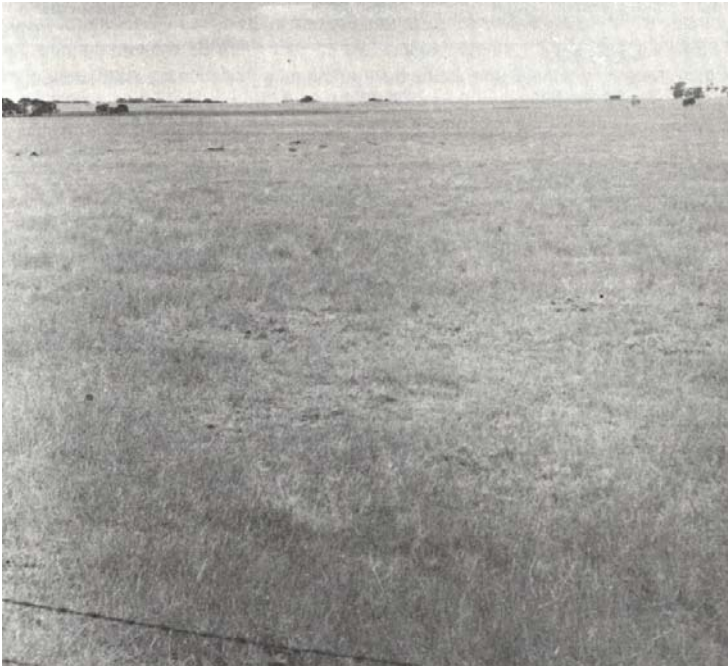


### 7.18 Freshwater Creek Land System

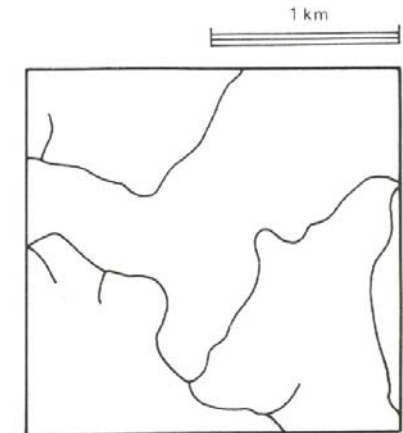
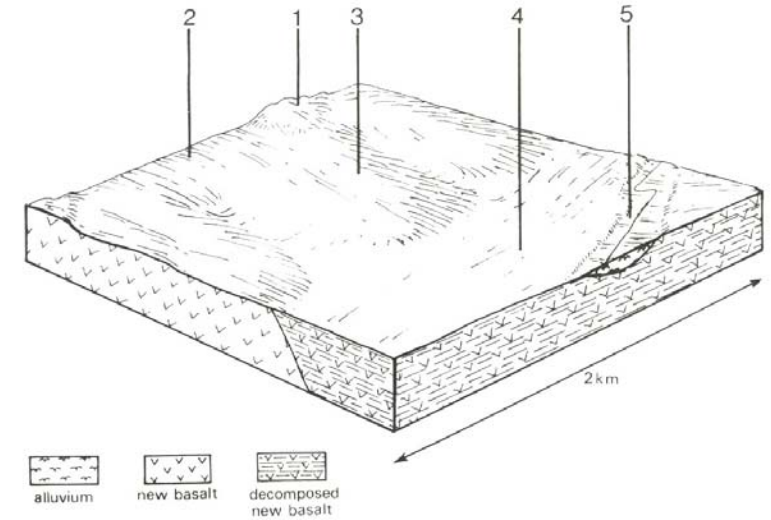
These gently sloping plains with heavy soils are similar to many areas on the basaltic plains of Western Victoria. Unlike most parts of the plains, this originally carried a woodland of *Eucalyptus viminalis* and *E. ovata*, which now exists mainly as roadside remnants.

