PINNIBAR LAND SYSTEM

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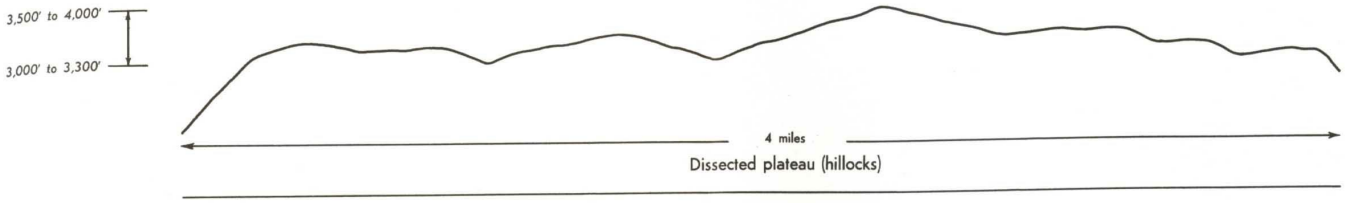
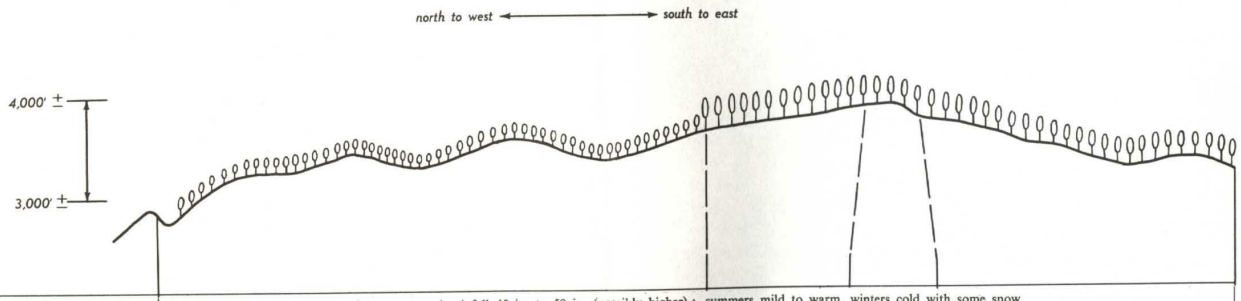
Area: 45 square miles 1·2% of catchment

(a) Distribution of land forms



(b) Land system diagram



Climate	Average annual rainfall 45 in. to 50 in. (possibly higher); summers mild to warm, winters cold with some snow			
Geology	Mostly Ordovician shales and mudstones, some quartz porphyry, schist and granite			
Topography	Rolling to hilly with some short steep slopes			
Land Form	Dissected plateau (hillocks)			
Soil Groups	Amphipodzols to cryptopodzols	Acid brown earths	Transitional alpine humus soils	Acid brown earths to cryptopodzols
Vegetation Structure	Wet sclerophyll forest			
Vegetation Floristics	*E. radiata–E. rubida–E. dives* alliance	*E. delegatensis* alliance		
Present Land-use	Forestry—catchment protection; limited utilization for mill-logs. Licensed cattle grazing	Forestry—catchment protection and utilization of seasoning-quality timber from the *E. delegatensis* forests. Licensed cattle grazing		
Potential Land-use	Forestry—catchment protection; improvement of stand quality and more intensive utilization. Controlled cattle grazing.	Forestry—catchment protection; improved yields of higher quality timber should be possible. Controlled cattle grazing		
Hazards	Erosion hazard generally low; soil exposed and compacted by roading or logging may rill. Fire may destroy the valuable *E. delegatensis* forests, and generally lowers the growth rate			
Problems	Fire protection; provision of access; removal of the fire-induced scrub to decrease fire hazard and improve grazing value. Phasmatid defoliation could become serious if large areas of *E. delegatensis* forest are attacked			

Fig. 21 – Pinnibar Land System

The Pinnibar land system is located in the central-east of the catchment and consists of three separate areas which make a total area of about 45 square miles, which is a little over one per cent. of the catchment. The land system is entirely Crown land.

This is a simple land system consisting of rolling to hilly plateau remnants with some short steep montane slopes (Figure 21). The elevation ranges from about 3,000 feet to 3,200 feet in the north-west to about 3,500 feet to 4,000 feet in the eastern block. These areas are probably remnants of 4n extensive plateau which included the plateaux of the Bunjil and Koetong land systems, and are thought to have been part of the pre-Kosciusko uplift surface.

Ordovician fine sandstones, mudstones and shales, form most of the land system. There are some small areas of schists and grey granite in the east, and the quartz porphyry which occurs along the mid-Mitta Mitta River valley extends up into the western part of the land system.

Average annual rainfall is about 45 inches to 50 inches with some falls of snow during winter. The distribution of rainfall shows a winter maximum, and over most of the area soil moisture is never a limiting factor for plant growth in average or better years. This is partly due to the lower temperatures experienced as a result of the moderately high elevation.

Acid brown earths occur over most of the land system but cryptopodzols occur in drier areas, and at the higher elevations transitional alpine humus soils have a limited distribution.

The vegetation is wet sclerophyll forest in which two alliances are found. The *E. delegatensis* alliance occurs at the higher elevations and on southerly aspects at the lower elevations. In places a dense understorey of *Daviesia latifolia* and *Bossiaea foliosa* may occur. The understorey, however, is not always as dense, and in some parts of the land system the open, grassy forest floor, which is thought to be the climax form, may be found The *E. radiata-E. rubida-E. dives* alliance, the other floristic group, occupies the drier sites. The understorey is similar to that of the *E. delegatensis* alliance. Repeated burning of the forest floor under both alliances is regarded as the cause of the development of the thick scrub, the dominant species of which are almost always legumes.

Erosion is not a problem in this land system as the soils are permeable, and vegetation recovery after damage is fairly rapid. Roads and log landings, where the soil is compacted, are the most likely areas to erode.

This land system is of importance because of the quantity of high-quality timber it produces. Two sawmills obtain their supplies of logs from the area. A number of perennial streams originate in these areas, and because of the high rainfall and moderate to low temperatures, they have a relatively high yield of useful water. Parts of the land system, particularly in the east, have been grazed with cattle for many years under an annual licence system. In recent years the intensity of this grazing

has fallen off because the development of thick scrub has reduced the available forage. The present intensity of grazing does not appear to be affecting the regeneration of the logged E. *delegatensis* stands.

Fire in these valuable forests has reduced the quality, and to a certain extent, quantity of the present timber crop. Butt scars caused by ground fires allow the entry of termites and wood-rotting fungi, and many feet of the butt may have to be discarded because of the damage. A severe fire could completely destroy the present crop ; mild ground fires increase the butt damage and periodic fires cause an increase in scrub density. Fire protection is thus of vital importance in this land system.

Existing roads provide good major access, but a link with the eastern valleys for normal vehicle traffic is necessary, and additional access in drier northern areas is probably desirable. By ensuring that snig tracks in logged areas are kept clear, these areas are broken up and relatively rapid vehicular access is possible. Management of the forests to yield a maximum of the higher grades of produce on a perpetual yield basis, should be the aim for this land system. Grazing does not appear to cause any damage and may be acceptable, although control of stock numbers and periodical inspections to see that damage does not occur would be necessary.