MAINTONGOON LAND SYSTEM

Plate 22 – Timbered hills of the Maintongoon land system rise above the cleared slopes of the Eildon land system

The transitional zone of lower ridges between the Eildon and Jamieson land systems has been separated as the Maintongoon land system. The average annual rainfall varies from 750-1000 millimetres with elevation. Summers are dry so that there is a more pronounced winter rain incidence than on the lower country.

As with all others except the Mansfield land system, most of the parent rock consists of Silurian or Ordovician sediments. Red leptopodsols are the predominant soils. On wet sites a limited accumulation of organic matter produces cryptopodsols.

The red leptopodsols are superior in both physical properties and inherent nutrient levels to the soils of the Eildon land system, but if they are used for agriculture, application of superphosphate and lime is needed. Much of the plant nutrient reserve is concentrated in the topsoil, as in the wetter land systems.

The vegetation is transitional from the box woodlands and dry sclerophyll forests of the Mansfield and Eildon land systems to the peppermint forests of the Jamieson and higher land systems. Where rainfall increase is rapid and the Manintongoon land system forms a narrow zone, all the eucalypts of the box woodlands and the peppermint forests may be present locally, but where the increase is less rapid and the land system is more extensive, a characteristic sequence of native vegetation is found with topography. Such a sequence consists of an open forest of long-leaved box, broad-leaved peppermint, red stringybark, red box, blue gum, and swamp gum, in that order from ridge to gully. In the higher rainfall fringe, narrow-leaved peppermint and candlebark are present.

Th shrub layer is seldom conspicuous and is discontinuous. In gullies, curry bush (*Cassinia aculeata*), silver wattle *(A. dealbata*), and wild cherry (*Exocarpus cupressiformis*) are typical. Grass trees (*Xanthorrhoea minor*) are found in profusion in some areas, as colonisers after infrequent fire, and probably would have once been indigenous throughout much of this and the Eildon and Mansfield land systems. The natural forest floor is closed, with tussock grass and small plants, but in many places sheet erosion has made the floor bare except for sparse litter. The forests of this land system, and of the Eildon land system, are very vulnerable to the after effects of fire. In particular, damage to soil hydrological properties occurs, mainly because revegetation of floor is slow.

A major erosion hazard is caused by clearing, overstocking or burning, because of the long steep slopes, and the land system is in poor condition. It also carries a higher rabbit population than adjacent areas.

Because of the steepness, only a small proportion has been cleared and grazed. In these cleared areas, a management problem is caused largely by scrub re-growth, particularly of tea-tree (*Leptospermun ericoides, syn, Kunzea peduncularis*), rather than the dominance of shallow rooted annual plants, as in

the Eildon land system. Because of the higher rainfall, reduction of grazing pressure would considerably lessen the hazard of sheet erosion. Small areas of forest are also grazed, and where stock numbers are kept low and fire kept out, the ground cover has remained adequate. Consequently, some strictly controlled forest grazing, preferably by cattle, could be safely permitted. The same grazing controls could be extended over adjacent areas of the more easily damaged Eildon land system. As conditions in the Maintongoon land system are suitable for the growth of St. John's wort (*Hypericum perforatum*), there is a risk that it will invade the sward from pockets where it is already established.

