CLT Coolatto Land System

Coastal dunes and swamps extending from Cantara to Hundred of Duffield

Area: 69.9 km^2

Annual rainfall: 555 – 680 mm average

Geology: The System includes coastal dune sands of the Semaphore Formation (medium to coarse shell and quartz sands), and lagoonal sediments of the St. Kilda Formation. These include shell grits, marls and limestones.

Topography: The Land System comprises a virtually unbroken frontal coast dune. Swampy depressions occur sporadically on the landward (eastern) side. On the landward side of the corridor are low stony rises.

Elevation: 0 - 30 m

Relief: Up to 30 m

Soils: Two broad soil categories occur, viz. deep sands and swampy soils

Main soils
Dunes
H1 Shell sand
H2 Siliceous sand

Minor soils
Swamps
N2 Swamp soil

Main features: The Coolatto Land System consists mainly of high coastal sand dunes, with extreme wind erosion potential and very low fertility, and saline swamps. This land has very low agricultural potential, but significant conservation value. Most is contained within reserves.

Soil Landscape Unit summary: 13 Soil Landscape Units (SLUs) mapped in the Coolatto Land System:

SLU	% of area	Main features #
A-g	<0.1	Granite rises.
WEC WED WEE WEH WEW WEc WEd	13.5 5.8 18.3 1.3 8.9 0.6 0.6	Coastal dunes, beaches and sand spreads. **WEC** High dunes, mostly vegetated and stable, with less than 10% beaches. **WED** Dunes, mostly vegetated and stable. Landscape includes up to 10% rocky coast with bare calcrete or shallow calcareous or siliceous sand. There are less than 10% beaches. **WEE** Low dunes, mostly vegetated and stable, with less than 10% swales characterized by wet deep sands or occasionally, peat. **WEH** Low dunes with stable vegetation. There are 20-30% swampy swales with wet deep sands or occasionally, peat. **WEW** Complex of vegetated dunes and 20-30% beaches. **WEc** Active bare high coastal dunes with less than 10% beaches. **WEd** Active bare coastal dunes. Landscape includes up to 10% rocky coast with bare calcrete or shallow calcareous or siliceous sand. There are less than 10% beaches. Main soils: shell sand - **H1** (E) and siliceous sand - **H2** (E). These areas are fragile,

		have very low productive capacity and high conservation value.
WFC	38.6	Jumbled frontal coastal dunes up to 35 metres high comprising mixed shelly and siliceous sands. They are actively eroding in places. Main soils: shell sand - **H1** (E) and siliceous sand - **H2** (L). The dunes are highly infertile sands with extreme susceptibility to wind erosion. Most of the area is located in reserves.
WFF	10.0	Complex of high coastal dunes and swampy depressions in the approximate ratio of 50:50. The swampy depressions may be partially inundated. These areas occur sporadically on the eastern margin of the main dunes (**WFC**), adjacent to the Coorong lagoon. The dunes comprise mixed shelly and siliceous sands and the swamps are formed on lagoon deposits of marl and shell grit. Main soils: shell sand - **H1** (E) and siliceous sand - **H2** (M) on dunes and swamp soils - **N2** (E) in swamps. This land is of no agricultural use, but has high conservation value. The dunes are extremely susceptible to wind erosion once the cover is removed. Most land is located in reserves.
WJQ	1.8	Coastal flats with highly calcareous sand, deep or shallow over calcrete.
XxC	0.1	Swamps with deep alkaline peats, organic loam over clay, or water filled.
ZD-	0.5	Salt lakes with bare salt crusts; occasionally water filled.

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

(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)

Detailed soil profile descriptions:

Dunes

H1 Shell sand (Shelly Rudosol)
Very thick shell sand with no profile development other than slight organic darkening at the surface.

H2 Siliceous sand (Calcareous, Arenic, Brown-Orthic Tenosol)
Very thick brown sand to loamy sand, overlying a thin layer of orange clayey sand on soft to rubbly carbonate.

Swamps

N2 Swamp soil (Calcarosolic, Hypersalic Hydrosol)
Medium thickness dark grey calcareous loam becoming paler coloured with depth over a very highly calcareous light grey clay loam with saline water table in rubbly marl at about 50 cm.

Further information: DEWNR Soil and Land Program