

MOORNGAG LAND SYSTEM (Figure 27)

Area: 40 square kilometres
2 percent of catchment

| Topography | Lower slopes and ridges from about 300 m elevation. | Lower valleys | Mid-elevation slopes. | Higher valleys | Higher slopes and ridges up to about 600 m elevation. |
|--------------------|---|---|---|--|---|
| Climate | Average rainfall from about 760 mm in lower areas to about 1150 mm at higher elevations. Growing season: March-May and September-December. Estimated average temperatures: Jan 18°C-22°C; July 4°C-5°C. Estimated evapotranspiration: Jan 115 mm; July 13 mm; Year 660 mm at mid-elevation. | | | | |
| Parent Materials | Ordovician or Silurian age sedimentary rocks, mainly shales and mudstones which weather yellow; some sandstone. Slope mantles of colluvium and rock outcrops common throughout. | | | | |
| Soils | Weakly bleached gradational soils; reddish and some yellowish duplex soils. | Friable, brownish gradational soils. | Stony loams; stony, weakly bleached gradational soils. | Friable, reddish gradational soils with weakly structured subsoil, and stony, weakly bleached gradational soils. | Stony loams, friable reddish gradational soils with weakly structured subsoil and friable brownish gradational soils. |
| Vegetation | Open forest of red box, red stringybark and broad-leaf peppermint, with long-leaf box on ridge tops. | Open forest of blue gum and broad-leaf peppermint. | Open forest of red stringybark and broad-leaf peppermint. | Open forest to closed forest narrow-leaf peppermint and blue gum. | Open forest to closed forest of narrow-leaf and broad-leaf peppermint with candlebark gum; candlebark gum dominant on ridge tops. |
| Land Use | Mainly unused. | Some timber production. | Unused. | Some timber production. | Mainly unused; some timber production. |
| Erosion Hazard | Moderate to high hazard generally. | | | | Lower hazard in higher rainfall areas. |
| Erosion Status | Generally sound; sheet erosion where ground cover is depleted. | Sound | Generally sound. | Generally sound. | Generally sound. |
| Potential Land Use | Management to maintain ground cover; some timber production, predominantly firewood and poles; wildlife habitat. | Catchment protection and timber production; wildlife habitat. | Catchment protection, wildlife habitat. | Catchment protection and timber production; wildlife habitat. | Catchment protection and timber production; wildlife habitat. |

MOORNGAG LAND SYSTEM

(See Fig. 27)

The Moorngag land system consists of steep country in the upper Valleys in areas of sedimentary rocks of Ordovician and Silurian Age, which receive moderate to high rainfall. It represents the higher rainfall, higher elevation extension of the Lurg land system. The Moorngag land system covers the climatic, and to some extent the topographic, range of the Eildon and Maintongoon land systems of the Eildon catchment (A. S. Rundle, in preparation). It occupies only about 40 square kilometres within the Broken River catchment (2 per cent.), most of which is immediately to the west of Mt. Samaria. There is also a small portion adjoining the Eildon land system in the Barjarg area. It is a very common land system elsewhere in north-eastern Victoria.

The topography ranges from fairly gentle lower slopes and ridges, through steeper slopes and higher ridges, to quite high and steep ridges. The climatic pattern follows the topography, and the rainfall increases from approximately 760 mm in the foothills at about 300 m, up to about 1150 mm per annum on the upper areas over 600 m elevation.

The vegetation pattern is related to the climatic trend, and ranges from a dry open forest of red box, red stringybark and broad-leaf peppermint with long-leaf box on the lower ridges, through to open forest of candlebark gum and narrow-leaf peppermint with blue gum in the valleys on the higher slopes. The lower valleys typically have blue gum and broad-leaf peppermint, with red stringybark on the ridge tops. The land system spans the climatic gradient between the box forests and the peppermint gum forests.

The soil pattern is similarly related to the climatic trend, and in the lower areas there are weakly-bleached gradational soils and reddish and yellowish duplex soils. Friable brownish gradational soils, which tend to be paler and not as friable as is typical of the group, are present on the steeper slopes of the lower valleys and on sheltered aspects. In the higher valleys and on the ridges, undifferentiated stony loams, friable reddish gradational soils usually with weakly-structured subsoil, and weakly-bleached gradational soils are common. Friable brownish gradational soils and friable brown clay loams occur on the slopes in the higher rainfall parts of the land system.

Parts of the higher rainfall areas of the land system are selectively logged, and the whole land system would form a valuable area for wildlife conservation.

The land system does not have a very high potential for development. Management for timber production would be possible on the better sites, however, the drier parts of the land system are not suitable for timber production nor would they be suitable for clearing for agricultural development. The erosion hazard on the steep slopes is fairly high, but under forest erosion is very limited. Erosion in this area chiefly takes the form of sheeting after fires. Only the higher rainfall areas yield useful runoff, but this constitutes only a very small proportion of the Broken River catchment. In general it is at present in good condition.

The most suitable use of the lower forest areas would appear to be for firewood, fence timbers and pole production for local use, and for catchment protection. The higher areas and the wetter gullies may be suitable for more intensive management for the production of millable logs. These objectives would also seem to be compatible with wildlife conservation.

For greatest catchment efficiency the area should be maintained under a sound forest cover, and in particular the vegetative cover of the forest floor should not be allowed to deteriorate. On some of the steeper slopes where extraction of the existing timber may be economically doubtful, and the damage to the catchment could be serious, these areas would be best left unlogged.