

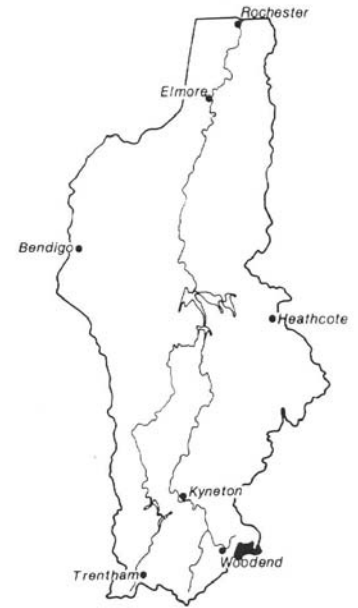
### 7.20 *Macedon land system (Mn)*

Mount Macedon is a notable prominence, rising some 400 m above the surrounding terrain on the southern boundary of the catchment. A large proportion of the area is private land, and some housing development has occurred even on the steeper forested slopes. The lower slopes have been cleared for agriculture. The area has a high recreational potential due to its natural beauty, proximity to Melbourne and mild summer climate.

Soils on the upper slopes tend to be red and well-structured but frequently stony or shallow. Duplex soils, often with massive A horizons, predominate on the lower slopes.

Tall open forests of *E. obliqua*, and less commonly *E. radiata*, occur on the mid to upper slopes, with *E. viminalis* and *E. ovata* predominating on the lower slopes and in lower drainage depressions. *E. viminalis* prefers the more protected aspects and *E. delegatensis* occurs as isolated specimens on protected upper slopes. The understorey tends to be open and grassy on the exposed northerly and western slopes; however, a dense layer of low trees, shrubs and ferns occurs beneath the eucalypt canopy in the more protected drainage depressions.

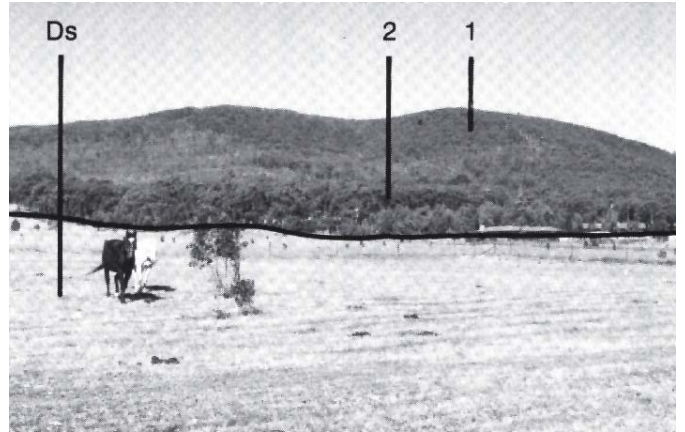
The relatively high rainfall and mild climate promote plant growth, and serious erosion occurs only during short periods after bushfires or disturbance such as small-scale clearing. Areas with permeable soils are susceptible to leaching of nutrients.



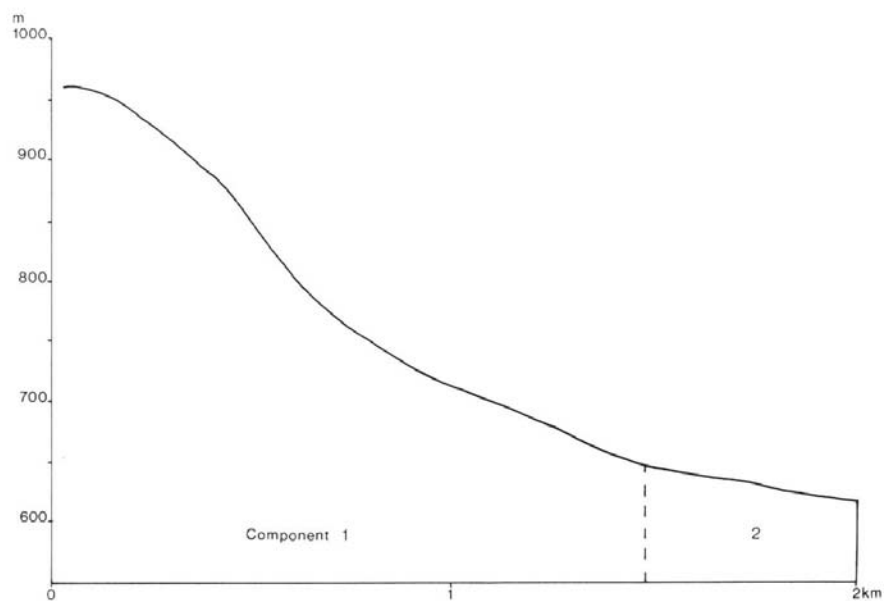
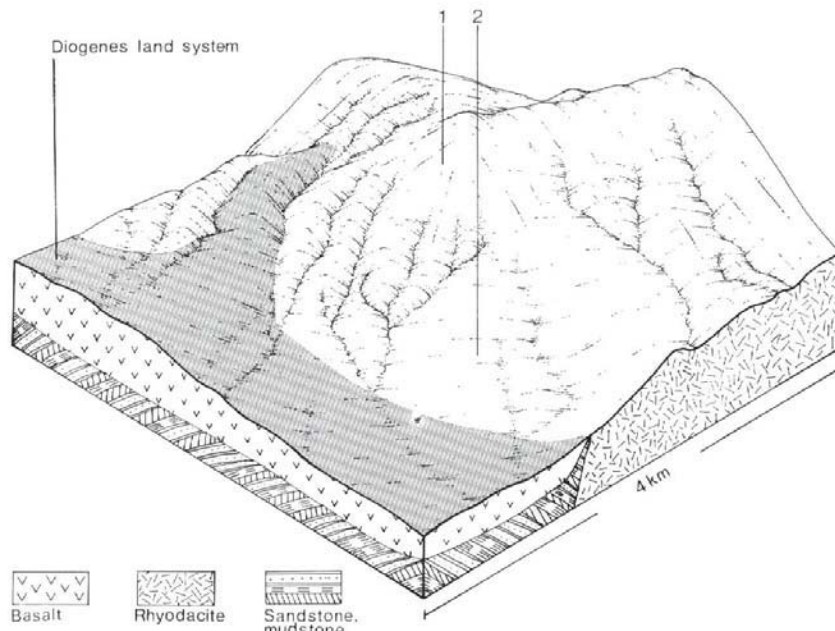
*The familiar outline of the Mount Macedon land mass.*



