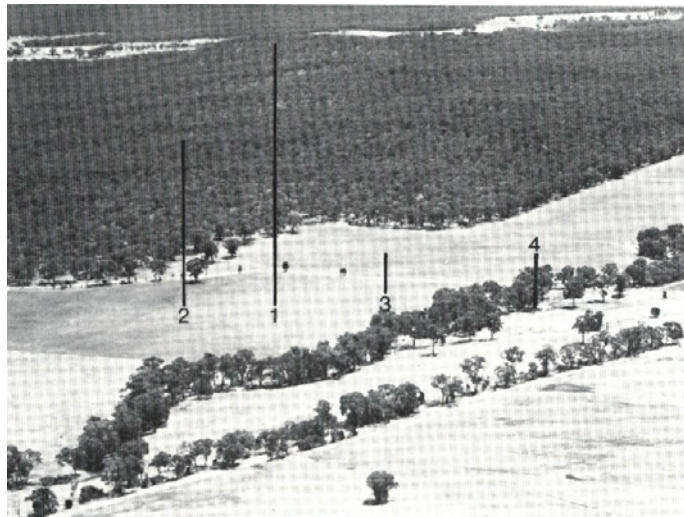


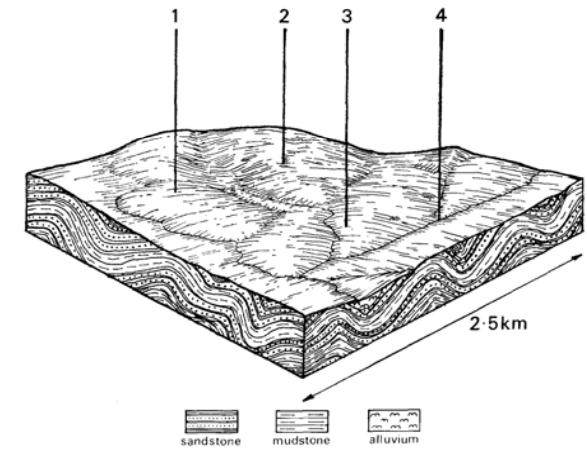
7.24 Wehla land system

Gentle bills on Ordovician sandstones and mudstones within the areas bounded by Bealiba, St Arnaud and Wedderburn support open forests characteristic of the goldfields, with *Eucalyptus sideroxylon*-*E microcarpa* on the upper slopes and *E microcarpa*-*E leucoxyton* on the lower slopes. Approximately half the area has been cleared for grazing and cropping, but selective timber-cutting still occurs in the remaining forested areas.

The weakly structured surfaces of the dominant red sodic duplex soils compact readily, with consequent accelerated run-off and sheet erosion. In addition, occasional deep percolation of moisture mobilises accumulated salts, resulting in soil salting on the lower slopes, in the drainage lines and on the adjacent alluvial flats. The highly dispersible soils on the lower slopes and in the drainage lines are prone to gully erosion.



Densely timbered gentle crests and long cleared slopes characterise this land system.



*Grazing and cropping are the main forms of land use. Ridges of red iron-bark (*E. sideroxylon*) may be seen in the background.*

WEHLA LAND SYSTEM Area 577 sq. km

CLIMATE Rainfall (mm) Temperature (°C) Seasonal growth limitations	Annual, 400-500; lowest January, (20), highest June (59) Annual, 15; lowest July (8), highest January (21) Temperature: less than 10° C (av.) June-August Rainfall: less than potential evapotranspiration September-April			
GEOLOGY Age, lithology	Ordovician sandstone and mudstone			
PHYSIOGRAPHY Elevation range (m) Relative relief (m) Drainage pattern Drainage density (sq km) Land form	180-360 15 Dendritic 1.0 Gentle hill			
LAND COMPONENT Percentage of land system	1 5%	2 25%	3 60%	4 10%
PHYSIOGRAPHY Position on land form Slope (typical) and range (%) Slope shape	Relatively sharp crest 10,5-14 Convex	Gentle crest 6,4-8 Convex	Long slope 4,3-5 Linear	Drainage floor 1,0-1 Concave
NATIVE VEGETATION Structure Dominant species	Open forest <i>E. polyanthemos</i> <i>E. macrorhyncha</i> <i>E. sideroxylon</i>	Open forest <i>E. sideroxylon</i> <i>E. microcarpa</i>	Open forest <i>E. leucoxylon</i> <i>E. microcarpa</i>	Open forest <i>E. leucoxylon</i> <i>E. microcarpa</i> <i>E. melliodora</i>
SOIL Parent material Description Classification Surface texture Surface consistence (dry) Depth (m) Nutrient status Available soil water capacity Perviousness to water Drainage Exposed stun Dispersibility Slaking tendency	Sandstone and mudstone Shallow stony red gradational soils Gn4.11 -3/1/006 Stony clay loam Moderately hard 0-1-0.5 Very low throughout Low throughout Moderate-rapid Somewhat excessively drained Abundant Low Nil	Sandstone and mudstone Red sodic duplex soils Dr2.41-2/1/007 Stony loam Slightly hard 0.5-1 Low surface, moderate subsoil Low surface, moderate subsoil Moderate Well drained Common Moderate Low	Sandstone and mudstone Red sodic duplex soils, coarsely structured Dr142-2/1//010 Fine sandy loam Moderately hard 1.5-2 Low surface, moderate subsoil Low surface, moderate subsoil Slow-moderate Moderately well drained Nil High High	Alluvium Yellow sodic duplex soils Db 2.41 – 2/1/017 Fine sandy loam Moderately hard > 2 Low surface, moderate subsoil Low surface, moderate subsoil Slow Somewhat poorly drained Nil Low Low
PRESENT LAND USE	Forestry	Forestry, grazing	Grazing, cropping	Grazing

Land deterioration hazards - Wehla 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	2,3	Reduced transpiration, increased leaching	Nutrient decline	Moderate	Increased leaching of salts to groundwaters
Reduced soil surface cover	1,2	Increased soil detachment	Sheet erosion	High	Increased flash flows and sediment loads
	3	Increased soil detachment	Sheet erosion	Moderate	Increased flash flows and sediment loads
Cultivation, increased trafficking, trampling	1	Increased soil compaction	Structure decline	Low	Increased flash flows and sediment loads
	2,3	Increased soil compaction	Structure decline	Moderate	Increased flash flows and sediment loads
Increased soil disruption and run-on	4	Increased subsoil detachment	Gully erosion	High	Increased flash flows and sediment loads
Raised water table	3,4	Increased evaporation	Soil salting	Moderate	Increased salinity of surface waters



Shallow soils on the gentle crests (top) are highly susceptible to sheet erosion. Soil salting in the shallow drainage floors causes reduced vegetative growth, often emphasised by areas completely devoid of vegetation.