

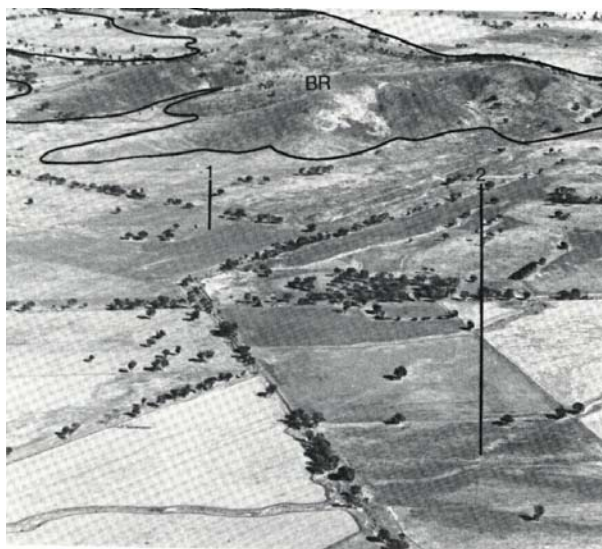
## 7.20 Rathscar land system

Gently dissected outwash aprons beside steep metamorphic aureoles in the Rathscar-Archdale district have abundant lime near the surface, apparently derived from accessions of calcareous dust.

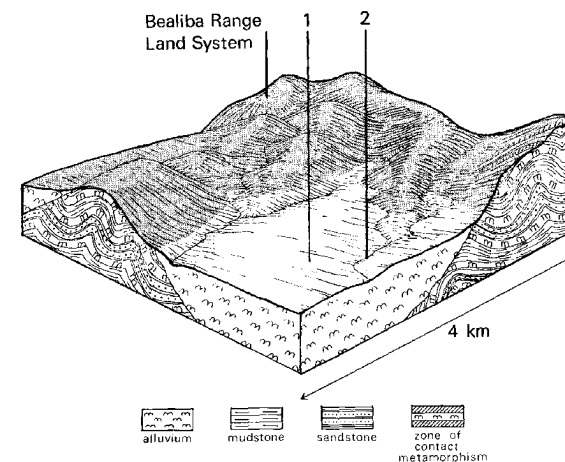
Calcareous duplex soils originally supported open forests of *Eucalyptus microcarpa* and *E leucoxyton*, but the area is now used for cereal cropping and grazing. Only small stands of natural vegetation remain.

Land deterioration is widespread in many forms, the more obvious being sheet erosion on the upper slopes and gullying and salting in the drainage lines. Soil salting is particularly severe, doubtless aggravated by total clearing of the adjacent hills. Surface compaction is most noticeable on the upper slopes.

The Berrimal, Dalyenong and Percydale land systems to the north have non-calcareous soils on their outwash aprons.



*The long gentle slopes extending out from the steep hill slopes are characteristic of alluvial aprons*



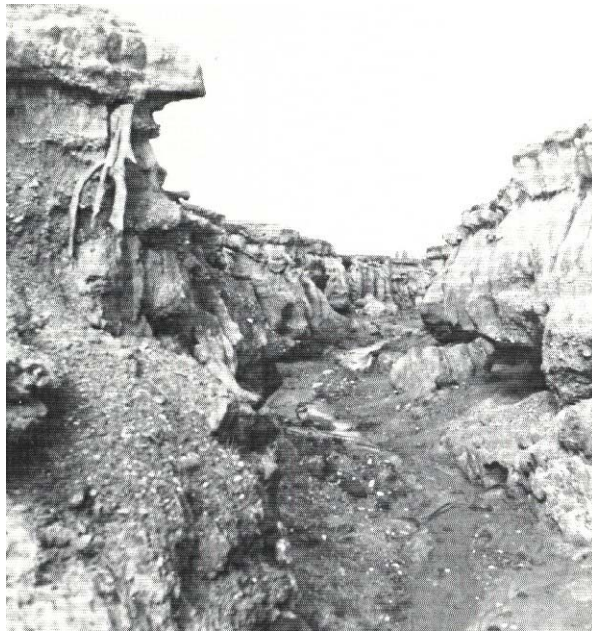
*Cropping and grazing occur throughout this land system.*

**RATHSCAR LAND SYSTEM Area 45 sq. km**

<b>CLIMATE</b> Rainfall (mm) Temperature (°C) Seasonal growth limitations	Annual, 425-500; lowest January (22), highest August (56) Annual, 15; lowest July (8), highest February (2 1) Temperature: less than 10 <sup>0</sup> C (av.) June-August Rainfall: less than potential evapotranspiration. September-April	
<b>GEOLOGY</b> Age, lithology	Alluvium overlain by calcareous dust	
<b>PHYSIOGRAPHY</b> Elevation range (m) Relative relief (m) Drainage pattern Drainage density (km/ sq. km) Land form	200-300 5 Parallel 1.3 Alluvial apron	
<b>LAND COMPONENT</b> Percentage of land system	1 95%	2 5%
<b>PHYSIOGRAPHY</b> Position on land form Slope (typical) and range (%) Slope shape	Upper and lower slope 4,2-5 Linear	Drainage floor 2,0-2 Concave
<b>NATIVE VEGETATION</b> Structure Dominant species	Open forest <i>E. microcarpa</i> <i>E. leucoxyton</i>	Open forest <i>E. microcarpa</i> <i>E. leucoxyton</i> <i>Casuarina luehmannii</i>
<b>SOIL</b> Parent material Description Classification Surface texture Surface consistence (dry) Depth (m) Nutrient status Available soil water capacity Perviousness to water Drainage Exposed stone Dispersibility Slaking tendency	Alluvium and calcareous dust Reddish brown calcareous sodic duplex soils Dr 2.43-2/ 1/ 020 Fine sandy loam Slightly hard >2 Low surface, moderate subsoil Low surface, moderate subsoil Moderate Well drained Nil Moderate Moderate	Alluvium and calcareous dust Red calcareous sodic duplex soils Dr 2.43-2 / 1 j 020 Sandy loam Slightly hard >2 Low surface, moderate subsoil Low surface, moderate subsoil Slow-moderate Somewhat poorly drained Nil Moderate High
<b>PRESENT LAND USE</b>	Cropping, grazing	Cropping, grazing

**Land deterioration hazards - Rathscar land system**

Disturbance	Component	Affected process and trend	Primary resultant deterioration		Primary resultant off-site process
			Form	Susceptibility	
Altered vegetation - reduced leaf area, rooting depth, perenniality	1,2	Reduced transpiration, increased leaching	Nutrient decline	Moderate	Movement of water and salts to groundwaters
Reduced soil surface cover	1,2	Increased soil detachment	Sheet erosion	Moderate	Increased flash flows and sediment loads
Cultivation, increased trafficking, trampling	1,2	Increased soil compaction	Structure decline	Moderate	Increased flash flows and sediment loads
Increased soil disruption and run-on	1	Increased subsoil detachment	Gully erosion	Moderate	Increased flash flows and sediment loads
	2	Increased subsoil detachment	Gully erosion	High	Increased flash flows and sediment loads
Raised water table	1	Increased evaporation	Soil salting	Moderate	
	2	Increased evaporation	Soil salting	High	



*Hard-setting topsoils and dispersible subsoils result in severe gully erosion.*



*Not even the salt-tolerant sea-barley grass (*Hordeum hystrix*) can survive severely salted areas.*