

7.27 Mooleric Land System

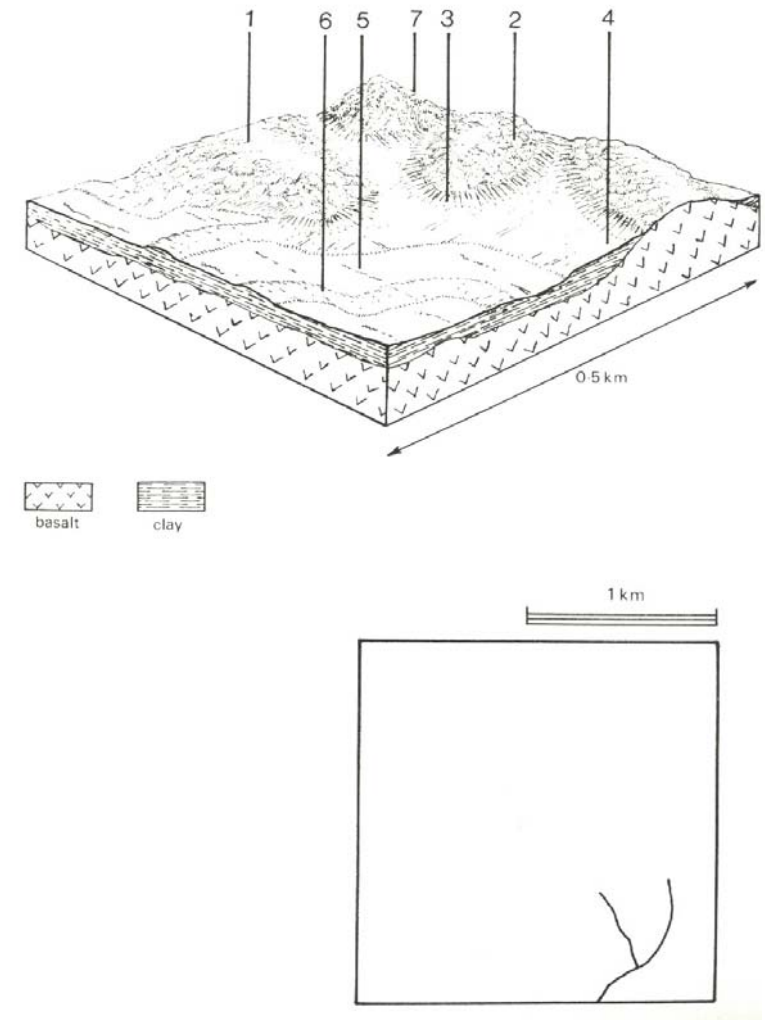
The stony rises between Mount Gellibrand and the Baron River were among the first areas grazed in this part of Victoria. The stony rises are both interconnected and solitary and they slope southwards away from Mount Gellibrand. The major areas is found north of the Princes Highway, but occasional vents or old cones also occur further south.

The nature of the native vegetation is difficult to determine. Many early reports describe the area as a treeless plain, but there are occasional specimens of *Acacia melanoxylon*, *A. implexa* and even *Eucalyptus viminalis* in roadside reserves. Thus, there may have originally been a low open woodland prior to settlement, which has disappeared following grazing and burning. Stony rise landscapes in other parts of Victoria possess woodland or low woodland communities.

Soil nutrient levels are high on these basalt outcrops, especially in the less weathered soils. The abundance of rock floaters and outcrops makes cultivation difficult even on infilled swamps between the rises. Thus grazing, often on unimproved pastures, is the main land use.



Depressions between the stony rises are infilled with basaltic clay and organic clay, both of which have low permeability, leading to waterlogging.



MOOLERIC Area: 46 km ²	Component and its proportion of land system						
	1 5%	2 9%	3 7%	4 45%	5 25%	6 5%	7 4%
CLIMATE Rainfall, mm Temperature, 0°C Seasonal growth limitations	Annual: 550 – 600, lowest January (25), highest August (60) Annual: 13, lowest July (8), highest February (19) Temperature: less than 10°C (av.) June - August Precipitation: less than potential evapotranspiration late September – April						
GEOLOGY Age, lithology	Pleistocene basalt, scoria and tuff						
TOPOGRAPHY Landscape Elevation, m Local relief, m Drainage pattern Drainage density, km/km ² Land form Land form element Slope (and range), % Slope shape	Stony rise, undulating plain with occasional steep hills (volcanic cones) 120 – 250 5 Dendritic 0.2 <div> <div>Stony rise</div> <div>Broad crest</div> <div>Steep slopes, narrow crest</div> <div>Apron</div> <div>Gentle slope</div> <div>Depression</div> <div>Plain</div> <div>Cone</div> </div> <div> <div>2 (0-3)</div> <div>10 (3-15)</div> <div>5 (3-9)</div> <div>1 (0-3)</div> <div>0 (0-3)</div> <div>1 (0-2)</div> <div>-</div> <div>10 (1-25)</div> </div> <div> <div>Linear</div> <div>Convex</div> <div>Concave</div> <div>Linear</div> <div>Concave</div> <div>Convex</div> <div>Linear</div> </div>						
NATIVE VEGETATION Structure Dominant species	Possibly low woodland <i>Acacia melanoxylon, A. implexa, E. viminalis</i> Possibly sedgeland <i>Juncus</i> spp., <i>Ranunculus</i> spp., <i>Carex</i> spp., <i>Scirpus calocarpus</i> , <i>Schoenus apogon</i> Possibly low woodland <i>Acacia melanoxylon, A. implexa, E. viminalis</i>						
SOIL Parent material Description Surface texture Permeability Depth, m	Basalt Grey calcareous sodic duplex soils, coarse structure Clay loam Very low 0.2	Freshly weathering rock Stony red-brown gradational soils Loam High 0.2	Colluvium, mainly clay Black calcareous clay soils, uniform texture Clay Very low 1.2	Basalt Grey calcareous sodic duplex soils, coarse structure Fine sandy loam Very low 1.9	Alluvium, plant remains Grey calcareous sodic clay soils, uniform texture Clay Very low >2	Basalt Grey calcareous sodic duplex soils, coarse structure Fine sandy loam Very low >2	Scoria, tuff, basalt Stony red-brown gradational soils Clay loam High 0.9
LAND USE	Cleared areas: Sheep and beef cattle grazing; some minor cropping between stony rises.						
SOIL DETERIORATION HAZARD Critical land features, processes, forms	Soils of low permeability are prone to waterlogging.	Stony shallow soils with low water-holding capacity, over rock layers on steep slopes, are prone to sheet erosion.	Soils of low permeability are prone to water logging.	Sodic clay subsoils of low permeability with seasonally high water tables are prone to soil salting.	Soils of low permeability and with sodic clay subsoils are prone to waterlogging, soil compaction and soil salting.	Minor hazards.	Stony shallow soils with low water-holding capacity, over rock layers on steep slopes, are prone to sheet erosion.