

Wycheproof Land System

Fig. 23 – Wycheproof Land System

WYCHEPROOF LAND SYSTEM

(a) Distribution of land forms



(b) Land system diagram

AVERAGE ANNUAL RAINFALL: 13½"–14"

LAND USE: Cropping and grazing



LAND FORM	Type	Plain	
	Approx. percentage of land system Approx. cross-section	Rising ground 100 Several miles	Drainage line
PARENT MATERIAL		Parna	Parna and/or clay alluvium
NATIVE VEGETATION		Grassland alternating with savannah and woodland containing black box with less buloke	Woodland of black box
SOIL	Textural group	Light clays	Heavy Clays
	Morphological group	Light clays	Grey heavy clays
	Proportion on land form	Dominant	Minor
	Moisture characteristics	Poor	Very poor
	Fertility reserves	High	
LAND USE	Most suitable form	Cropping and grazing	Grazing
	Nutrients required in fertilizers	P	
	Recommended pastures	Barrel medic (?) Wimmera ryegrass	Barrel medic Wimmera ryegrass Native grasses
	Land use class	1	3
WIND EROSION HAZARD		Slight	
OTHER HAZARDS		Deterioration of topsoil structure by cultivation	Flooding

In north-western Victoria the dense array of undulating land forms—the dunes, jumbled dunes, hummocks and ridges—weakens towards the south-east. The hummocks extend furthest in this direction. In the Boigbeat land system to the east of Sea Lake they occupy most of the landscape. They become scattered further to the south-east in the Culgoa land system. Finally, in the Wycheproof land system, hummocks are no longer found and the country consists entirely of plains (Fig. 23). This marks the beginning of the Riverine Plain (*sensu* Butler, 1950) which is a vast area of subdued relief to the east of the undulating landscapes of north-western Victoria and of adjacent parts of New South Wales. The Riverine Plain embraces the Riverina district of New South Wales and the north-central districts of Victoria. Although the subdued relief is the result of stream deposition, Butler (1956) has shown that some of the materials on the plain, including the surface strata in the Wycheproof land system, have originated as dust (parna) which blanketed the stream deposits.

The Wycheproof land system occurs just beyond the fringe of the mallee vegetation so that it marks the beginning of not only a new physiographic region but also of country on which the native vegetation communities are more open. The native trees are buloke, black box and yellow gum which continue as dominant species in the east across the plains of northern Victoria and also to the south in the Wimmera. The Wycheproof land system contains only scattered trees and it is not possible to assess their original density accurately. The communities may have been savannah woodlands containing a predominance of buloke on the rising ground alternating with woodlands containing mainly black box in drainage lines. Yellow gum occurs in both situations in the southern parts of the land system, marking the northernmost and driest extent of this species on rising ground in Victoria. It extends further to the north in drainage lines, for example along Tyrrell Creek it penetrates almost to Lake Tyrrell and along Yarriambiack Creek it has been observed at Dattuck.

Although the country mapped as the Wycheproof land system occupies only approximately 190 square miles, it is more extensive to the south and east of the surveyed area. It was settled earlier than the land immediately to the north which carried dense thickets of mallee. The soils are heavy and thus they severely limit production in light-rainfall years. However the rainfall which averages almost 14 inches per annum has proved sufficient for cropping to be economical. The erosion hazard is slight.

The predominant soils are light clays. Unlike soils of equivalent texture in other land systems, these soils are only weakly gilgaied and their surfaces are mainly uniformly red-brown, lime-free and of approximately neutral pH. They have been intensively cropped since settlement yet their fertility remains high. The main problem is the deterioration in topsoil structure and longer rotations are required for structural improvement. Investigations are needed, however, to determine the most suitable species. Barrel medic does not appear to thrive on these soils as well as it does on the light clays of other land systems which have well-structured, alkaline surfaces. An early strain of subterranean clover may be more suitable. As on the heavy soils in the Hopetoun and Culgoa land systems another aspect requires investigation, namely the extent to which crops may "bum off" during dry spells if the nitrogen levels are raised too high by leguminous pastures. A non-legume such as Wimmera ryegrass may be a more suitable pasture species.

Grey heavy clays occur in shallow drainage lines which trend in a general N.N.W. direction. These soils are too heavy for economical cropping and where they occur in areas large enough for differential management they are used for light grazing only.