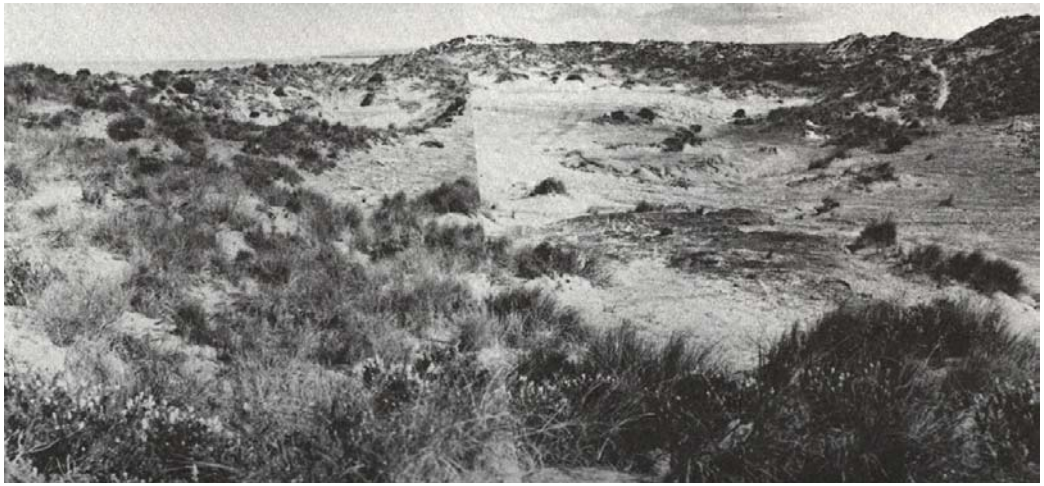
7.32 Point Roadknight Land System

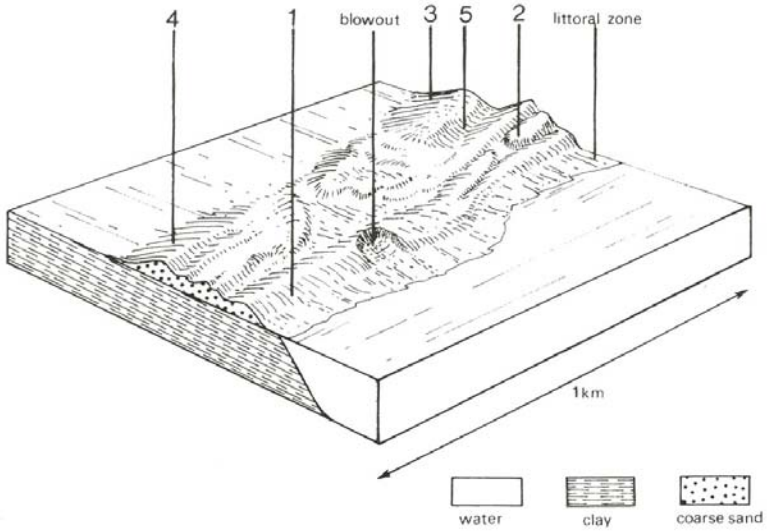
Along the coast from Breamlea to Eastern View, coastal dunes occur discontinuously. In some localities a primary and a secondary dune form a thin barrier between the sea and the Tertiary sediments, but in the locality of Point Impossible the dune system is more complex and extensive.

The foredune and secondary dune material is aeolian sand and shell grit. On older dunes, mobilization of calcium carbonate has resulted in the formation of calcarenite, which may outcrop on blowouts or steep slopes. Away from these calcarenite pavements, the soils are freely drained calcareous sands. The exposed calcarenite pavements may support red calcareous gradational soils, but extensive sheet erosion has removed most of this material.

Recreation and access to the foreshore are the main land uses. Some buildings have been sited in these dunes at Breamlea and Fairhaven. Native grasses and shrubs that colonize these dunes are very sensitive to disturbance and, once devoid of vegetative cover, wind erosion is likely to occur. Hand planting of *Ammophila arenaria* has been necessary to stabilize many areas.



Sections of coastline in the drier eastern parts of the study area often have extensive calcareous dune systems. On many of these dunes the native vegetation has been trampled and destroyed and the hand planting of* Ammophila arenaria *has been necessary to restabilize the dune system.



POINT ROADKNIGHT Area: 8 km^2	Component and its proportion of land system				
	1 20%	2 50%	3 25%	4 2%	5 3%
CLIMATE Rainfall, mm Temperature, 0^{o}C Seasonal growth limitations	**Annual**: 600 – 750, lowest January (30), highest August (75) **Annual**: 14, lowest July (10), highest February (18) **Temperature**: less than 10^{o}C (av.) July **Precipitation**: less than potential evapotranspiration mid October - early April				
GEOLOGY Age, lithology	Recent aeolian sand and shell grit			Cemented deposits (calcarenite and travertine)	
TOPOGRAPHY Landscape Elevation, m Local relief, m Drainage pattern Drainage density, km/km^2	Longitudinal coastal dunes to the east of the Otway Range 0 – 25 15 Absent -				
Land form Land form element Slope (and range), % Slope shape	Foredune Windward exposed slope 40 (10-65) Irregular	Shifting dune Leeward and windward slopes 30 (5-65) Irregular	Older more stable dunes Gentler slope 9 (0-20) Convex	Older more stable dunes Steeper slope 15 (5-10) Linear	Interdune corridor - 3 (0-7) Concave
NATIVE VEGETATION Structure Dominant species	Tussock grassland *Spinifex hirsutus, Tetragonia tetragonioides*	Open heath *Helichrysum paralium, Leucopogon parviflorus*	Low woodland *Melaleuca lanceolata, Leptospermum laevigatum, Leucopogon parviflorus*	Low woodland *Melaleuca lanceolata, Leucopogon parviflorus, Acacia longifolia*	Possibly open heath *Helichrysum paralium*
SOIL Parent material Description Surface texture Permeability Depth, m	Coarse sand, shell grit Yellow calcareous sand soils, uniform texture Coarse sand Very high >2	Coarse sand, shell grit Yellow calcareous sand soils, uniform texture Coarse sand Very high >2	Coarse sand, shell grit Brown calcareous sand soils, uniform texture Loamy sand Very high >2	Calcarenite, coarse sand Stony black calcareous sand soils, uniform texture Loamy sand Moderate >2	Calcarenite, travertine Red calcareous gradational soils Sandy loam Very low 0.3
LAND USE	Uncleared areas: Passive and active recreation; foreshore access; nature conservation; sand extraction. Minor cleared areas: Recreational facilities; refuse tip; foreshore access; residential				
SOIL DETERIORATION HAZARD Critical land features, processes, forms	Marine erosion and accretion occur seasonally. Native vegetation is sensitive to trampling and disturbance. Weakly structured sands are prone to wind erosion. Low inherent fertility and high permeability lead to nutrient decline.	Native vegetation is sensitive to trampling and disturbance. Weakly structured sands are prone to wind erosion. Low inherent fertility and high permeability lead to nutrient decline.	Weakly structured sands are prone to wind erosion. Low inherent fertility, high alkalinity and high permeability lead to nutrient decline.	Weakly sands with restricted drainage on steep slopes are prone to sheet erosion. Low inherent fertility and high alkalinity lead to nutrient decline.	Low permeability and weak structure lead to sheet erosion, exposing calcarenite pavement.