

## EILDON LAND SYSTEM



Plate 21 – Cleared hills of the Eildon land system surround Lake Eildon

The foothills and lower ridges on Ordovician or Silurian sediments surrounding the reservoir support dry sclerophyll forests. These have been mapped as the Eildon land system.

The area receives an average annual rainfall of 650-750 millimetres and is dry in late summer. The climate is thus similar to that of the Mansfield land system.

The natural vegetation consists of a dry sclerophyll forest of red stringybark, long-leaved box, red box and yellow box, in that order from ridge to lower slope. Broad-leaved peppermint and candlebark may be present in the higher rainfall fringe. The shrub layer is not consistently developed. It includes box thorn (*Bursaria spinosa*), sheoak (*Casuarina stricta*) and wild cherry (*Exocarpus cupressiformis*), and is more conspicuous in dry sites where the dominant canopy is open. Grass trees (*Xanthorrhoea minor*) were probably common. The ground cover is mainly kangaroo grass and *Poa spp.* In places this is now quite open, although under climax conditions the floor is virtually closed.

The boundary with the Mansfield land system is marked by a belt of yellow box. The boundary with the adjacent, higher Maintongoon land system is transitional, and on sites where sharp increases in the average rainfall occur, red box, candlebark, broad-leaved and narrow-leaved peppermint, red stringybark and long-leaved box may all be present in a narrow belt of dry sclerophyll forest. About half of the land system in the catchment, mainly to the north and east of Lake Eildon, has been cleared.

Lithosols on knolls, pallid leptopodsols on upper slopes and yellow podsolics on lower slopes are the chief soils. All respond to the application of superphosphate and usually to molybdenum. The leptopodsols are poorly supplied with calcium and have a relatively low potassium content; both nutrients may eventually be required as fertilisers. Podsolic soils have relatively low calcium content but have adequate potassium.

Clayey subsoils, particularly in the podsolic soils, are dispersible and hence prone to tunnel and gully erosion. Thus the cleared parts of the Eildon land system are the most eroded in the whole catchment.

Clearing of the predominant long, steep slopes has caused excessive runoff with a high incidence of sheet erosion at upper levels. In turn, severe and widespread gullying and stream bank erosion occurs on the lower slopes.

Cleared areas are used for grazing, formerly mainly by sheep but now by a greater proportion of cattle. The degree of development and improvement is not as great as in the Mansfield land system. The potential is not as great and the problems are more severe because of the steeper terrain and less fertile soils.

As with the Mansfield land system, it is estimated that only about twenty per cent of the rainfall reaches Lake Eildon. This constitutes only about three per cent of the total inflow. In the cleared

areas, overland flow is a significant cause of gully and sheet erosion, contributing to sedimentation of the lake.

The cleared portion of the Eildon land system, together with the Mansfield land system, produces the bulk of the sediment entering the storage, while contributing only five per cent of the water.

Thus management should have some economic value for lower grade forest produce such as firewood, posts, poles and small timber. The major aims of forest management are directed towards protection of the vegetation cover, landscape values and wildlife habitat from damage by fire and other agencies. The forest in its climax condition has closed floor of poa grasses and small herbs. Moisture stress limits their growth over most of the year and re-establishment of plants on bare areas is slow. Consequently, this surface vegetation is vulnerable to fires, and even controlled burning should be avoided, except for slash disposal. The climate and soils of this land system are not particularly suitable for *Pinus radiata* but pine plantations, purely as a measure to protect the soil, may be desirable in some cleared areas.

To avoid creation of further problem areas, the steeper timbered country should not be cleared. If well managed, the lower slopes and valley bottoms could be utilised safely, but it is difficult to justify further clearing in view of the undeveloped areas which have already been cleared.

The chief problems of the cleared areas are the same as those described for the hilly land in the Mansfield land system, but the effects are more severe. There is a more urgent need for deep rooted perennial plants, for the re-subdivision of farm lands to conform with land classes and for grazing by cattle rather than sheep.

