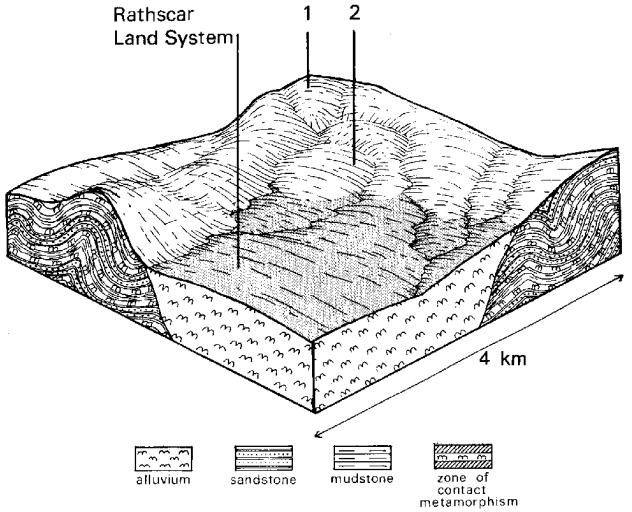
7.4 Bealiba Range land system

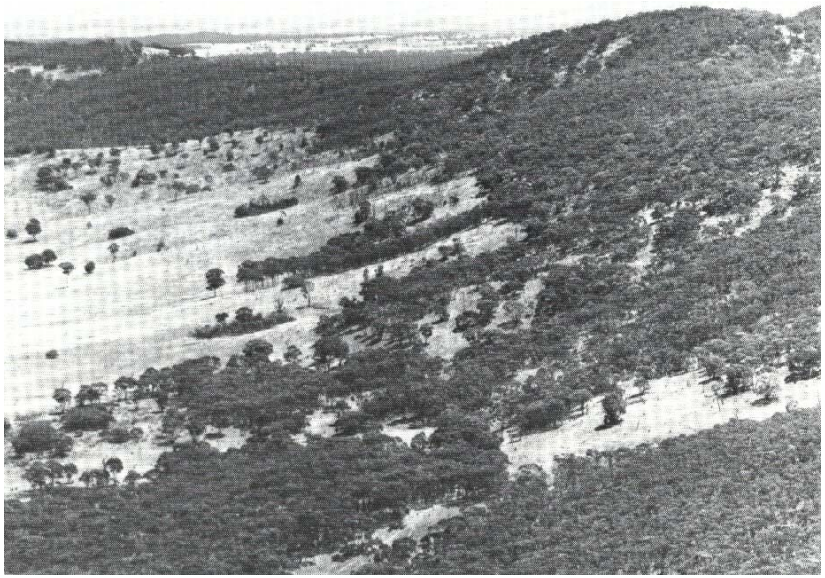
The Bealiba Range, Mount Hooghly and the Black Ranges are all part of the metamorphic aureole associated with the Dunluce granite mass. To the west of the Avoca River, isolated hills are remnants of the same aureole.

The slopes have shallow stony soils with some remnants of the original open forests dominated by *Eucalyptus macrorhyncha,* with E *microcarpa* on the lower slopes.

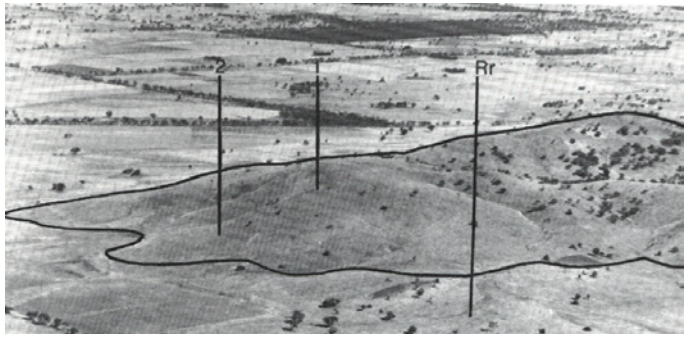
The cleared areas are used for grazing, but the shallow soils and the low rainfall inhibit pasture improvement. Native pastures of low productivity prevail.

