THE FEATHERTOP LAND SYSTEM

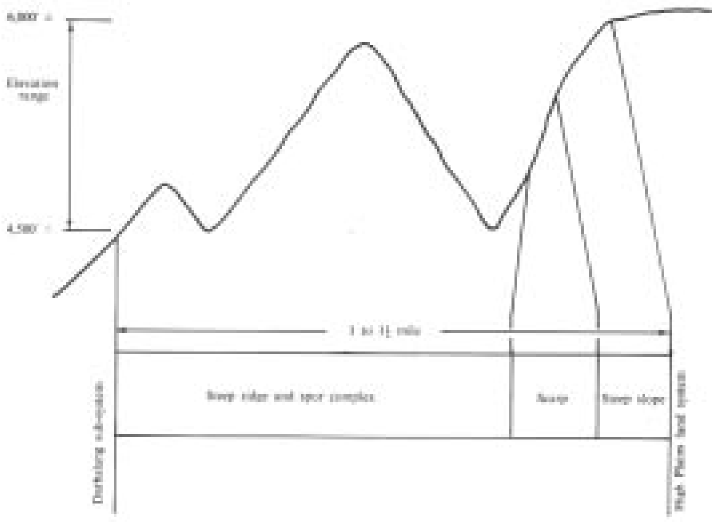
LIST OF FIGURES

LIST OF PLATES

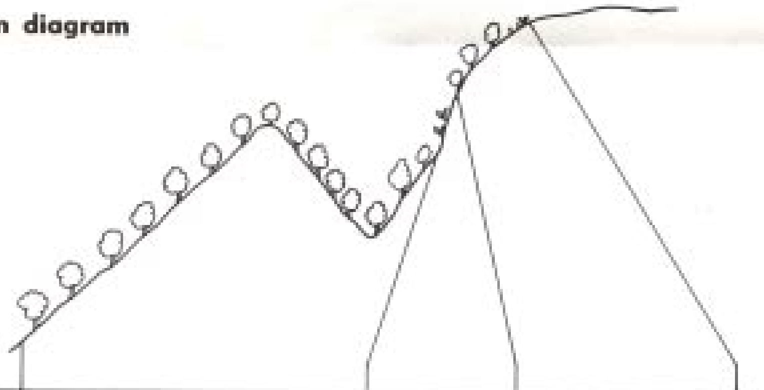
FEATHERTOP LAND SYSTEM

Map symbol F

(a) Distribution of land forms



(b) Land system diagram



Climate	Average annual precipitation in excess of 50 in.; persistent winter snow. Estimated average temperature range: Jan. [illegible]; July [illegible]		
Geology and soil parent material	Ordovician slates to west of West Kiewa; elsewhere mainly gneiss and schist; some granodiorite and mylonite		
Land form and topography	Steep to very steep slopes	Precipitous scarp	Steep to very steep slopes
Soils	Deep to shallow organic loams, undifferentiated stony loams	Rock, scree, undifferentiated stony loams	Shallow organic loams, undifferentiated stony loams
Vegetation formation	Sub-alpine woodland to tall woodland; some wet sclerophyll forest	Alpine herbfield	Sub-alpine woodland to wet mallee; some grassland, herbfield or shrubs
Vegetation floristics	Snowgum, sometimes with mountain gum; small patches of alpine ash at lower elevations	*Brachycome nivalis–Danthonia alpicola* alliance	Snow gum; snow grass, snow daisy, and shrubs typical of the High Plains land system
Present land-use	Protection forestry; summer grazing of cattle; water supply	Nature conservation	Protection; summer grazing of cattle
Potential land-use	Protection forestry; summer grazing of cattle; water supply	Nature conservation	Protection
Erosion hazard	Moderate to high sheet erosion hazard	Unstable; high hazard for mass movement	High sheet erosion hazard
Problems	Fire protection; control of grazing; access to some areas	Maintenance of stability	Fire protection, access to some areas

Fig 20 - Feathertop Land System - Distribution of land forms/land system diagram

10. FEATHERTOP LAND SYSTEM

This land system is located just below the High Plains land system and above the Darbalang sub-system of the Tawonga land system. It is confined to the steep slopes of the catchment boundary and major valleys in the south. It has an area of 31 square miles which is 41 per cent of the catchment.