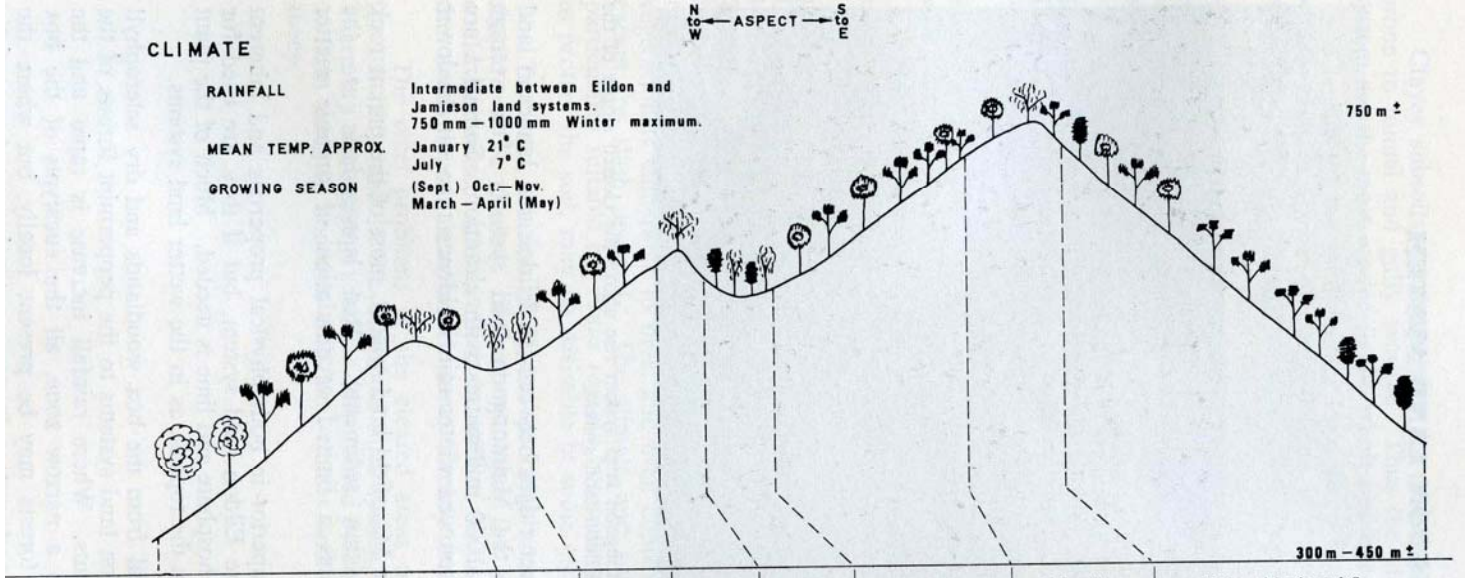
The forests produce small round timbers and poles, of which there is an increasing shortage in Victoria, and with careful management they could be a limited source of processed wood products.

Value as water catchment is slight and significant amounts of sediment are produced. Summer flow is slight. It is calculated that about 25 per cent of the average rainfall (180 mm per year) reaches the reservoir and this, because of the limited extent of the land system, constitutes only 2.5 per cent of the total inflow. The poor condition of long, steep slopes near to the main streams has probably widened the fluctuations in flow.

The greatest need and most important objective of any management program in this land system however, would be to keep a good surface cover and porous topsoil on the long steep slopes. Logging and grazing should be subordinated to this need and burning minimised. Burning poses a particular hazard to soil fertility, because of the concentration of nutrients in topsoils.

MAINTONGOON LAND SYSTEM

LOWER STREAM DISSECTION PATTERN; VALLEY AND RIDGE



Local Factors	Lower slope	Lower ridge	Lower gully	Slope	Ridge	Higher wet gully	Upper slope	Major ridge	Fringe of Jamieson L.S.
Vegetation	Dry sclerophyll forest								
	E. dives *E. polyanthemos* *E. macrorhyncha*	*E. macrorhyncha* *E. goniocalyx*	*E. st-john-johnii*	*E. dives* *E. macror-hyncha*	*E. gonio-calyx*	*E. st-johnii* *E. radiata*	*E. dives* *E. macrorhyncha*	*E. dives* *E. macrorhyncha* *E. goniocalyx*	*E. dives* *E. radiata* *E. rubida* *E. macrorhyncha*
Soils	Leptopodsols, podsolic soils	podsolic soils	Crypto-podsols	Podsolic soils	Skeletal soils	Crypto-podsols	Podsolic soils	Podsolic skeletal soils	Podsolic soils, cryptopodsols
Parent Material	Ordovician and Silurian sediments and slope mantles derived from these.								
Erosion Status	High sheet erosion, high percentage of bare floor		Sound	Sheet erosion except where unburnt		Sound	Severe sheet erosion, sound where unburnt		Sound in general
Land Use — Present	Nature conservation Limited water supply Limited timber production Recreation Limited areas ringbarked or cleared for grazing								
Land Use — Recommended Management	Minimal burning, controlled grazing under forest, minimal clearing to protect water supply values.								

Figure 18 – Maintongoon land system