

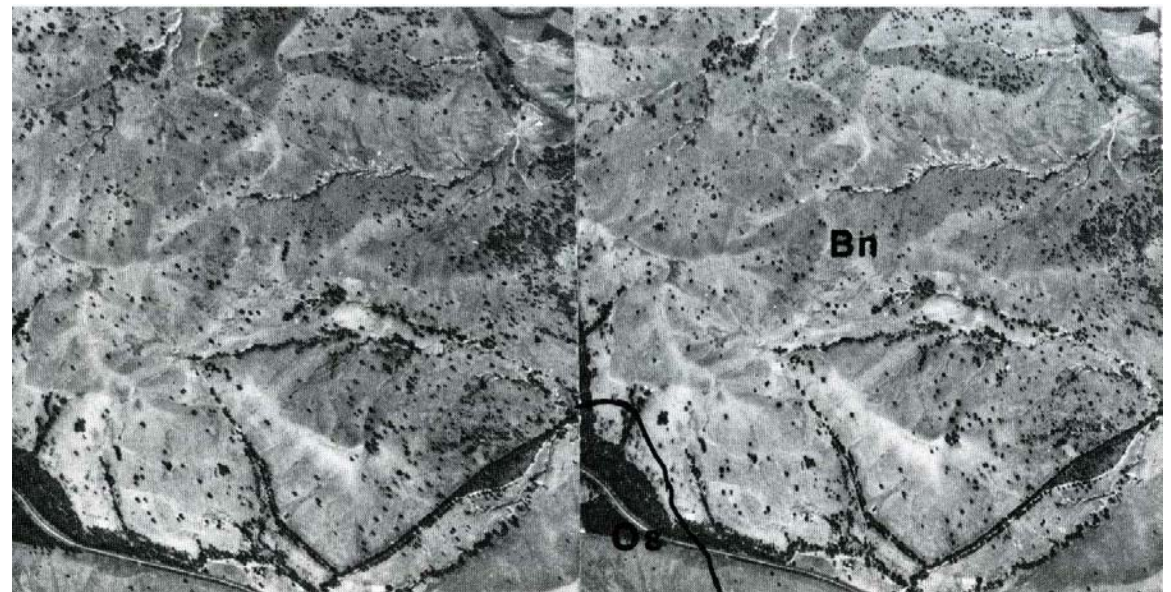
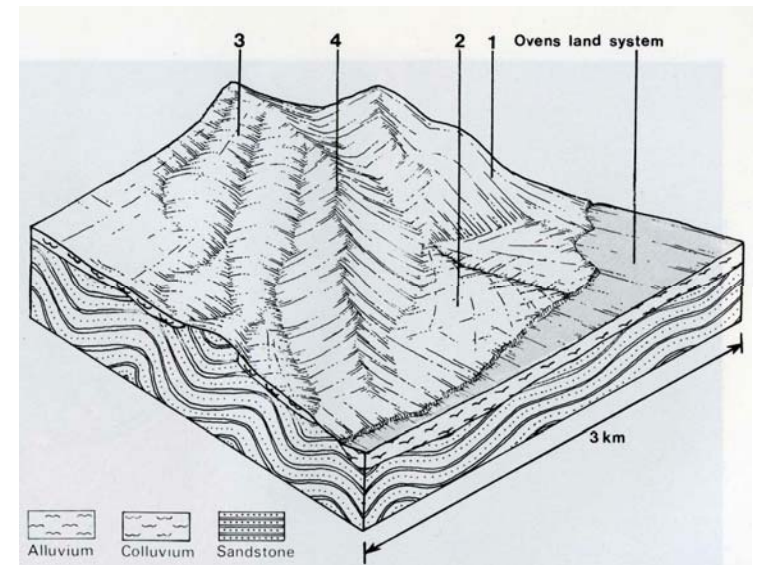
7.1 Bowman land system

Ordovician sedimentary rocks occur at the northern edge of the study area and form the low hills bordering the extensive plains on the edge of the lower Ovens valley. The hills have steep ridges and narrow valley bottoms, with a small proportion of rolling basin landscape. This is the driest part of the study area. Hot dry summers and cool wet winters are typical, and the lower-lying parts experience severe frosts from autumn through to early spring.

Duplex soils predominate on the less-steep slopes, with weakly bleached gradational soils or stony loam soils on the steep slopes.

Most areas are cleared and used for grazing, but remnants of the native vegetate indicate that *Eucalyptus macrorhyncha* and *E. polyanthemos* were predominant, with *E. blakelyi*, *E. goniocalyx* and *E. dives* also common.

Many of the drainage lines are severely gullied and some steep areas show evidence of moderate sheet erosion. The combination of hard-setting surface soils and soils with dispersible subsoils in the drainage lines results in the land system having potential for sheet, gully and tunnel erosion. There is a risk of Dryland salting in the northern areas.



BOWMAN LAND SYSTEM Area 32 sq km

CLIMATE Rainfall, mean (mm) Temperature, mean (°C) Seasonal growth limitations	Annual 700; lowest January (45), highest June (110) Annual 14; lowest July (7.5); highest January (21) Temperature – less than 10°C (av): June – August Precipitation – months less than 50% frequency of effective rain: December – February			
GEOLOGY Age, lithology	Ordovician greywacke, sandstone, siltstone, shale, mudstone			
PHYSIOGRAPHY Landscape Elevation range (m) Relative relief (m)	Low hills with narrow crests and associated fan footslopes 200-300 50-100			
LAND COMPONENT Percentage of land system	1 50	2 25	3 20	4 5
PHYSIOGRAPHY Land form Position on land form Slope range (%) Slope shape	Hill Lower slope 5-20 Linear	Fan - 2-15 Concave	Hill Upper slope 12-25 Linear	Hill Narrow crest 20-35 Convex
NATIVE VEGETATION Structure Dominant species	Open forest II <i>E. macrorhyncha</i> , <i>E. blakelyi</i> , <i>E. polyanthemos</i> , <i>E. goniocalyx</i>			
SOIL Parent material Description Surface texture Permeability Depth (m)	Colluvial mantle over bedrock Red duplex soils with smooth ped fabric Loam Moderate 1.0	Alluvium-colluvium Yellowish brown duplex soils Loam Low 1.5	Colluvial mantle over bedrock Weakly bleached reddish brown gradational soils Gravelly loam Moderate 0.5	<i>In situ</i> weathered bedrock Stony loam soils Stony loam Low 0.2
LAND USE	Mostly cleared: grazing beef and cattle and sheep on pastures of native and volunteer grasses			
SOIL DETERIORATION HAZARD Critical land features, processes, forms	Hard-setting surface soils cause rapid surface run-off; sheet and gully erosion	Hard-setting surface soils and dispersible subsoils; rapid surface runoff; sheet, gully and tunnel erosion	Hard-setting surface soils cause rapid surface run-off; low available water capacity; sheet erosion	Shallow soils with low available water capacity; rapid surface run- off; sheet erosion.