

472422

Mackenzies Tier

Restricted to an area north of Lake Echo, Mackenzies Tier land system takes the form of a highland area of undulating plains surrounded on most sides by escarpments. It consists of rocky ridges and crests where solifluction material and rock outcrop are widespread. Marshes are common, and broad valleys with gentle gradients have similar vegetation and soil characteristics.

Organic soils are typical of swamps, valleys and watercourses. Those on watercourses are often underlain by stony, gravelly mineral soils which are probably derived from creek systems. The peats are about 0.40 m deep on both components. Loamy gradational soils with yellow red colours and moderate depths typify well drained crest and ridge components. Slopes support deep, strong brown, duplex soils. All mineral soils are stony, while rocky scree material may be included in the soil profile and is widespread across most surfaces. A layer of organic litter (15 to 20 cm deep) at various stages of decomposition is common under Eucalyptus delegatensis open forest (on crests and slopes). Although annual average rainfall is reasonably high, the forests have a typical dry sclerophyll structure which is probably a reflection of the cold conditions and exposure at these altitudes. Exposed rocky ridges have low woodlands of Eucalyptus cocclifera which usually have Orites revoluta dominating the understorey. Positions such as valleys and swamps, where cold air is likely to collect, are covered by open heath, sedgeland or closed tussock grassland (see photograph). Eucalyptus cocclifera occurs around the edges of these components, while E. gunnii, which is tolerant of poor drainage and cold occurs scattered through this habitat.

Forestry is the only land use and occurs on lower components. Hazards include a low sheet erosion potential and waterlogging. Sheet erosion could become a problem if vegetation is lost through firing. The land system is exposed to extreme weather conditions and frequent frosts which can have serious effects on re-establishment of seedlings in sheet eroded areas.



Tussock grassland dominated swampy areas with surrounding Eucalyptus cocclifera and E. gunnii woodland.

LAND-SYSTEM

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Area (ha):
6372

COMPONENT	1	2	3	4	5
PROPORTION(%)	30	15	15	20	20
RAINFALL (mm)	Approximate Annual Rainfall: 750-1000				
GEOLOGY	Jurassic dolerite				
TOPOGRAPHY	Undulating plains with swamps, rocky crests and ridges				
Position	Slopes	Rocky Crests	Valleys/Watercourses	Rocky Ridges	Swamps
Typical Slope(°)	5-7	5-7	1-3	1-3	0-1
NATIVE VEGETATION Structure	Open Forest	Open Forest	Open Heath	Low Woodland	Closed Tussock Grassland/Sedgeland
Floristic Association (See Appendix 1 for common names)	<u>Eucalyptus delegatensis</u> <u>Cyathodes parvifolia</u> <u>Grevillea australis</u> <u>Coprosma nitida</u> <u>Richea sprengeioides</u>	<u>Eucalyptus delegatensis</u> <u>Lissanthe montana</u> <u>Cyathodes parvifolia</u> <u>Coprosma nitida</u>	<u>Helichrysum hookeri</u> <u>Epacris gunnii</u> <u>Boronia citriodora</u> <u>Orites acicularis</u> <u>Lepidosperma fillforme</u> <u>Restio australis</u> <u>Empodisma minus</u> <u>Poa sp.</u>	<u>Eucalyptus coccifera</u> <u>Orites revoluta</u> <u>Helichrysum hookeri</u> <u>Epacris gunnii</u> <u>Richea acerosa</u> <u>Bossiaea riparia</u> <u>Pultenaea fasciculata</u> <u>Grevillea australis</u> <u>Poa sp.</u>	<u>Poa sp.</u> <u>Lepidosperma fillforme</u> <u>Restio australis</u> <u>Empodisma minus</u> <u>Astelia alpina</u> <u>Abrotanella forsterioides</u> <u>Pterygopappus lawrencii</u> <u>Epacris gunnii</u> (<u>Eucalyptus coccifera</u> and <u>Eucalyptus gunnii</u> on the edges)
SOIL Surface(A)Texture	Organic Loam	Organic Loam	Peat	Silt Loam	Peat
B Horizon(subsoil) Colour (wet) Texture and primary profile form	stony gravelly strong brown (7.5 YR 5/6) light medium clay. Duplex.	Stony, gravelly yellowish red (5 YR 4/6) clay loam. Gradational.	Olive brown (2.5 YR 4/4) stony gravelly sandy clay. Organic.	Stony, red (2.5 YR 4/6) clay loam. Gradational.	Organic.
Permeability	Moderate-low	Moderate		High	
Typical depth(m)	0.80	0.50	0.60	>0.40	0.40
Depth(A)Horizon(m)	0.30	0.10	0.40	0.10	0.40
LAND USE	Forestry				
HAZARDS	Low sheet erosion	ow sheet erosion, waterlogging		low sheet erosion	Waterlogging