These species tend to be replaced by *E. leucoxylon* in the east and *E. camaldulensis* in the north, the latter species being the most common tree on the basaltic plains in western Victoria. The presence of *E. viminalis* and *E. ovata* may reflect the climate, which is wetter than is normal for basaltic plains.

The main land use is sheep and beef cattle grazing. The low incidence of basaltic outcrops means that much of the area is arable, and cereal cropping is common. Minor soil salting and gully erosion occur.



*Flat or very gently undulating plains are typical of much of the basalt outcrops in western Victoria. This area carries significantly more trees than is usual on these basalt plains.*



**FRESHWATER CREEK**

Area: 77 km<sup>2</sup>

|  | Component and its proportion of land system   |  |   |  |   |
|--|---|--|---|--|---|
|  | 1<br>7%   | 2<br>10%   | 3<br>65%  | 4<br>15%   | 5<br>3%   |
| <b>CLIMATE</b><br>Rainfall, mm<br>Temperature, 0°C<br>Seasonal growth limitations  | <b>Annual:</b> 600 – 650, lowest January (30), highest August (60)<br><b>Annual:</b> 14, lowest July (9), highest February (19)<br><b>Temperature:</b> less than 10°C (av.) June – July<br><b>Precipitation:</b> less than potential evapotranspiration October – mid April |  |   |  |   |
| <b>GEOLOGY</b><br>Age, lithology   | Pleistocene basalt with some areas of scoria and tuff   |  |   |  |   |
| <b>TOPOGRAPHY</b><br>Landscape<br>Elevation, m<br>Local relief, m<br>Drainage pattern<br>Drainage density, km/km <sup>2</sup><br>Land form<br>Land form element<br>Slope (and range), %<br>Slope shape | Gently undulating plains in the catchment of Thompson Creek<br>5 – 140<br>20<br>Dendritic<br>1.9<br>Gentle rise<br>Valley floor   |  |   |  |   |
| <b>NATIVE VEGETATION</b><br>Structure<br>Dominant species  | Woodland<br>E. viminalis, Acacia melanoxylon,<br>E. camaldulensis   | Open forest<br>E. viminalis, E. ovata, Casuarina<br>stricta  | Woodland<br>E. viminalis, E. ovata, E.<br>camaldulensis, E. leucoxyton,<br>Casuarina stricta    | Woodland<br>E. ovata, E. viminalis, E.<br>camaldulensis, E. leucoxyton,<br>Casuarina stricta   | Woodland<br>E. ovata, E. viminalis, E.<br>camaldulensis   |
| <b>SOIL</b><br>Parent material<br>Description<br>Surface texture<br>Permeability<br>Depth, m   | Scoria, freshly weathered basalt<br>Stony red-brown gradational soils<br>Gravelly loam<br>High<br>0.3   | In-situ deeply weathered basalt<br>Mottled yellow and red duplex soils<br>Fine sandy loam<br>Moderate<br>1.8 | In-situ basalt<br>Grey-brown duplex soils, coarse<br>structure<br>Fine sandy loam<br>Low<br>1.4 | Colluvial basaltic wash<br>Yellow sodic duplex soils<br>Fine sandy loam<br>Low<br>>2   | Alluvium derived mainly from<br>basalt<br>Grey gradational soils<br>Sandy loam<br>Low<br>>2   |
| <b>LAND USE</b>  | <b>Completely cleared areas:</b> Beef cattle grazing; dairy farming; cropping   |  |   |  |   |
| <b>SOIL DETERIORATION HAZARD</b><br>Critical land features, processes, forms   | Stony shallow soils with low water holding capacity and impermeable rock layers are prone to sheet erosion.   | Minor hazards  | Dispersible subsoils are prone to gully erosion.  | Sodic subsoils with low permeabilities and rising water tables lead to soil salting. Dispersible subsoils are prone to some gully erosion. | Rising saline water tables lead to waterlogging, salting and compaction. High discharge rates along watercourses lead to some streambank erosion. |