

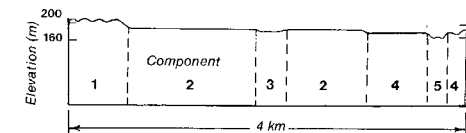
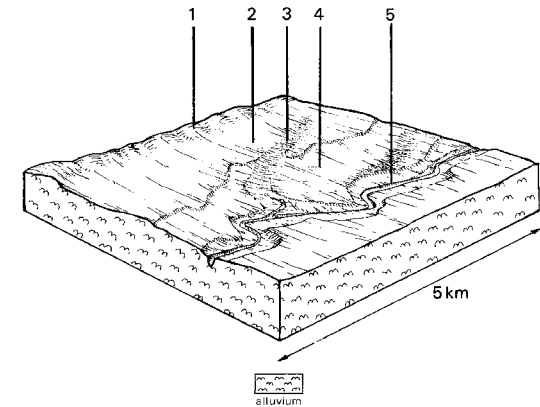
## 7.16 Natte Yallock land system

The highest level on the broad alluvial plain in the Natte Yallock area represents remnants of lacustrine deposits that have been largely removed by stream action and subsequently infilled by fluvial materials. Terraces have been formed at several levels, resulting in a variety of soils, among which red calcareous sodic duplex soils are the most widespread. Remnants of the original woodlands - along road reserves and in shelter belts - and scattered trees indicate that *Eucalyptus microcarpa* and *E. leucoxylon* formed the most widespread association.

The area is used mainly for cropping and grazing of improved pastures. Most of the soils are well suited to agriculture, the most notable exception being the gilgaied clays with their adverse physical characteristics.

The most significant land deterioration hazard appears to be nutrient decline on the moderately pervious, inherently fertile soils of the main terrace. The most obvious form of deterioration is declining topsoil structure caused by compaction under agriculture, with consequent surface sealing, increased run-off and reduced plant germination.

*Watercourses outlined with river red gum trees (Eucalyptus camaldulensis) meander across the broad flat plain.*



NATTE YALLOCK LAND SYSTEM Area 163 sq. km

<b>CLIMATE</b> Rainfall (mm) Temperature (°C) Seasonal growth limitations	Annual, 420-500; lowest January (22), highest July (52) Annual, 14; lowest July (8), highest February (20) Temperature: Less than 10°C(av.)June-August Rainfall: less than potential evapotranspiration September-April				
<b>GEOLOGY</b> Age, lithology	Lacustrine	Quaternary alluvium Fluviatile			
<b>PHYSIOGRAPHY</b> Elevation range (m) Relative relief (m) Drainage pattern Drainage density (km/sq. km) Land form	190-210 5 Parallel 1.4 Flat plain				
<b>LAND COMPONENT</b> Percentage of land system	1 10%	2 60%	3 15%	4 10%	5 5%
<b>PHYSIOGRAPHY</b> Position on land form Slope (typical) and range (%) Slope shape	Highest level 1,0-3 Convex	Main terrace 1,0-1 Linear	Drainage floor 1,0-1 Concave	Lower terrace 1,0-1 Linear	Present flood plain 5, 1~10 Concave
<b>NATIVE VEGETATION</b> Structure Dominant species	Woodland  <i>E. microcarpa</i> <i>E. leucoxyton</i>	Woodland  <i>E. microcarpa</i> <i>E. leucoxyton</i>	Woodland  <i>E. camaldulensis</i>	Open woodland  <i>E. microcarpa</i>	Woodland  <i>E. camaldulensis</i>
<b>SOIL</b> Parent material Description  Classification Surface texture Surface consistence (dry) Depth (m) Nutrient status  Available soil water capacity  Perviousness to water Drainage  Exposed stone Dispersibility Slaking tendency	Site 915, 916 Fine-grained alluvium Grey calcareous sodic uniform clay soils, coarsely structured  Ug 5.21-5/3/000 Clay Hard >2 High throughout  Low throughout  Slow Poorly drained  Nil Moderate High	Site 917 Alluvium Red calcareous sodic duplex soils  Dr 3.33-3/1/005 Loam Slightly hard >2 Moderate surface, high subsoil Low surface, moderate subsoil Moderate Well drained  Nil High High	Alluvium Yellowish brown calcareous sodic duplex soils  Dy 3.43-3/1/010 Silty loam Slightly hard >2 Moderate throughout  Low surface, moderate subsoil Slow-moderate Moderately well drained  Nil Moderate Low	Alluvium Red sodic duplex soils  Dr 2.42-2/0/027 Fine sandy loam Moderately hard >2 Very low surface, moderate subsoil Low throughout  Moderate Well drained  Nil Low Low	Alluvium Grey uniform sandy loam soils  Uc4.31-2/1/030 Fine sandy loam Soft >2 Low throughout  Low throughout  Moderate-rapid Poorly drained  Nil Nil Nil
<b>PRESENT LAND USE</b>	Cropping, grazing	Cropping, grazing	ping, grazing	Cropping, gr	Grazing

**Land deterioration hazards -- Natte Yallock 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	1,3 2	Reduced transpiration Reduced transpiration, increased leaching	Waterlogging Nutrient decline	Low Moderate	Increased run-off Increased movement of water and salts to groundwaters Increased movement of water and salts to groundwaters
	4	Reduced transpiration, increased leaching	Nutrient decline	Low	
Reduced soil surface cover	2,4	Increased soil detachment	Windsheeting	Low	
Cultivation, increased trafficking, trampling	1	Increased soil compaction	Structure decline	Moderate	Increased run-off
	2,3	Increased soil compaction	Structure decline	Low	Increased run-off
Increased run-on	5	Increased soil detachment	Streambank erosion and flooding	Low	Increased deposition
Raised water table	3,4	Increased evaporation	Soil salting	Low	Increased salinity of surface waters



*The gilgaied nature of the heavy clays does cause problems with the construction of fences, buildings, roads and other services.*

*.. Prior streambanks are valuable sources of clean sand. Extraction sites, however, can endanger stock and can harbour noxious weeds.*