872421

Lakes

This large land system covers almost the entire higher plateau surface in the north west of the Central Plateau. It also includes an area of land in the Cathedral Mountain area. The scenery of the region is dominated by intricate lake systems, scoured from the well jointed dolerite country rock during the Pleistocene glaciations. The ice cap responsible had a divide which stretched across the length of the, land system. Other evidence for the existence of an ice cap are roche moutonees, hummocky moraine and glacial erratics. The area is divided into north eastern and south western parts by the Great Pine Tier. The average altitude of the north west is a little higher than the south west. In a broad sense the topography of both surfaces could be described as an undulating plain composed of lakes, swamps, ridges and hills.

The well drained components have stony brown to yellowish brown gradational soils. Although shallow, presumably as a result of ice erosion, soils often attain depths of over 0. 60 m. Top soils have high organic contents, although the effects of recent wildfires has led to the widespread destruction of this layer and the promotion of sheet erosion. Sheet erosion at this altitude can have catastrophic effects as re-establishment of vegetation is hampered by frost heave of seedlings. Here moisture concentrates at the surface, freezes and expands uprooting seedlings. In addition the surface is loosened and the soil is removed by wind and water. On the edges of sheet eroded pavements unprotected root systems are exposed to wind, rain, ice and frost which can lead to undercutting of banks and expansion of eroded areas. Erbsion is often checked at the B horizon by a layer of dolerite rock fragments which effectively 'armour' the sub-soil. This horizon frequently occurs at depths of over 0. 20 m, by which stage many tonnes of top soil have already been lost (see section l0. l). The effects of wildfire may also be observed in areas where organic soils are burnt and underlying mineral soils are exposed to erosive elements. Thick peats (>1. 50 m) occur in sphagnum swamps, but become appreciably thinner on slopes. Organic soil may overlie boulder clay or a mineral horizon of silty to sandy textured material in depressions. soil degradation on the higher plateau surface is widespread due to the effects of fire, but there appears to be limited recovery by both soils and vegetation.

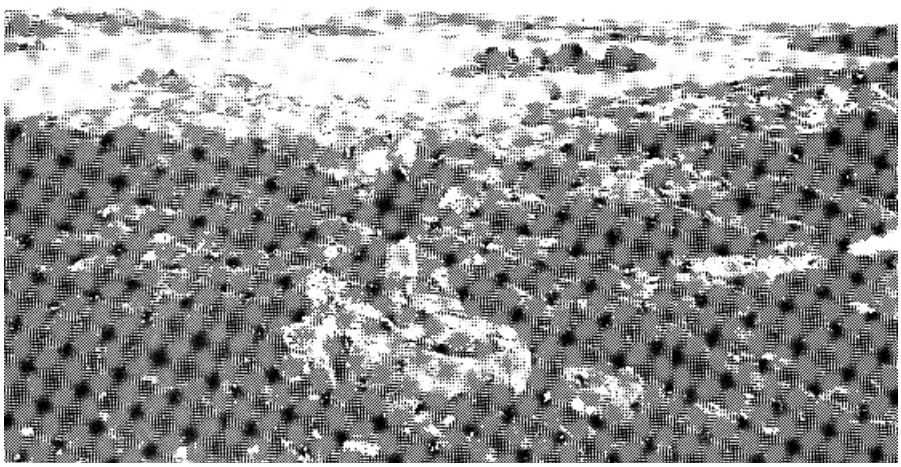
There are areas which are not covered by soil and where rock outcrop or boulder fields predominate. This together with the effects of the 1960/61 fires have produced a landscape with a desert-like appearance.

