

7.35 Rivernook Land System

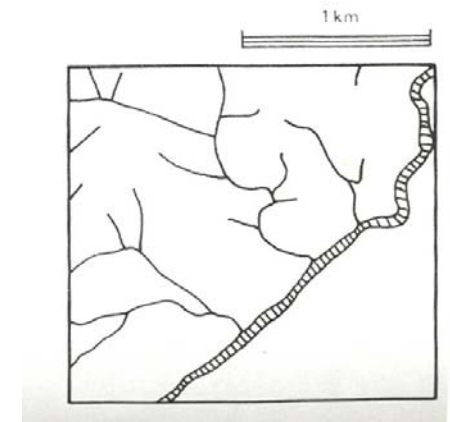
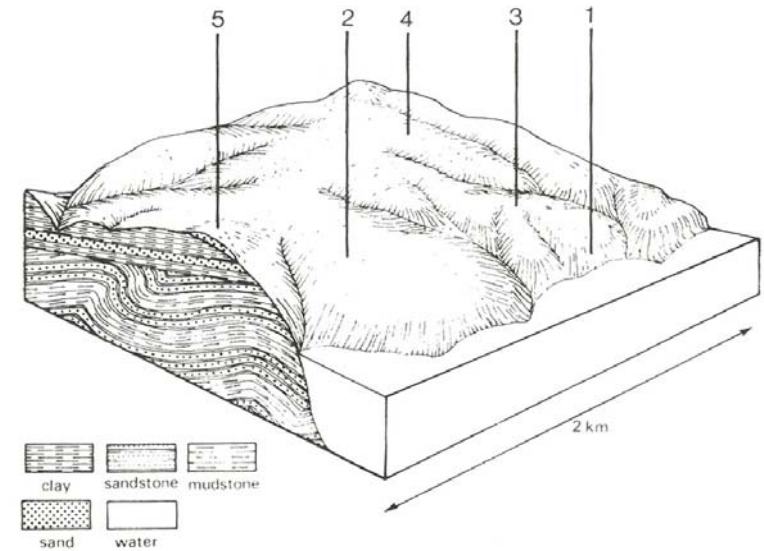
Tertiary sediments outcrop along the coast at Moonlight Head, Rotten Point and Apollo Bay. The terrain is a deeply dissected plain fronted by steep coastal cliffs. The rainfall is high.

The soils vary, ranging from old profiles with evidence of lateritization to young soils with little horizon development. The native vegetation appears to be more dependent on exposure to salt- and sand-laden coastal winds than on the soil type. *Casuarina luehmannii* at Rotten Point is an unusual member of the vegetative community, but most species are well adapted to the harsh environment.

Clearing is confined to an area near Apollo Bay used for grazing. The area has high landscape and nature conservation values, but disused sand and gravel extraction pits at Moonlight Head and Rotten Point detract from these attributes. Once the vegetation is disturbed, re-establishment is slow and difficult and sheet, rill and gully erosion are likely to occur.



These rugged coastal cliffs provide some of the most spectacular coastal scenery in the study area.



RIVERNOOKArea: 18 km²

	Component and proportion of its land system				
	1 10%	2 20%	3 30%	4 30%	5 10%
CLIMATE Rainfall, mm Temperature, 0°C Seasonal growth limitations	Annual: 850 – 1,000, lowest January (40), highest July (110) Annual: 14, lowest July (10), highest February (18) Temperature: No month less than 10°C (av.) Precipitation: Exceeds potential evapotranspiration all months.				
GEOLOGY Age, lithology	Lower Cretaceous sandstone and mudstone	Paleocene undifferentiated sand and clay			Recent calcareous sand
TOPOGRAPHY Landscape Elevation, m Local relief, m Drainage pattern Drainage density, km/km ² Land form Land form element Slope (and range), % Slope shape	Deeply dissected uplifted plains with coastal cliffs 0 – 150 70 Dendritic 2.5				
NATIVE VEGETATION Structure Dominant species	Cliff - 70 Concave	Lower slope 7 (4-12) Linear	Deeply dissected plain Dissected slope 14 (2-36) Convex	Upper slope, crest 5 (1-14) Convex	Dune - 14 (2-36) Convex
SOIL Parent material Description Surface texture Permeability Depth, m	Open heath to tall shrubland <i>Casuarina stricta</i> , <i>Cassinia longifolia</i> , <i>Helichrysum paraliium</i> , <i>Casuarina luehmannii</i> , <i>Calocephalus brownii</i>	Open scrub <i>E. baxteri</i> , <i>E. nitida</i> , <i>Leptospermum juniperinum</i> , <i>E. ovata</i> , <i>E. obliqua</i>	Open scrub <i>E. baxteri</i> , <i>E. nitida</i> , <i>Leptospermum juniperinum</i> , <i>Casuarina luehmannii</i> , <i>Cassinia longifolia</i> , <i>E. ovata</i> , <i>E. obliqua</i>	Low woodland <i>E. baxteri</i> , <i>E. ovata</i> , <i>E. nitida</i>	Open scrub <i>Helichrysum paraliium</i> , <i>Leptospermum juniperinum</i> , <i>Cassinia longifolia</i> , <i>Acacia verticillata</i>
SOIL Parent material Description Surface texture Permeability Depth, m	Beach sand, some cliff detritus Stony brown gradational soils Loamy sand Very high 0.1	Clay, silt and sand Yellow-brown gradational soils, coarse structure Sandy loam Low >2	Sand Grey sand soils with hardpans, uniform texture Loamy sand Low >2	Clay, silt and sand Mottled yellow and red gradational soils with ironstone. Sandy loam Moderate >2	Calcareous sand Brown calcareous sand soils, uniform texture Loamy sand Very high >2
LAND USE	Uncleared areas: Nature conservation; landscape conservation; sand and gravel extraction; forest grazing. Minor cleared areas: Residential; dairy farming; beef cattle grazing, often on unimproved pastures.				
SOIL DETERIORATION HAZARD Critical land features, processes, forms	Native vegetation is sensitive to salt pruning and disturbance. Dispersible soils of low water-holding capacity on steep slopes with underlying rock are prone to sheet erosion. Wave undercutting and saturation of soils lead to landslides. Weakly structured sand soils are prone to wind erosion.	Highly dispersible soils are prone to gully and tunnel erosion. Weakly structured surfaces overly slowly permeable subsoils are prone to sheet and rill erosion.	Weakly structured surfaces overlying hardpans on steeper slopes are prone to sheet and rill erosion. Very low inherent fertility and leaching of permeable surfaces lead to nutrient decline.	Weakly structured surfaces and impeding ironstone layers lead to sheet erosion on steeper slopes. Low inherent fertility, phosphorus fixation and leaching of permeable surface horizons lead to nutrient decline.	Weakly structured soil subject to strong coastal winds are prone to wind erosion. Low inherent fertility, high alkalinity and rapid leaching lead to nutrient decline.