The change in land use from open forest to native pastures has increased both runoff and mobilisation of salts, with serious consequences in areas adjoining these hills.





Some areas have retained the native forest vegetation.



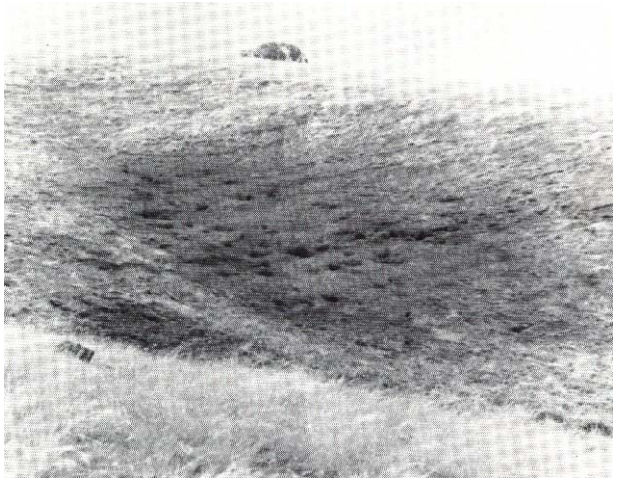
Complete removal of trees from these hills (right) leads to increased deterioration of adjacent areas.

BEALIBA RANGE LAND SYSTEM Area15sq.km

CLIMATE		
Rainfall (min)	Annual, 430-500; lowest January (22), highest August (50)	
Temperature (^{0}C)	Annual, 14; lowest July (8), highest February (20)	
Seasonal growth limitations	Temperature: less than 10^{0}C (av.) June-August Rainfall: less than potential evapotranspiration September-April	
GEOLOGY		
Age, lithology	Ordovician sandstone and mudstone	
PHYSIOGRAPHY		
Elevation range (m)	240-450	
Relative relief (m)	20	
Drainage pattern	Dendritic	
Drainage density (km/ sq. kin)	0.4	
Land form	Hill (metamorphic aureole)	
LAND COMPONENT	1	2
Percentage of land system	75%	25%
PHYSIOGRAPHY	Upper slope	Lower slope
Position on land form	25, 15-30	10, 5-15
Slope (typical) and range(%)		Linear
Slope shape	Convex	
NATIVE VEGETATION	Open forest	Open forest
Structure	*E. microcarpa*	*E. microcarpa*
Dominant species	*E. polyanthemos* *E. goniocalyx*	
SOIL		
Parent material	Sandstone and mudstone	Sandstone and mudstone
Description	Shallow stony uniform loam soils	Shallow stony gradational soils
Classification	U m 5.21-3,11 / 020	Gn 3.14-2,/ 1 /010
Surface texture	Stony loam	Sandy clay loam
Surface consistence (dry)	Soft	Slightly hard
Depth (m)	0-0.1	01-0.5
Nutrient status	Very low throughout	Very low throughout
Available soil water capacity	Very low throughout	Low
Perviousness to water	Rapid	Moderate
Drainage	Excessively drained	Well drained
Exposed stone	Abundant	Common
Dispersibility	Nil	Nil
Slaking tendency	Nil	Low
PRESENT LAND USE	Forestry, grazing	Forestry, grazing

Land deterioration hazards - Bealiba Range 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, deep percolation	Nutrient decline	Low	Movement of water and salts to groundwaters
Reduced soil surface cover	1,2	Increased soil detachment	Sheet erosion	High	Increased flash flows and sediment loads
Cultivation, increased trafficking, trampling	1,2	Increased soil compaction	Structure decline	Low	Increased flash flows and sediment loads



Rabbit numbers vary according to the season, but their presence is synonymous with overgrazing and a reduced rate of scrub regeneration.

Ring-barking of trees and overgrazing the native grasses has caused extensive sheet erosion on the steep slopes, as well as gully erosion and salting problems lower in the landscape.