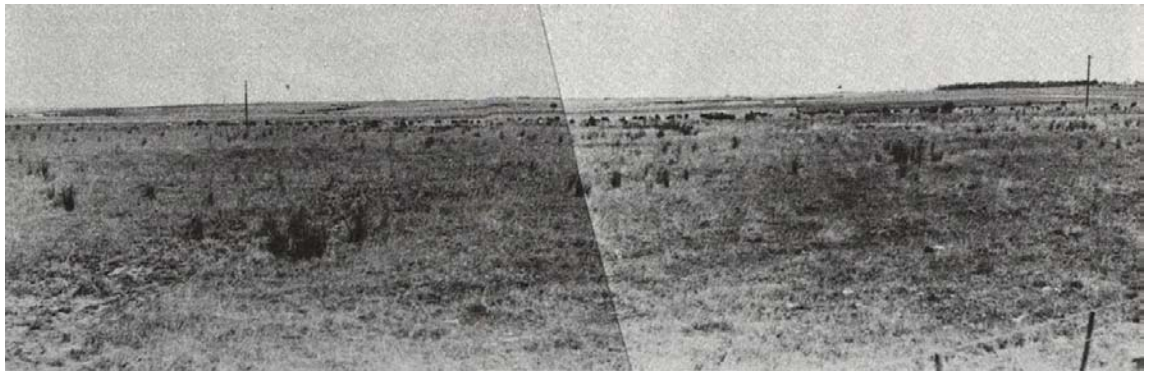
7.36 Simpson Land System

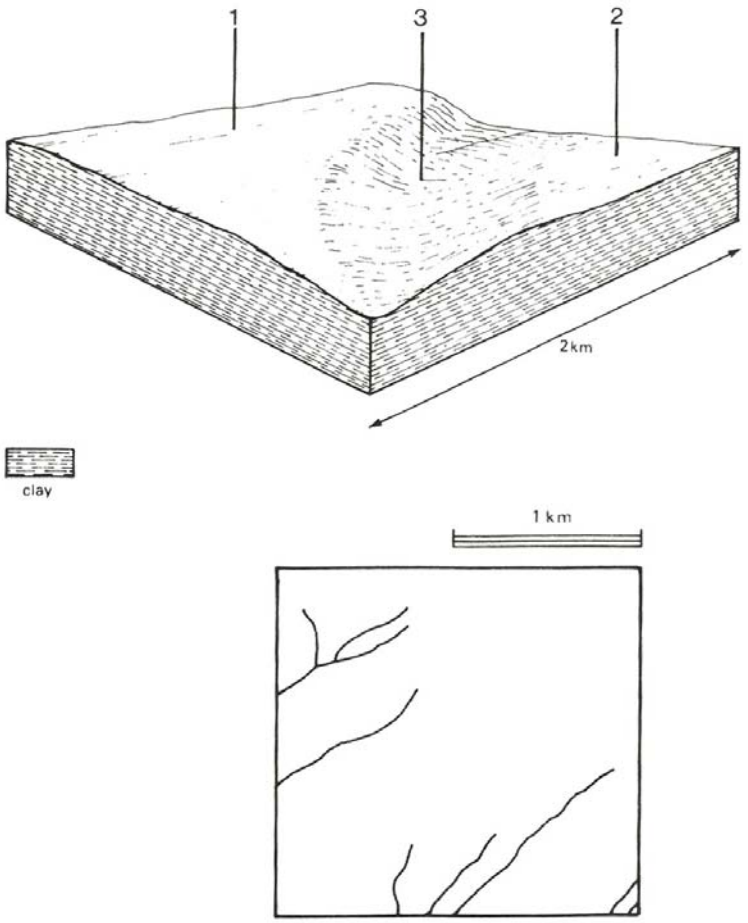
Small remnants of flat lateritic plateaux near Simpson and extending towards Irrewillipe are evidence of former widespread lateritization. Most lateritic hill capping have been removed by dissection, and this set of north-nor'-west- and south-sou'-east-orientated ridges is the only significant remnant to the west of the Range.

The most common soils have gradational profiles containing lateritic ironstone. However, some profiles possess sand veneers in the surface horizons, with hardpans overlying mottled clays. Drainage of the landscape is poor, particularly where hardpans occur, and seasonal waterlogging is a problem.

The ridges have been extensively cleared as part of the Heytesbury Settlement Scheme and dairy farming is the main land use. There are problems arising from low soil fertility and exposure to wind. Only one small area of native vegetation remains in the study area.



Clearing of these flat lateritic plateau has been very thorough, and little evidence remains of the former hardwood forests that covered them.



SIMPSON Area: 33 km^2	Components and its proportion of land system		
	1 65%	2 25%	3 10%
CLIMATE Rainfall, mm Temperature, 0^{o}C Seasonal growth limitations	**Annual**: 800 – 950, lowest January (35), highest August (110) **Annual**: 13, lowest July (8), highest February (18) **Temperature**: less than 10^{o}C (av.) June – August **Precipitation**: less than potential evapotranspiration late October – early April		
GEOLOGY Age, lithology		Pliocene lateritized sand and clay Veneer of Quaternary sand	
TOPOGRAPHY Landscape Elevation, m Local relief, m Drainage pattern Drainage density, km/km^2 Land form Land form element Slope (and range), % Slope shape	Very gently undulating plateau with north-west and south-east dissection 150 – 170 10 Parallel 1.0 Plateau Middle and upper slopes, crest 4 (0-14) Straight (some convex)	Middle slope 0 (0-3) Straight	Lower slope, depression 5 (0-9) Concave
NATIVE VEGETATION Structure Dominant species	Open forest *E. obliqua, E. baxteri*	Closed scrub *Leptospermum juniperinum Melaleuca squarrosa, E. nitida, Casuarina littoralis*	Open forest *E. baxteri, E. ovata*
SOIL Parent material Description Surface texture Permeability Depth, m	Weathering lateritic remnants Mottled yellow and red gradational soils with ironstone Sandy loam Moderate 1.7	Lateritic remnants covered by varying depths of sand Grey sand soils, structured clay underlay Sandy loam Low >2	Alluvial sand and clay Yellow-brown gradational soils, coarse structure Sandy loam Low >2
LAND USE	**Cleared areas:** Dairy farming; some beef cattle grazing **Minor cleared areas:** Hardwood forestry production		
SOIL DETERIORATION HAZARD Critical land features, processes, forms	Low inherent fertility and phosphorus fixation lead to nutrient decline. Leaching of salts lead to increased salinity to drainage waters.	Low inherent fertility and leaching of permeable surface horizons lead to nutrient decline. Low permeabilities lead to seasonal waterlogging and soil compaction.	Low permeabilities and high seasonal watertables lead to seasonal waterlogging and soil compaction. Leaching of salts from landscape leads to increased salinity of drainage waters.