

7.9 Dooboobetic land system

To the north of Coonooer Bridge, gently undulating plains of aeolian deposits overlies marine sands, representing the western margin of the Wimmera plains.

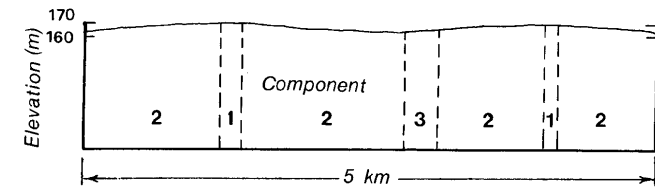
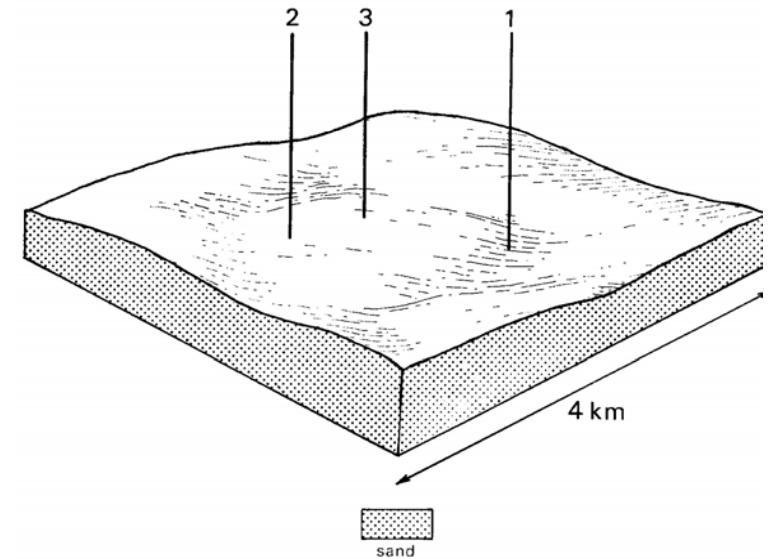
Long gentle slopes with fertile clay soils characterise the landscape. The original woodlands in which *Casuarina luehmannii* prominent have been largely removed and the land is particularly suited to cereal cropping. Occasional stands of timber in low-lying, poorly-drained areas are dominated by *Eucalyptus largiflorens*.

The dominant clay soils have minor wind and water erosion hazards and the light sandy ridges are prone to wind erosion.

The most noticeable deterioration is a decline in the topsoil structure, resulting from activities such as cultivation and trampling by livestock. There is also a serious hazard of nutrient decline by leaching on the fertile, moderately pervious soils and associated increased salinity on adjacent low-lying areas.



Open gently undulating plains with heavy dark grey clay soils in the foreground.



DOOBOOBETIC LAND SYSTEM Area 85 sq. km

CLIMATE Rainfall (mm) Temperature (°C) Seasonal growth limitations	Annual, 400-450; lowest January (15), highest June (49) Annual, 15; lowest July (8), highest February (22) Temperature: less than 1WC (av.) June-August Rainfall: less than potential evapotranspiration September-April		
GEOLOGY Age, lithology	Quaternary aeolian calcareous deposits overlying Tertiary marine sand		
PHYSIOGRAPHY Elevation range (m) Relative relief (m) Drainage pattern Drainage density (km/sq. km) Land form	120-160 5 Undefined 0.2 Undulating plain		
LAND COMPONENT Percentage of land system	1 10%	2 70%	3 20%
PHYSIOGRAPHY Position on land form Slope (typical) and range Slope shape	Crest 2, 1-5 Convex	Slopes 3, 2-5 Linear	Drainage floor 1, 0-1 Linear
NATIVE VEGETATION Structure Dominant species	Woodland <i>E. microcarpa</i> <i>E. leucoxyton</i> <i>Casuarina luehmannii</i>	Woodland <i>Casuarina luehmannii</i> <i>E. microcarpa</i>	Woodland <i>E. largiflorens</i> <i>E. microcarpa</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 930 Calcareous aeolian deposits Red calcareous sodic duplex soils Dr 2.13 - 1 / 0/ 020 Fine sandy loam Soft >2 Moderate surface, high subsoil Low surface, moderate subsoil Moderate Well drained Nil Moderate High	Calcareous aeolian deposits Reddish brown calcareous sodic uniform clay soils Ug 6.6 - 513/ 000 Clay Moderately hard >2 High throughout Moderate throughout Moderate Moderately well drained Nil Moderate Moderate	Calcareous aeolian deposits Grey calcareous sodic uniform clay soils Ug 6.5 5/ 3/000 Clay Hard >2 High throughout Moderate throughout Slow Somewhat poorly drained Nil Low Low
PRESENT LAND USE	Cropping, grazing		

Land deterioration hazards - Dooboobetic 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	Reduced transpiration, increased leaching	Nutrient decline	Moderate	Increased movement of water and salts to groundwaters
	3	Reduced transpiration	Waterlogging	Moderate	
Reduced soil surface cover	1	Increased soil detachment	Windsheeting	Moderate	Drift accumulation
	2	Increased soil detachment	Windsheeting	Low	Drift accumulation
Cultivation, increased trafficking, trampling Raised water table	2,3	Increased soil compaction	Structure decline	Moderate	Increased run-off
	3	Increased evaporation	Soil salting	Low	Increased salinity of surface waters



Groups of black box (Eucalyptus largiflorens) indicate low-lying areas that are usually waterlogged for several months of the year.



Excessive cultivation destroys the surface structure in these cracking clays, causing surface sealing, increased run-off and reduced storage of soil moisture for the forthcoming crop.