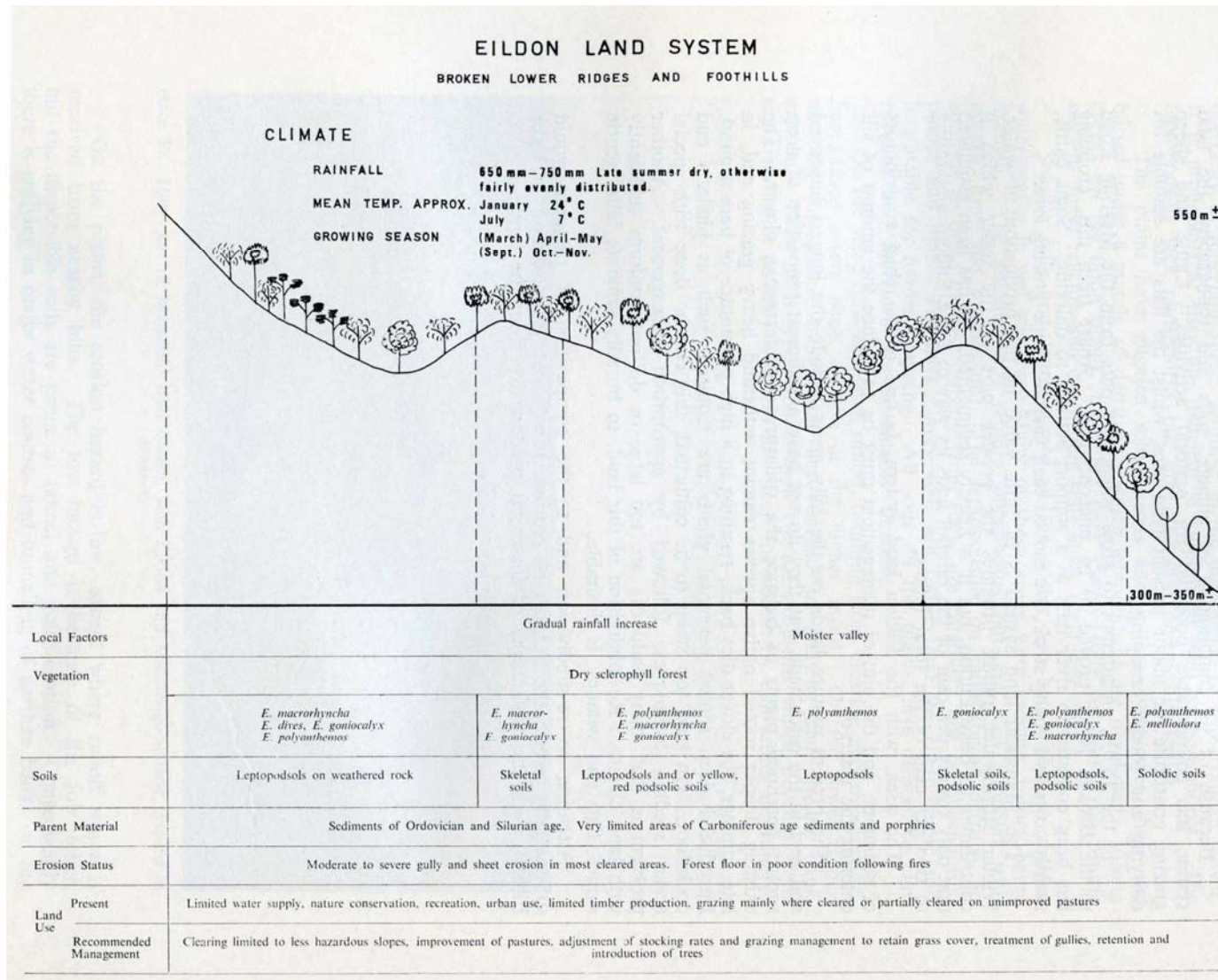


Figure 17 – Eildon land system