Part of the land system is within the Crown grant area held by the State Electricity Commission but most of it is Crown land with a small proportion of Reserved forest.

The distribution of land forms and the land system diagram are presented in Figure 20 (a) and (b).

The climate closely resembles that of the High Plains land system. Average annual precipitations of more than about 50 inches and persistent winter snow are the rule. Estimates of average temperatures indicate a range from about 59° F. to 53° F. in January to only 35° F. to 30° F. in July. The effects of the trapping of cold air on frost frequency would be much less than on the High Plains and the frost-free period is probably longer. Exposure to the prevailing north-westerly winds imposes another climatic stress which is reflected in the vegetation.

A variety of rocks is represented in the land system. To the west of the West Kiewa River the dominant rocks are the Ordovician slates and shales known as the Hotham slates. Mylonite occurs in the head of the West Kiewa below Mt. Jim and granodiorite occurs in the Niggerhead area, around Mt. McKay and on the Fryingpan spur. Elsewhere gneiss predominates, tending towards schist in the east.

The topography is generally steeper than in the adjacent Darbalang subsystem, and there are some precipitous escarpments, particularly in the western part of the land system (Plate 39). This is the most youthful landscape in the catchment and parts of it are geomorphologically unstable. Elevations range from 4,000 feet to over 6,000 feet.

Plate 39 - Headwaters of the Diamentina River, a tributary of the West Kiewa River. Much of this area is within the Feathertop land system. Snow gum woodland and alpine herbfield of the High Plains land system are shown in the foreground. Mt Feathertop is in the left-of-centre background

The soils are typical of the high elevation soil sequence, however, because of the generally steep slopes, very stony forms are common. The lower elevations have mainly deep organic loams but friable brownish gradational soils may occur on warm aspects. Shallow organic loams occur on the higher elevation slopes. Bare rock, scree and undifferentiated stony loams occur on the precipitous scarps.

The dominant vegetation, which consists of snow gum *(E. pauciflora)*, ranges in form from tall woodland at the lower elevations through sub-alpine woodland to wet mallee and even wet scrub on the highest and most exposed areas (Plate 40). Mountain gum *(E. dalrympleana)* occurs with the snow gum at the lower elevations.

Snow grass *(Poa australis)* forms a more-or-less continuous ground cover and a large number of shrub species occur, usually forming a fairly continuous stratum. The vegetation on the scarps is discontinuous and consists mainly of herbs. Costin (1954) has

defined the vegetation on the sub-alpine scarps in the Snowy Mountains of New South Wales as an alpine herbfield of *Brachycome nivalis-Danthomia alpicola* alliance. No study of the scarp vegetation in the Kiewa area has been made in this survey.

This land system forms part of the area having the highest water yield in the catchment. Average annual yields of up to 2,500 acre-feet per square mile may be expected. However, because it is much steeper and more freely draining, and receives less persistent snow, it is not as effective as the High Plains land system in maintaining summer flows in streams.

This area is also subjected to cattle grazing in summer, usually in conjunction with High Plains grazing. Although limited and strictly controlled grazing may be acceptable in the snow gum woodlands at lower elevations, the country over about 5,500 feet and the steepest slopes should not be grazed. The area should be managed for water supply purposes.

The sheet erosion hazard is fairly high, particularly on the scarps and steeper slopes on northerly and westerly aspects and below snow patches. Slumping or rock slides may occur on the scarps and other very steep slopes. Entrenchment of streams will accelerate these forms of erosion.

The protection of this land system from any form of fire is essential. Deterioration of ground cover will lead to soil loss and serious flash flooding in streams. Recovery would be slow.

