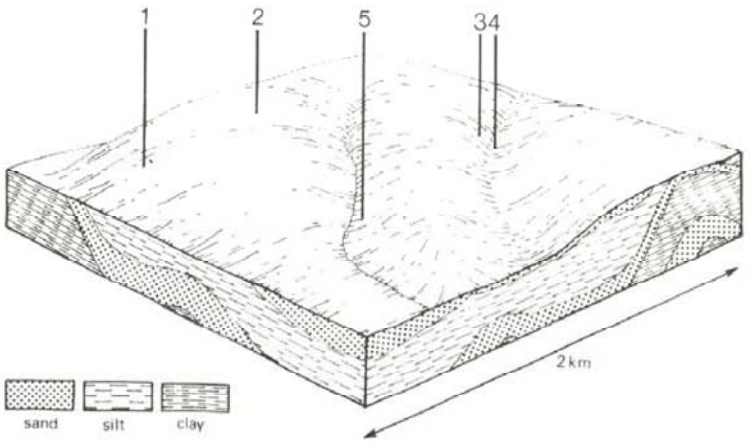
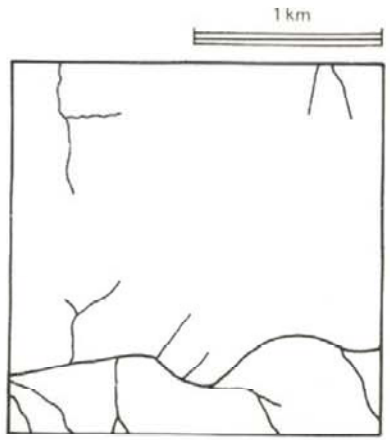
7.4 Barongarook Land System

North of Forrest and extending towards Colac, undulating plains with often deeply weathered soils are found. The geology is mainly Tertiary clay with minor outcrops of sand. Redistribution of surface sand has resulted in polygenetic soils over much of the landscape, with weak hardpan development and impeded drainage. Surface soils seem to be naturally low in plant nutrients.

Many areas remain uncleared and support open forests dominated by *Eucalyptus obliqua* and *E. radiata*. *E. baxteri* is notably absent in this slightly drier region. Other areas have been cleared for agriculture or converted to pines. The main hazards to land use are loss of soil structure, by compaction, and leaching of nutrients.

Poor site drainage and low soil permeability lead to waterlogging and pugging of the soil by stock in many parts of this land system.





BARONGAROOK Area: 92 km^2	Component and its proportions of land system				
	1 8%	2 55%	3 15%	4 15%	5 7%
CLIMATE Rainfall, mm Temperature, 0°C Seasonal growth limitations	**Annual**: 100 – 900, lowest January (40), highest August (80) **Annual**: 13, lowest July (8), highest February (18) **Temperature**: less than 10°C (av.) June – August **Precipitation**: less than potential evapotranspiration late October – early April				
GEOLOGY Age, lithology	Pliocene unconsolidated clay, silt and sand				
		Recent sand veneer			
TOPOGRAPHY Landscape Elevation, m Local relief, m Drainage pattern Drainage density, km/km^2 Land form	Gently undulating to rolling plain in the western parts of the Barwon catchment 120 –280 30 Dendritic 1.2 Undulating plan				
Land form element Slope (and range), % Slope shape	Steep slope 25 (15-40) Linear	Crest, upper slope 5 (0-10) Convex	Upper and middle slope 5 (0-10) Convex	Lower slope 7 (1-15) Linear	Drainage line 1 (10-2) Concave
NATIVE VEGETATION Structure Dominant species	Open forest *E. obliqua, E. radiata, E. viminalis*	Open forest *E. obliqua, E. radiata,* occasionally *E. ovata, E. viminalis*	Open forest *E. radiata, E. obliqua, E. nitida*	Woodland *E. radiata, E. nitida*	Woodland *E. ovata, E. radiata* occasionally *E. aromaphloia*
SOIL Parent material Description Surface texture Permeability Depth, m	Clay, silt and sand Yellow gradational soils, weak structure Sandy loam High >2	Clay, silt and sand Mottled yellow and red gradational soils Loam Moderate >2	Clay, silt and sand with quartz sand veneer Grey sand soils, structured clay underlay Sandy loam Low >2	Clay, silt and sand with quartz sand veneer Grey sand soils, weakly structured clay underlay Sandy loam Low >2	Alluvium Mottled yellow and grey gradational soils Loam Moderate >2
LAND USE	**Cleared areas**: Sheep and beef cattle grazing; dairy farming. **Uncleared areas:** Hardwood forestry for sawlogs, post and poles; nature conservation; active and passive recreation; softwood forestry; forest grazing.				
SOIL DETERIORATION HAZARD Critical land features, processes, forms	Steeper slopes with weak-structured surfaces are prone to sheet erosion.	Low inherent fertility and phosphorus fixation lead to nutrient decline.	Low inherent fertility with leaching of permeable surface horizons lead to nutrient decline.	Low permeability and seasonal perched water table lead to waterlogging and soil compaction.	High seasonal water table leads to waterlogging and soil compaction.