

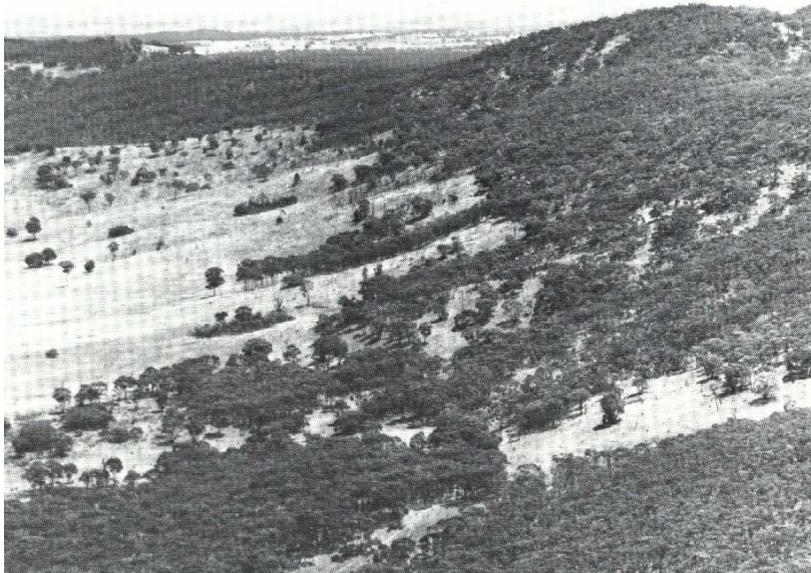
## 7.4 Bealiba Range land system

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.

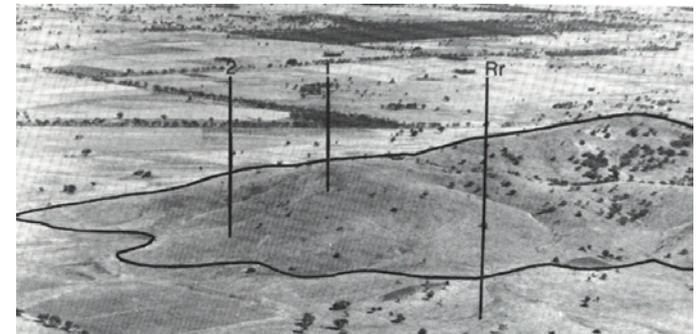
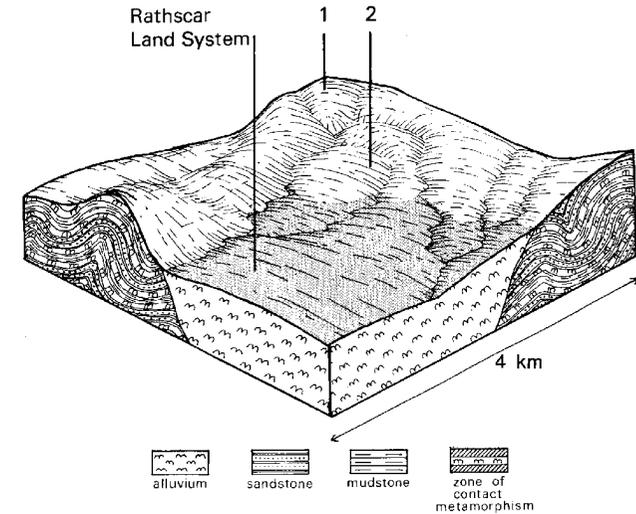
The slopes have shallow stony soils with some remnants of the original open forests dominated by *Eucalyptus macrorhyncha*, with *E microcarpa* on the lower slopes.

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**

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