

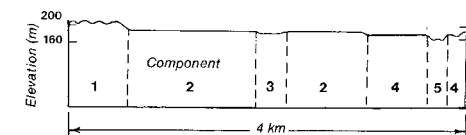
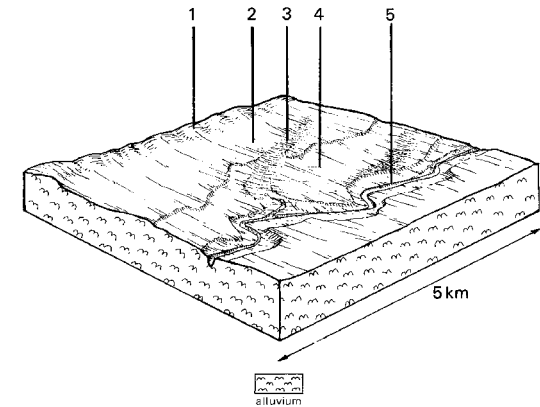
7.16 Natte Yallock land system

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

| | | | | | |
|--|--|---|---|--|---|
| CLIMATE 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 | | | | |
| GEOLOGY Age, lithology | Lacustrine | Quaternary alluvium Fluviatile | | | |
| PHYSIOGRAPHY Elevation range (m) Relative relief (m) Drainage pattern Drainage density (km/sq. km) Land form | 190-210 5 Parallel 1.4 Flat plain | | | | |
| LAND COMPONENT Percentage of land system | 1 10% | 2 60% | 3 15% | 4 10% | 5 5% |
| PHYSIOGRAPHY 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 |
| NATIVE VEGETATION 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> |
| SOIL 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 |
| PRESENT LAND USE | 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.