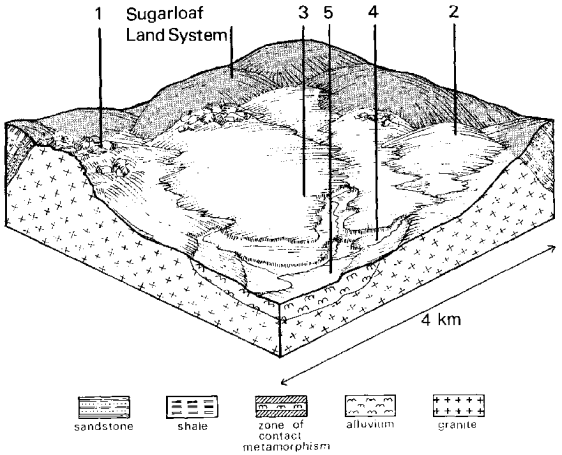
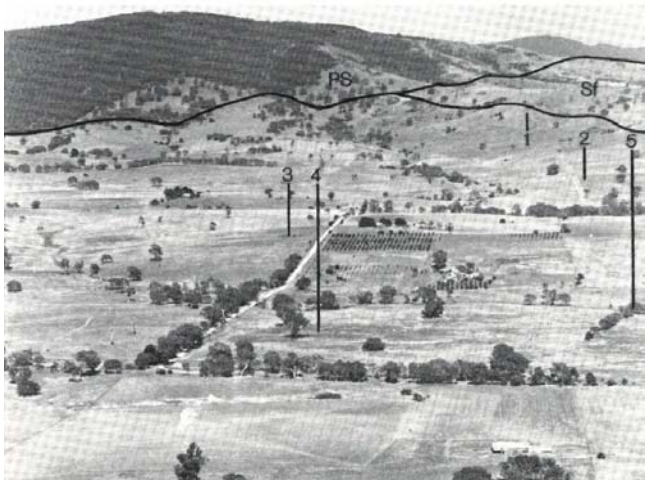
7.1 Amphitheatre land system

To the south of Amphitheatre a gently dissected area on granitic rocks is enclosed by a metamorphic aureole.

Yellowish brown duplex soils on gentle slopes predominate, characterised by remnants of *Eucalyptus camaldulensis* woodlands. Most of the area has been cleared and is used for grazing with occasional cropping on the more stable lower slopes.

The most serious hazard of deterioration is sheet erosion of the sandy topsoils. Siliceous hardpans present in the gentle granitic areas to the north have not been noted in this landscape. The moderately to rapidly pervious soils of the slopes appear to directly overlie weathered granite, and increased moisture contents following clearing would promote increased movement of water and salts to the water table. Although the alluvial flats become seasonally waterlogged and flooded, there are no obvious signs of salting within the land system.





The granitic hills of this gentle landscape are encircled by a steep metamorphic aureole. The forested Pyrenee Range is in the background.

Cropping and grazing are the main forms of land use.

AMPHITHEATRE LAND SYSTEM Area 26 sq. km

CLIMATE					
Rainfall (mm)	Annual, 600-625; lowest January (32), highest August (70)				
Temperature (^{o}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 granite and granodiorite, Quaternary alluvium				
PHYSIOGRAPHY					
Elevation range (m)	320-440				
Relative relief (m)	10				
Drainage pattern	Dendritic				
Drainage density (km/sq. km)	1.6				
Land form	Gentle hill				
LAND COMPONENT	1	2	3	4	5
Percentage of land system	10%	20%	60%	5%	5%
PHYSIOGRAPHY					
Position on land form	Steeper crest	Gentle crest	Middle slope	Alluvial terrace	Drainage floor
Slope (typical) and range (%)	15, 10-25	7, 3-10	3, 1-5	1, 0-1	1, 0-1
Slope shape	Convex	Convex	Convex	Linear	Linear
NATIVE VEGETATION					
Structure	Open forest	Open forest	Woodland	Open forest	Open forest
Dominant species	*E. rubida* *E. melliodora*	*E. rubida* *E. melliodora*	*E. rubida* *E. camaldulensis*	*E. camaldulensis* *E. melliodora*	*E. camaldulensis* *E. melliodora*
SOIL			Site 905	Site 903	
Parent material	Granite, granodiorite	Granite, granodiorite	Granite, granodiorite	Granite, granodiorite	Quaternary alluvium
Description	Uniformly textured coarse sandy loam soils	Mottled duplex soils	Yellow sodic duplex soils	Yellow sodic duplex soils	Dark duplex soils
Classification	Uc 5.11-1/0/040	Dy 3.41-2/0/035	Dy 3.42-2/1/045	Dy 3.32-2/1/040	Dd 2.21-2/1/030
Surface texture	Coarse sandy loam	Sandy loam	Sandy loam	Fine sandy loam	Fine sandy loam
Surface consistence (dry)	Soft	Soft	Slightly hard	Slightly hard	Slightly hard
Depth (m)	0.1-0.5	0.5-1	1.5-2	>2	>2
Nutrient status	Very low throughout	Very low throughout	Low topsoil, moderate subsoil	Low topsoil, moderate subsoil	Moderate throughout
Available soil water capacity	Very low throughout	Low topsoil, moderate subsoil	Low topsoil, moderate subsoil	Low topsoil, moderate subsoil	Moderate throughout
Perviousness to water	Rapid	Moderate-rapid	Slow	Slow	Moderate
Drainage	Excessively drained	Well drained	Somewhat poorly drained	Poorly drained	Poorly drained
Exposed stone	Abundant (rock)	Nil	Nil	Nil	Nil
Dispersibility	Nil	Low	Low	Low	Low
Slaking tendency	Nil	High	Moderate	Low	Low
PRESENT LAND USE	Grazing	Grazing	Grazing, cropping	Grazing, cropping	Grazing

Land deterioration hazards - Amphitheatre 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	Nutrient decline	Low	Accumulation of salts and water in groundwaters
	1	Increased site wetness	Landslips	Moderate	Accumulation of salts and water in groundwaters
Reduced soil surface cover	1	Increased soil detachment	Sheet erosion	High	Increased flash flows and sediment loads
	2,3	Increased soil detachment	Sheet erosion	Moderate	Increased flash flows and sediment loads
Cultivation, increased trafficking, trampling	3,4,5	Increased soil compaction	Structure decline	Low	Increased flash flows and sediment loads
Increased soil disruption and run-on	3,5	Increased subsoil detachment	Gully erosion	Moderate	Increased flash flows and sediment loads
Increased run-on and seepage	5		Waterlogging and flooding	Moderate	-
Raised water table	4	Increased evaporation	Soil salting	Low	Increased salinity of surface waters

Increased flash flows undermine stream banks and threaten fences, roads and other services

The droughty granitic soils are susceptible to sheet erosion should the native pastures be overgrazed