiary and more recent outwash sediments. Saline seepages are widespread, although minor in overall area.
- Annual rainfall:** 475 - 525 mm average
- Main soils:**
- Vanilla - **J2** (Ferric, Eutrophic, Brown Chromosol)  
30 cm sandy loam with a bleached A2 layer containing abundant ironstone gravel, overlying a yellowish brown mottled clay grading to Tertiary sediments.
- Coulta - **F1** (Ferric, Eutrophic, Red / Brown Dermosol)  
Medium thickness hard sandy clay loam with abundant ironstone gravel in a paler coloured A2 layer, overlying a red or brown well structured clay with variable ironstone gravel, grading to Tertiary clay.
- Vanilla (sodic) - **J1** (Ferric, Brown Sodosol)  
30 cm sandy loam with a bleached A2 layer containing abundant ironstone gravel, overlying a yellowish brown poorly structured mottled sodic clay, often calcareous with depth.
- Hall - **G3** (Hypercalcic, Brown Chromosol / Sodosol)  
Medium to thick sand with a bleached A2 layer abruptly overlying a hard columnar structured dispersive brown mottled clay, highly calcareous with depth, grading to alluvial or Tertiary sediments.
- Minor soils:**
- Alluvial soil - **M4** (Eutrophic, Red Kandosol)  
Medium to thick gravelly sandy loam grading to a red sandy clay loam to clay, becoming sandier with depth.
- Skeletal soil - **L1** (Lithic / Petroferric, Leptic Tenosol / Rudosol)  
Variable gravelly loamy sand to sandy clay loam over basement rock or massive ironstone at depths usually less than 50 cm.
- Saline soil - **N2** (Salic / Hypersalic Hydrosol)  
Miscellaneous wet saline soil influenced by rising saline groundwater tables.
- Gravelly loamy sand - **M3** (Basic, Ferric, Brown-Orthic Tenosol)  
Variable thickness gravelly loamy sand to sandy loam. Gravels include ironstone and basement rock (quartzite, gneiss etc) fragments.
- Summary:** Gently sloping outwash fans and rises with mainly deep soils of marginal to moderate fertility, commonly affected by waterlogging and acidification. There is extensive salinization, usually in sporadic patches on lower slopes, but some broader flats are marginally to highly saline throughout. Most land is sloping and has slight to moderate water erosion potential. Minor rocky outcrops are non arable.



**Soil Landscape Unit summary:** 15 Soil Landscape Units (SLUs) mapped in the Warrow Land System

SLU	% of area	Component	Main soils	Prop#	Notes
AMB	0.4	Moderate rocky slopes	Skeletal	D	Shallow stony soils, steep slopes and extensive rock outcrop prevent any significant primary production on this land. Most is covered by scrub.
AMC	2.0	Moderately steep rocky slopes	Skeletal	D	
AMJ	1.6	Steep rocky slopes	Skeletal	D	
FZC	6.3	Undulating rises, up to 2% saline seepage.	Wanilla (sodic)	E	Rises on deeply weathered Tertiary sediments. Ironstone gravelly sandy loams predominate, with sand over clay. Low fertility, water logging, acidification, water erosion and sporadic salinity are main issues.
			Hall	E	
			Coulta	L	
			Gravelly loamy sand	M	
FZH	19.1	Undulating rises with minor water course erosion and up to 2% saline seepage.	Wanilla (sodic)	E	Soils are: Deep gravelly sandy loam with low inherent fertility, prone to waterlogging and acidification.
			Hall	E	
			Coulta	L	
			Gravelly loamy sand	M	
FZI	1.1	Moderately steep rises with minor water course erosion & up to 2% saline seepage.	Wanilla (sodic)	E	<u>Wanilla (sodic)</u> : As for Wanilla, but with poorly structured subsoil – more susceptible to waterlogging and poor root growth. Sand over poorly structured clay - low fertility, prone to wind erosion, waterlogging, water repellence and limited waterholding capacity (impeded root growth). As below. <u>Gravelly loamy sand</u> : Low fertility and waterholding capacity.
			Hall	E	
			Coulta	L	
			Gravelly loamy sand	M	
FZL	15.2	Very gently undulating rises with 2-10% saline seepage.	Wanilla (sodic)	E	As below. <u>Gravelly loamy sand</u> : Low fertility and waterholding capacity.
			Hall	E	
			Coulta	L	
			Gravelly loamy sand	M	
JaB	8.3	Very gentle slopes, up to 2% saline seepage.	Coulta	E	Gentle slopes with deep moderately fertile soils. Waterlogging, acidification, water erosion potential and salinity are the main issues.
			Wanilla (sodic)	E	
			Alluvial	L	
JaC	7.7	Gentle slopes, up to 2% saline seepage.	Coulta	E	Soils are: Deep sandy clay loam over ironstone gravelly clay. Moderately fertile, but prone to waterlogging, acidification and water erosion.
			Wanilla (sodic)	E	
			Alluvial	L	
JaH	8.9	Gentle slopes with minor watercourse erosion and up to 2% saline seepage	Coulta	E	Deep gravelly sandy loam with low inherent fertility, prone to waterlogging and acidification.
			Wanilla (sodic)	E	
			Alluvial	L	
JaL	10.2	Very gentle slopes with 2-10% saline seepage.	Coulta	E	<u>Wanilla (sodic)</u> : As for Wanilla, but with poorly structured subsoil – more susceptible to waterlogging and poor root growth. Deep variable soil, usually fertile but often prone to waterlogging and salinity.
			Wanilla (sodic)	E	
			Alluvial	L	
JaP	14.6	Flats with 2-10% saline seepage.	Coulta	E	
			Wanilla (sodic)	E	
			Alluvial	L	
JaT	1.9	Marginally saline flats.	Coulta	E	
			Wanilla (sodic)	E	
			Alluvial	L	
ZA-	2.5	Saline flats	Saline alluvial	D	Non arable, but <b>ZA-</b> suitable for establishment of salt tolerant plants for grazing and forage.
ZC-	0.2	Highly saline flats	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](#)