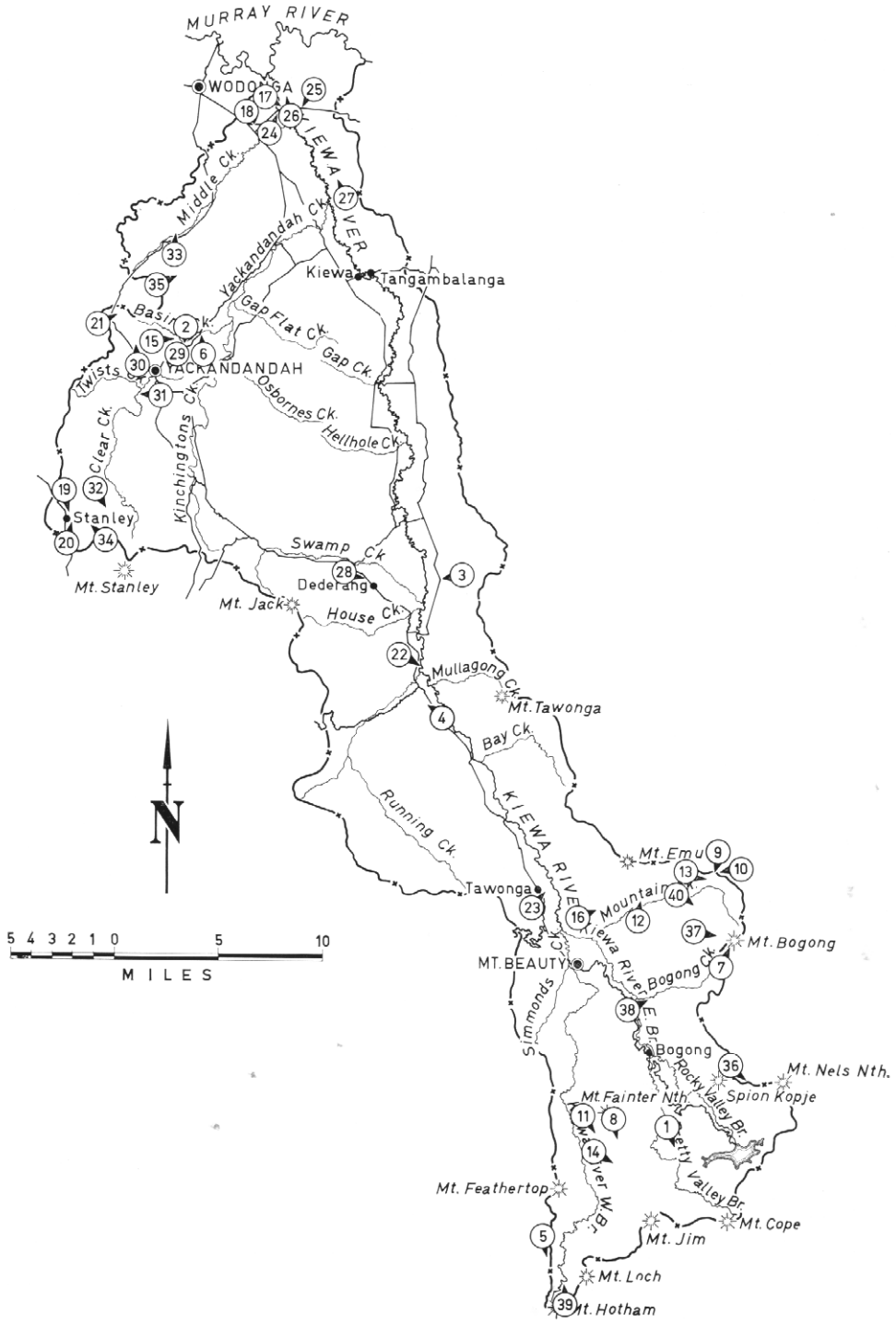


Fig 21 - Plate reference map