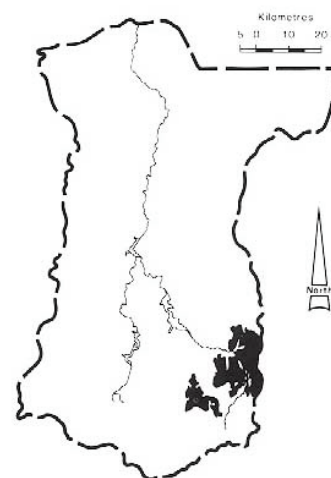


2.44 HrS1 HILLS – rolling, SEDIMENTARY, type 1

Dissected hills on sedimentary terrain are common throughout the south-east of the catchment. This unit describes several areas near Castlemaine. The slopes are moderate to steep and the soils are frequently shallow and stony, especially on the upper slopes and crests. Parallel rock outcrop is common, indicating the strike of the steeply dipping sedimentary rocks and influencing the pattern of gullies and spurs. Gullies tend to form in the softer sediments, leaving spurs or rock outcrop on the more resistant sandstones.

The native vegetation has been left largely uncleared due to the steep and rocky nature of the terrain, the low fertility and the low water holding capacity of the soils. Land use is restricted to limited logging, apiculture and recreation.

Much of the area was mined during the late nineteenth century for gold, and many scars of those mining days – including pits, shafts, mullock heaps and erosion gullies – remain. An extensive network of open water channels from the Coliban water system can be seen contouring around the hills near Castlemaine.



Geology Olc, Olb, Oly, Om – interbedded Ordovician sandstone and shale

Rainfall 550 - 950 mm per annum

Slope Average 18%; range 3-40%

Dominant landform elements (85%) Narrow crest, slope

Minor landform elements (15%) Drainage depression, broad crest, flat

Soils Dominant: Gn3.71, Gn3.74, Gn3.75. Yellowish brown soils of gradational texture, shallow usually less than 0.5 m deep, and with fragments of bedrock common throughout the profile; topsoils are loamy and frequently hydrophobic, and the A₂ horizons are pale or bleached; structure is usually poorly developed in the clayey subsoil

Minor: Um4. Shallow stony yellowish brown loams or sandy loams of uniform texture occasionally occur on the rocky crests.

Um. Deep recent sandy-loamy alluvial deposits in some of the larger drainage depressions.

Dy3.41, Dy2.1. Yellow-grey duplex soils with mottled clayey subsoils occasionally found on the gentler slopes and in the drainage depressions, with or without an A₂ horizon; subsoils are usually acidic; the original topsoil may be overlain by a recent wash layer derived from land deterioration since European settlement.

Native vegetation The steep exposed slopes with shallow soils carry a woodland I to II or open forest I to II of *E. microcarpa*, *E. polyanthemos*, *E. goniocalyx* and *E. macrorrhyncha*, while, as the slopes become gentler or the aspect more protected, *E. melliodora* becomes frequent; protected aspects in the higher-rainfall southern areas near Daylesford support open forest II of *E. obliqua*, *E. viminalis* and *E. radiata*; *E. ovata* occurs in the larger drainage depressions

Stone-rock outcrop 0-20%

Pans Not present or not observed

Land use In most areas the native vegetation has been retained, allowing minor logging for sawn timber (especially in the south), firewood and fenceposts; some gentler slopes have been cleared and support low-productivity agricultural pursuits, usually grazing: the forests are used for apiculture and

various forms of recreation, notably gold-prospecting; groundwater springs located in the Vaughan-Glenluce and Daylesford-Hepburn Springs areas are popular tourist destinations.

Observed land deterioration Sheet erosion is common in areas where the protective native vegetation has been removed; gully erosion is extremely common, largely as the result of inappropriate land use in the gold-mining areas, but the gullies have generally been stabilised by native vegetation regrowth.

Susceptibility to land deterioration

Sheet erosion (high)

Gully erosion (moderate to high)

Salting (low to moderate)



The shallow, stony soils and excessively drained slopes can sustain only low-yielding pastures after the native vegetation is cleared. Note the presence of parallel banks of outcropping sandstone. These occur because of the greater resistance to erosion of the steeply dipping sandstone strata compared with the softer intervening mudstones.