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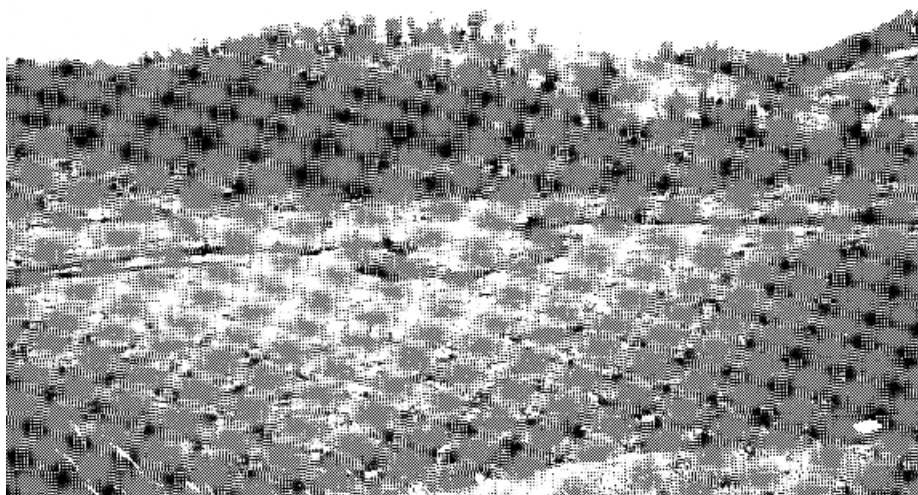
Serpentine Rivulet

Serpentine Rivulet Land system covers four areas, three of which lie between Lake Echo and Brady's Lake with the fourth and largest occurring just northeast of Bronte Park. Interbedded mudstone and sandstone of the Lower Parmeener supergroup dominate the area. There is often a strong doleritic influence on soil textures and colours of the three smaller, southern occurrences. In the Serpentine Rivulet area, the land system is dominated by a valley with a number of marshes. Marshes are common in the south with gently sloping terrain typical of the area just north of Dee Lagoon.

Soils vary greatly although stony gravelly yellow brown or greyish brown soils are common throughout except on river flats and swamps. steeper well drained upper and lower slopes support gradational profiles whereas poorer drained components have duplex or uniform clay soils. Uniform sandy loams on flatter situations probably reflect underlying sandstone sedimentary units. Soils are commonly deep except on narrow upper slope positions.

Parts of the Serpentine Rivulet land system are situated in a valley on the lower part of the lower plateau surface and are particularly susceptible to cold air drainage. This is clearly reflected in the vegetation. Cold tolerant eucalypt species such as *Eucalyptus coccifera* and *E. pauciflora* inhabit the highest positions in the land system where exposure would be extreme, while on adjoining flats which probably experience slightly warmer conditions, these species are taller and *E. delegatensis* and *E. dalrympleana*, often occur. *E. delegatensis* and *E. dalrympleana* are usually found in sub-alpine forests, and tend to dominate on the terraced mid slope adjacent to the flats. Finally the lower slopes and valley floors are devoid of trees as very cold air tends to collect on clear calm winter nights resulting in heavy frosts which preclude the establishment of forests. *Leptospermum lanigerum* thickets which formed in valley positions have been killed by severe frosts.

Land use includes forestry, grazing and hydro-electric power generation. The greatest land degradation hazard is the potential for the development of rill or gully erosion on slope components.



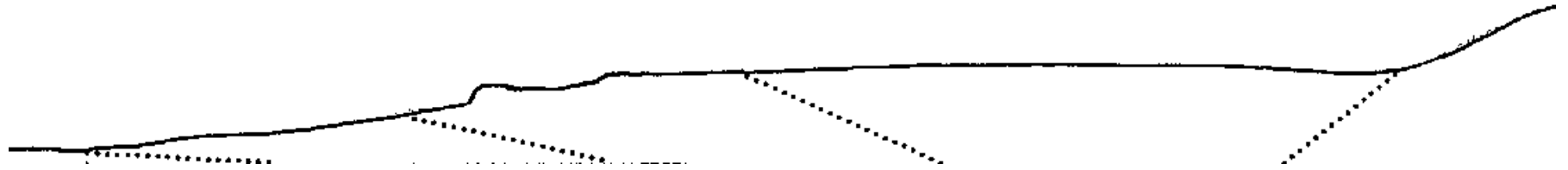
River flat component with poa grassland. Waterlogging- may become a problem on these flats in winter.

LAND—SYSTEM

Serpentine Rivulet

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Area(ha):
5340



COMPONENT	1	2	3	4	5
PROPORTION(%)	10	20	20	40	10
RAINFALL (mm)	Approximate Annual Rainfall: 750-1000				
GEOLOGY	Lower Parmeener Supergroup (Lower Carboniferous to Permian)				
TOPOGRAPHY	Undulating plains with deeply incised river valleys and prominent				
Position	River flats	Steep Lower Slopes	Terraced Mid slopes	Flats	Narrow Upper Slopes
Typical Soil (m)	0-1	20-30	10-15	1-3	5
NATIVE structure	Tussock Grassland	Tussock Grassland	Open Forest	Open Forest/Woodland	Low Woodland
Floristic Association (See Appendix 1 for common names)	Poa sp. Astelia alpina Restio australis Empodisma minus Poa sp. Juncus pallidus Leptospermum lanigerum	Poa sp. Lissanthe montana	Eucalyptus delegatensis E. dairympleana Acacia dealbata Pultenaea juniperina Drimys lanceolata Cyatnodes parvifolia Poa sp. Bedfordia sallclna Coprosma hirtella	Eucalyptus coccifera E. pauciflora E. delegatensis E. dalrympleana Lomatia tinctoria Lissanthe montana Pultenaea juniperina Poa gunnii	Eucalyptus coccifera E. pauciflora Stylidium graminifolium Pultenaea juniperina Lissanthe montana Cyathodes parvifolia Trochocarpa thymifolia Persoonia juniperina
SOIL					
Surface(A)Textu	Light Clay	Clay Loam	Loam	Sandy Loam	Loam
B Horizon(subsoil) Colour (wet) Texture and primary profile form	Grey (10 YR 5/1) light clay to dark greyish brown (10 YR 4/2) medium clay in places. Uniform/Duplex.	Gravelly, stony, grey dark greyish brown (10 YR 3/2) light clay. Gradational.	Gravelly, stony, dark yellowish brown (10 YR 4/4) light clay. Duplex.	Gravelly, stony, dark yellowish brown (10 YR 4/4) sandy loam. Uniform.	Gravelly, stony, light yellowish brown (10 YR 6/4) sandy loam. Complex.
Permeability	Low	Moderate	Moderate	High	High
Typical Depth(A)Horizon (m)	>1. 00	>0. 40	>0. 60	>1. 00	0. 30
Depth(A)Horizon (m)	0. 30	0. 05	0. 01	0. 05	0. 05
LAND USE	Forestry, grazing, hydro-electric power generation				
HAZARDS	Waterlogging	I	Moderate sheet erosion, high rill and gully erosion		