The vegetation of this upper plateau surface contains a large number of Tasmanian endemics and is probably the most extensive alpine plateau area in Australia (costin 1972). It contains a much higher proportion of woody vegetation than equivalent mainland areas (Kirkpatrick 1983). Heath vegetation has adapted to the extremely harsh environment by assuming prostrate forms while trees undergo height reduction and take on gnarled and twisted 'Krummholz' forms. Exposed well drained ridges support low woodlands of Eucalyptus coccifera and E. subcrenulata while the understorey is commonly colonised by heaths composed of Orites, Richea and Epacris species. In the south of the land system drier sites may be dominated by low open forest of Eucalyptus delegatensis. Richea spp. may grow in wetter swamp components, many of which have thick raised Sphagnum cristatum beds. These raised bogs tend to form above the influence of ground-water (Galvin 1976). The sedges Empodisma minus, Lepidosperma filiforme, and Restio australis commonly inhabit

swampy regions with bolster plant communities, various herbaceous forms and in the south west of the land system (e. g. Travellers Rest Lake) Gymnoschoenus sphaerocephalus dominated plains. Prostrate coniferous species such as Microcachrys tetragona and Podocarpus lawrencii or the dwarf pines Diselma archeri and Mlcrostrobos niphophilus would probably be more widespread in high rainfall areas with a low fire frequency. These fire sensitive species together with Athrotaxis cupressoides and A. selaginoides are more common in the west of the land system. A. cupressoides has survived in eastern areas in or around bogs which afford some degree of fire protection.

This land system includes the Central Plateau Protected Area and the south western part lies within the central Plateau conservation Area which are managed by the Lands Department and the National Parks and Wildlife service respectively. At present it is utilised principally as a recreation area with bushwalking, canoeing, fishing and hunting the main activities. it is a spectacular scenic region with over 4, 000 lakes and tarns.

The greatest hazard in this area is sheet erosion caused by the removal of protective vegetation cover. Fire often initiates the removal of vegetation, particularly on drier ridges where the impact is most notable. Intensive selective grazing of herbaceous vegetation by sheep in the past may have aided the extension of sheet eroded areas. Vehicular access is limited to eastern margins of the land system where tracks are usually closed during wetter winter months. Off road vehicles can have dramatic effects on the hydrologic properties of peat bogs, through increased runoff due to the formation of channels. Fires can have more severe results, as they have the potential to remove large amounts of peat leaving the underlying mineral soil bare to the elements. This also has a profound effect on catchment hydrology, causing increased runoff and siltation.



Julian Lakes with islands (fire protected) dominated by *Athrotaxis cupressoides*. Low open heath dominates the rocky areas in the foreground. Bare hills in the background show the long lasting effects of the 1960/61 fires.

LAND–SYSTEM

Lakes

872421

Area(ha):
56063

COMPONENT	1	2	3
PROPORTION(%)	20	30	50
RAINFALL(mm)	Approximate Annual Rainfall: 2000 - 2500		
GEOLOGY	Jurassic dolerite with Pleistocene glacial deposits		
			Rock outcrop with Glacial Erratics
TOPOGRAPHY		Undulating glaciated alpine plains	
Position	Lakes	Swamps	Ridges and Hills
Typical Slope(°)		0-1	5-10
Structure			Sedgeland in places
Floristic Association (See Appendix 1 for common names)		Sphagnum cristatum Gleicnenia alpina Astelia alpina Richea scoparia R. gunnii Abrotanella forsterioides Pterygopappus lawrencii Epacris gunnii Lepidosperma filiforme Empodisma minus Restio australis Athrotaxis cupressoides Gymnoschoenus sphaerocephalus	Eucalyptus coccifera E. subcrenulata Orites revoluta O acicularis Cyathodes parvifolia Richea acerosa R. scoparia Coprosma nitida Boronia citriodora Baeckea gunniana Lissanthe montana Epacris Serpyllifolia Cyathodes nitida
SOIL Surface(A)Texture		Peat	Loam
B Horizon(subsoil) Colour(wet) Texture and primary profile form		Boulder clay, silty or sandy material in places. Organic.	Stony, yellowish brown (10 YR 5/6) to strong brown (7. 5 YR 4/6) clay loam to light clay. Gradational.
Permeability			High
Typical depth(m)		0. 30->1. 40	>0. 40
Depth(A)Horizon(m)		0. 20->1. 40	0. 10-0. 25
LAND USE		Nature Conservation, recreation	
HAZARDS		Waterlogging	High sheet erosion