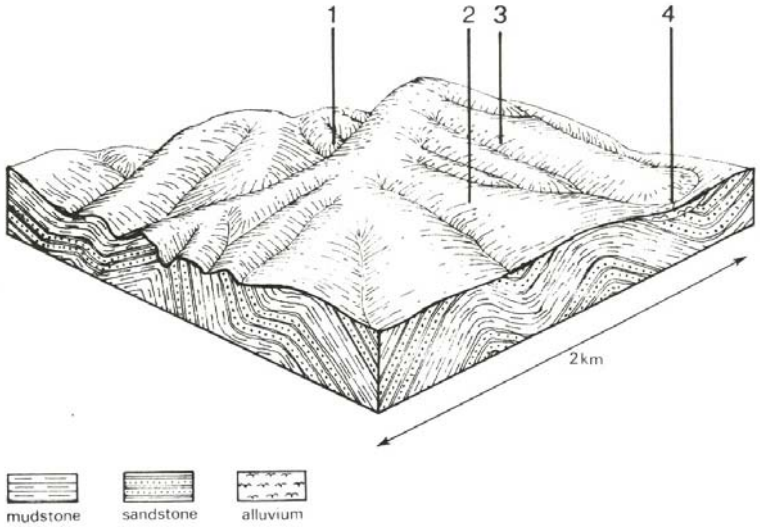
7.42 Yahoo Creek Land System

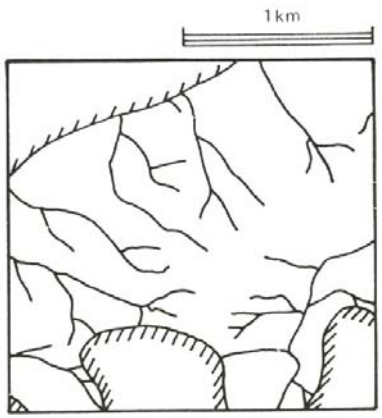
North of the Gellibrand River, Cretaceous sandstones and mudstones outcrop in the valleys of the Yahoo Creek, Gum Gully Creek and an unnamed creek to the west of Black Bridge road. These sediments belong to the Moonlight Head Beds of the Otway Group. Slopes are steep and valleys are narrow, in sharp contrast to the rounded hills of adjacent Tertiary sediments.

The soils are similar to those found on other outcrops of Cretaceous sediments in the Range, with the exception that surface horizons contain appreciably more sand and the parent material is usually highly weathered. Open forests of *Eucalyptus obliqua, E. ovata* and *E. aromaphloia* are similar to those found on the drier slopes of the Forrest land system.

Most parts of the valleys remain virtually uncleared and quite remote. Hardwood forestry is the main land use, although the rugged terrain makes access difficult. Some softwood plantations have been established in the catchment of Yahoo Creek. Landslips occur on these soils under native forest, and the incidence increases dramatically following clearing. Sheet erosion and gully erosion are also prone to occur.

The steep and rugged hills surrounding Yahoo Creek are difficult to manage. Scrub regrowth rapidly takes over recently cleared slopes.





YAHOO CREEK Area: 32 km^2	Components and its proportion of land system			
	1 35%	2 45%	3 15%	4 5%
CLIMATE Rainfall, mm Temperature, 0°C Seasonal growth limitations	**Annual**: 850 – 1,000, lowest January (40), highest August (130) **Annual**: 12, lowest July (7), highest February (18) **Temperature**: less than 10°C (av.) June – September **Precipitation**: less than potential evapotranspiration November – March			
GEOLOGY Age, lithology	Low Cretaceous highly feldspathic sandstone and mudstone (Moonlight Head Beds)			
TOPOGRAPHY Landscape Elevation, m Local relief, m Drainage pattern Drainage density, km/km^2 Land form	Deeply dissected hills to the north of Gellibrand River 60 – 270 110 Dendritic with small radial areas 3.0 Hill			
Land form element Slope (and range), % Slope shape	Steep slope 50 (20-70) Linear	Crest, upper slope 15 (2-30) Linear	Slope 35 (15-45) Linear	Swale, gentle lower slope 13 (1-25) Concave
NATIVE VEGETATION Structure Dominant species	Open forest *E. ovata, E. obliqua, E. radiata, E. aromaphloia, E. viminalis*	Open forest *E. obliqua, E. ovata, E. aromaphloia, E. radiata*	Open forest *E. viminalis, E. obliqua*	Open forest *E. viminalis, E. obliqua, Acacia melanoxylon*
SOIL Parent material Description Surface texture Permeability Depth, m	In-situ weathered rock, colluvial rock Stony brown gradational soils Fine sandy loam High 0.7	In-situ deeply weathered rock Yellow-brown gradational soils, coarse structure Sandy clay loam Low 1.2	In-situ weathered rock Brown gradational soils Loam Moderate 0.9	Colluvium Dark brown gradational soils Loam Moderate >2
LAND USE	**Uncleared areas:** Hardwood forestry for sawlogs, posts and poles; nature conservation; water supply **Minor cleared areas:** Sheep and beef cattle grazing; water supply			
SOIL DETERIORATION HAZARD Critical land features, processes, forms	Stony shallow soils with weak structure and low water-holding capacity on steep slopes are prone to sheet erosion and landslides.	Soils of low permeability on the steeper slopes are prone to sheet and rill erosion. Dispersible subsoils are prone to gully erosion.	Clay subsoils on steep slopes subject to periodic saturation are prone to landslips. Steep slopes are prone to sheet erosion.	Weakly structured soils receiving run-off from adjacent hills are prone to scour gullying, siltation and flooding.