*An open forest III of E. obliqua, E. radiata and E. viminalis*



*Some areas on the moderately steep lower slopes have been cleared and use for hobby farms.*



**MACEDON LAND SYSTEM (Mn)**
**Area 12 km<sup>2</sup>**
**0.3% of catchment**

<b>CLIMATE</b> Rainfall, mean (mm) Temperature, mean (°C) Seasonal growth limitations	Annual, 850-900; lowest January (45-50), highest June (85-90) Annual, 9; lowest July (4), highest January (16) Temperature less than 10°C (av.): April-September Rainfall less than potential evapotranspiration: November-February	
<b>GEOLOGY</b> Age, rock type	Devonian, rhyodacite	
<b>PHYSIOGRAPHY</b> Landform pattern Elevation range (m) Relative relief (m) Drainage pattern Channel spacing	Rolling mountains 600-980 300 Radial Moderate	
<b>LAND COMPONENT</b> Number Percentage of land system	1 80	2 20
<b>PHYSIOGRAPHY</b> Landform element Slope; modal, range Site drainage	Steep mid to upper slope and crest 30,440 Excessively drained	Moderately steep lower slope 11,4-16 Well drained
<b>SOIL</b> Parent material Description  Classification Surface texture Depth to hardpan or bedrock (m) Nutrient status Available water capacity Permeability Exposed rock/stone Sampled site number	Rhyodacite Red gradational soils, usually with stones throughout  Gn4.11, Gn3.11, Gn3.14 Silty loam 0.5 Low Moderate Moderate to rapid 0-5 1073	Rhyodacite and colluvium Mottled yellowish brown or brown duplex, or less commonly gradational, soils with bleached A2 horizons; occasional red duplex soils Db2.41, Gn3.04, Dy3.21; minor Dr2.41, Dr2.21 Silly loam 1.0-1.5 Low to moderate Low surface, moderate subsoil Moderate surface, slow subsoil 0 1074, 1075
<b>NATIVE VEGETATION</b> Structure Characteristic species (+ indicates predominant species)	Open forest II/III Shrubby open forest III (protected aspects) <i>E. obliqua</i> +, <i>E. radiata</i> , <i>E. viminalis</i> +, <i>E. obliqua</i>	Open forest II <i>E. viminalis</i> , <i>E. ovata</i>
<b>PRESENT LAND USE</b>	Forestry; recreation; low-density bush housing	Cleared areas: grazing Uncleared areas: recreation; housing
<b>OBSERVED SOIL DETERIORATION</b>	Minor sheet erosion	Minor sheet erosion

## SUSCEPTIBILITY OF LAND TO PROCESSES OF SOIL DETERIORATION – Macedon

Compt.	Process	Susceptibility	Critical land factors	Off-site effects	Comments
1	sheet and rill erosion	moderate	<ul style="list-style-type: none"> <li>steep slopes</li> </ul>	<ul style="list-style-type: none"> <li>sedimentation</li> <li>increased run-on</li> </ul>	moderate to high soil permeability reduces overland water flow and reduces the erosion hazard
	leaching of nutrients	moderate	<ul style="list-style-type: none"> <li>moderate-high soil permeability</li> </ul>	<ul style="list-style-type: none"> <li>-</li> </ul>	-
	compaction of topsoil	moderate to high	<ul style="list-style-type: none"> <li>loamy texture</li> <li>topsoil often moist</li> <li>high organic matter content</li> </ul>	<ul style="list-style-type: none"> <li>increased run-on</li> </ul>	high levels of organic matter provide some resistance to compaction
2	sheet and rill erosion	moderate	<ul style="list-style-type: none"> <li>moderate slopes</li> <li>clayey subsoils of lower permeability</li> </ul>	<ul style="list-style-type: none"> <li>sedimentation</li> <li>increased run-on</li> </ul>	erosive overland water flow occurs when the permeable topsoil is saturated; erosion hazard increases after fire
	leaching of nutrients	low to moderate	<ul style="list-style-type: none"> <li>moderate topsoil permeability</li> </ul>	<ul style="list-style-type: none"> <li>-</li> </ul>	-
	(topsoil) compaction of topsoil	moderate	<ul style="list-style-type: none"> <li>loamy texture</li> <li>topsoil often moist</li> <li>high organic matter content</li> </ul>	<ul style="list-style-type: none"> <li>increased run-on</li> </ul>	-



*Bushfires reduce all ground cover to fine ash, which is highly susceptible to sheet erosion.*