

Boigbeat Land System

Fig. 24 – Boigbeat Land System

BOIGBEAT LAND SYSTEM

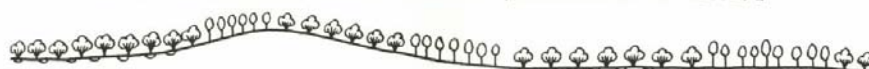
(a) Distribution of land forms



(b) Land system diagram

AVERAGE ANNUAL RAINFALL: E of Sea Lake 12½"-13", S of Robinvale 11½"
Walpeup 12½", Chinkapook 12½", Yarrara 10½"

LAND USE: Cropping and grazing, timber reserves predominate at Yarrara



LAND FORM	Type	Hummock		Plain		
	Approx. percentage of land system Approx. cross-section	70 100 yards-1 mile		30 20 yards-¼ mile		
PARENT MATERIAL		Parna (on gentle slopes generally towards base)	Coarse saltation material and parna (on moderate and steep slopes)		Parna	Coarse saltation material and parna
NATIVE VEGETATION		Mallee and woodland of pine, belar, with buloke in south			As for hummock	
SOIL	Textural group	Light clays	Sandy Loams		Light clays	Sandy loams
	Morphological group	Light clays	Group A (on moderate slopes)	Group B (on crests and upper eastern slopes of steeper rises)	Light clays	Group A Group B
	Proportion on land form	Minor	Dominant	Subdominant	Codominant	Codominant Minor
	Moisture characteristics	Poor	Moderate		Poor	Moderate
	Fertility reserves	High	Moderate		High	Moderate
LAND USE	Most suitable form	Grazing	Cropping and grazing		Grazing	Cropping and grazing
	Nutrients required in fertilizers	P		P		
	Recommended pastures	> 12" barrel medic, Wimmera ryegrass < 12" native grasses	Barrel medic, Wimmera ryegrass		> 12" barrel medic, Wimmera ryegrass < 12" native grasses	Barrel medic, Wimmera ryegrass
	Land use class	3	2 (a)		3	2 (a)
WIND EROSION HAZARD		Slight ← easterly lower heavier soils	westerly higher lighter soils → severe		Slight	Moderate
OTHER HAZARDS		Dry land salting	Channel seepage salting		Dry land salting	

To the east of Sea Lake there is an area of some 270 square miles which has been mapped as the Boigbeat land system. In this district the landscape is composed of a plain on which there is a dense array of hummocks which are typically one quarter to half a mile across (Fig. 24). They form an interesting pattern on aerial photographs (Plate 28). The same two land forms occupy the adjacent Culgoa land system but here the hummocks are less dense and the plains more extensive. Both land systems occur just beyond the limits of sand dune country.



Plate 28 – Aerial photograph of part of the Boigbeat land system. In the Parish of Boigbeat to the south-east of Sea Lake. The hummocks form a pattern which can best be seen in the paddocks to the left of centre. The dark shading represents relatively small areas of plains in low sites between the hummocks.

The Boigbeat land system also occurs in several isolated areas further to the north in the Robinvale district (93 square miles), near Yarrara (57 square miles), to the north of Lake Tyrrell (51 square miles), in the Walpeup district (20 square miles) and to the west of Bolton (8 square miles). The aggregate area of the land system is thus approximately 500 square miles. There are also several areas too small to indicate at the scale of mapping used, for example at Torrita and Carwarp. Compared with the area to the east of Sea Lake, the more northerly areas have larger and less regularly arranged hummocks. They are also associated with locally high land, or physiographic highs (see section on Physiography). Dunes are absent or infrequent forming a marked contrast with the surrounding Central Mallee or Millewa land systems. The lack of dunes on locally high land is atypical because it is usually on these sites that the dunes are most dense.

The more northerly areas of the land system also have distinctive native vegetation in which pine, belar, buloke, or pine-belar woodlands predominate amongst smaller proportions of mallee. Only a small portion of the area near Yarrara has been cleared and the remaining pine-belar forest forms a most attractive reserve. In the area to the east of Sea Lake mallee predominates as in adjacent land systems.

Medium textured soils predominate in all areas of the land system. Sandy loams of Group A are the main soils of the hummocks. However on the steeper upper slopes sandy loams of Group B are found. Gilgaied light clays occur to the east of Sea Lake in the relatively small areas of plains in low sites. In these situations further to the north the soils are mainly light clays or sandy loams of Group A.

Except in the uncleared Yarrara district and in portion of the Robinvale area where vines are irrigated, the land is used for cropping and grazing. It is particularly well suited to cropping, because of the high proportion of medium-textured soils. Although the sandy loams suffer from wind stripping, particularly the sandy loams of Group B towards the crests of hummocks, the overall erosion hazard is relatively low owing to the lack of dunes. Agricultural productivity is affected by the variation in climate in the various occurrences of the land system. The average annual rainfall is 10½ inches at Yarrara, 11½ inches at Robinvale, almost 12 inches to the west of Bolton, 12½ inches at Walpeup and to the north of Lake Tyrrell, and 12½-13 inches to the east of Sea Lake. The southern portion of the latter area, is one of the most productive cropping districts within the region.

Plate 28 shows that to the east of Sea Lake the heavier soils of the low sites between hummocks typically occur in small, scattered areas so that their separation into paddocks which can be treated differently is usually impracticable. The same problem occurs in the more northerly parts of the land system but here it can be overcome more frequently because the hummocks and intervening plains are generally of larger dimensions. However, because of the predominance of soils of the

one textural group, namely the sandy loams, the need for re-organizing the fencing layout within the Boigbeat land system is less than in other undulating areas.

There is considerable scope for increasing the carrying capacity of pastures by extending the area sown to barrel medic, Wimmera ryegrass and harbinger medic. The latter may be the most suitable legume in the drier, northern districts. Lucerne provides less feed and is less drought-resistant than on dune sands of adjacent land systems. However, it should be included on portions of each farm to extend the season in which green feed is available. As far as possible the lightest soils on the farm i.e. the sandy loams of Group B, should be selected for this purpose. The problem of the susceptibility of lucerne to drought becomes less serious as the rainfall within the land system increases. Apart from their role in increasing the stock-carrying capacity, legumes are also required, particularly in the higher rainfall districts, to increase the supply of soil nitrogen for cereal crops.