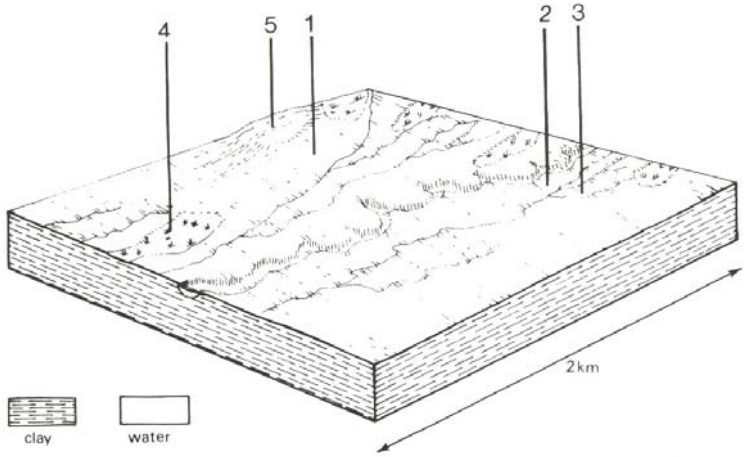
7.14 Connewarre Land System

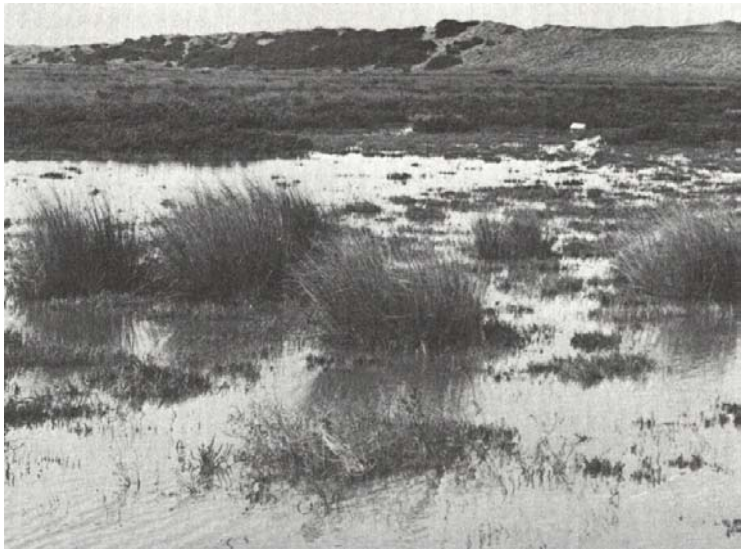
Many of the outlets of creeks and rivers to the east of the Otway Range possess tidal swamps with braided channels and brackish lagoons. Thompson Creek and Painkalac Creek have such river mouths, although the most extensive swamp lies just outside the present study area, surrounding the mouth of the Barwon River.

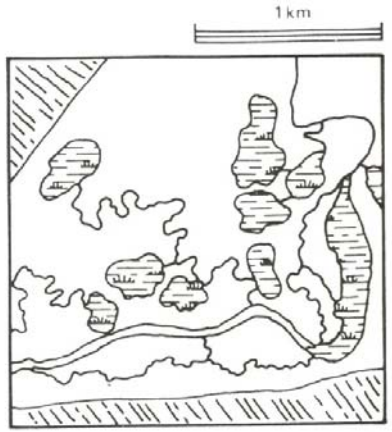
Only minor differences in height above mean tide level determine the differences between the land components. The marine terraces escape inundation in all but extremely rare combinations of floods and high tide, while most other tracts of land are flooded either regularly or irregularly.

Halophytic shrubs and herbs colonize the grey and structureless silty clays found on these swamps. The structure and species of each community are strongly influenced by the height above mean tide level and the degree of salinity of the tidal water.

Some parts of these areas have been drained or filled to provide for agriculture or recreational facilities. However, most parts remain in their natural state.







These swamps lie just inland from the coastal dunes and provide valuable habitats for wildlife.

CONNEWARRE Area: 8 km^2	Component and its proportion of land system				
	1 30%	2 30%	3 10%	4 15%	5 15%
CLIMATE Rainfall, mm Temperature, 0^{o}C Seasonal growth limitations	**Annual**: 625, lowest January (30), highest August (60) **Annual**: 14, lowest July (10), highest February (18) **Temperature**: less than 10^{o}C (av.) July **Precipitation**: less than potential evapotranspiration October – early April				
GEOLOGY Age, lithology	Recent estuarine sand, sil, clay and plant remains				Veneer of aeolian sand
TOPOGRAPHY Landscape Elevation, m Local relief, m Drainage pattern Drainage density, km/km^2 Land form	Marine terrace	Flat estuarine lowlands with braided channels 0-4 1 Deranged -		Swamp	
Land form element	-	Upper surface occasionally inundated	Lower surface regularly inundated	Free water surface	Area adjacent to sand dune
Slope (and range), % Slope shape	1 (0-2) Convex	0 (0-1) Linear	0 Linear	0 -	1 (10-2) Irregular
NATIVE VEGETATION Structure Dominant species	(Not known) -	Low shrubland *Arthrocnemum arbusculum, Gahnia filum*	Closed grassland *Frankenia pauciflora, Samolus repens, Arthrocnemum arbusculum*	- -	Sedgeland *Scirpus nodosus*
SOIL Parent material Description Surface texture Permeability Depth, m	Estuarine clay, silt and sand Yellow sodic duplex soils Sandy loam Moderate >2	Estuarine clay, silt and plant remains Saline soils Silty clay loam Very low >2	Estuarine clay, silt and plant remains Saline soils Silty clay Very low >2	Estuarine clay, silt and plant remains Saline soils Silty clay Very low >2	Aeolian sand, shell grit over estuarine clay, silt and plant remains Grey sand soils, weakly structured clay underlay Sandy loam Low >2
LAND USE	**Cleared areas:** Some of the higher areas cleared for grazing, cropping and recreational facilities. **Uncleared areas:** Nature conservation; refuse disposal.				
SOIL DETERIORATION HAZARD Critical land features, processes, forms	Sodic subsoils with high saline groundwater tables are prone to soil salting, surface compaction and sheet erosion.	Occasional influx of estuarine saline water on clays of low mechanical strength leads to soil salting and compaction.	Regular influx of estuarine saline water on clays of low mechanical strength leads to soil salting and compaction.	Minor hazards	Sodic subsoils with low permeability and high saline groundwater tables are prone to surface compaction and soil salting.