

DESCRIPTION OF THE LAND

(a) General

The You Yangs Reserve covers some 2025 hectares. The land forms vary from steep rugged hills to gently undulating plains and flat areas (Fig 1). Detailed descriptions are well documented elsewhere (Forest Environment and Recreation Branch Report 1977).

(b) Physical Features

(i) Climate

The average annual rainfall in the area is 430 mm, however considerable variation does occur. The northern and western slopes experience harsher extreme of both rainfall and temperature. This feature may influence some land use decisions.

(ii) Geology and Physiology

The geology of the area is Devonian granite. The You Yangs are residual hills of strongly resistant rock, typified by the presence of fresh surface granite and tors on the steep slopes. Exposed granite is more resistant to weathering than buried material. The removal of weathered material by erosion results in the exposure of more or less rounded tors.

(iii) Soil

- Distribution of soil types

Despite the uniform geology, differential weathering and transportation processes have led to the formation of a variety of soils. There is however a close relationship between soil properties and terrain mapping units.

On the steeper slopes shallow, coarse sandy soils occur. Deeper sandy soils have formed on the lower slopes while yellow sodic duplex soils in association with deep sandy soils have developed on the undulating flat areas. Black cracking clays predominate in the lower drainage lines and alluvial soils are found along the stream frontage.

Table 1 summarizes the soils of the area and representative soil profiles are described in Appendix 3.

- Soil Erosion

The inherent nature of the soils in the park makes them extremely susceptible to sheet, rill and gully erosion. Intensive use has denuded and compacted the soil in many localities. Compaction reduces infiltration capacity of the soil resulting in additional runoff which may, in turn increase the erosion hazard of adjacent areas down slope. Waterlogging on lower slopes may also become more severe.

(c) Mapping

For the purpose of this survey the area has been separated into 8 mapping units, differentiated primarily by land form (Table 2).

Preliminary air photo interpretation of the area was followed by field survey. Sites within each map unit were selected, and details on soil and topography were recorded. This information was used to reassess aerial photograph patterns and finalize map boundaries.

Table 1 - Soils of the You Yangs Area

Map Unit		Great Soil Group	Northcote Grouping	Factual Key*	Unified soils Classification*
Steep Slopes	SS	Earthy Sands	Earthy Sands	Uc 5.21	Sc
Hilly	H HO	Earthy Sands Earthy Sands	Earthy Sands Earthy Sands	Uc 5.21 Uc5.21	SM SM
Rolling	R RO	Soloths Solodic Soils	Hard Pedal Mottled Brown Duplex Soil Hard Pedal Mottled Yellow Duplex Soil	 Db2.31 Dy 3.43	 CH CH
Undulating	U	Solodic Soils	Hard Pedal Yellow Duplex Soil	Db 1.25	-
Drainage line	DL	Earthy Sands Grey Clay	Earthy Sands Black Cracking Clay	Uc 5.21 Ug 5.17	SM CH
Stream Frontage	SCF	Alluvial Soils	-	Uc	-

*Factual key notation from Northcote (1971)

** Earth Manual (1968)

The classification of soils into Great Soil Groups was based on that proposed by Stace et. Al. (1968) and is modified to the more recent groupings by Northcote et. Al. (1975)

Fig 1 – Diagrammatic Representation of the Survey Area



Table 2 - Topography And Map Units

Map Unit Name	Land Type	Map Unit Designation
Steep Slopes	Steep ridges and upper slopes with boulders and rock outcrop, slopes up to 45%.	SS
Hilly	Hills and hill crests with boulders and rock outcrop, slopes up to 18%	HO
	Hills and hill crests with little or not outcrop or boulders, slopes up to 18%	H
Rolling	Middle to lower slopes with rock outcrops, or boulders, slopes up to 12%	RO
	Middle to lower slopes with little or no outcrop or boulders, slopes up to 12%	R
Undulating	Lower wash slopes and undulating plains, slopes up to 5%	U
Drainage Line	Areas of land where water is concentrated and drained away from catchments. Not usually incised.	DL
Stream Course and Frontage	Incised stream channels and levee banks with associated tributaries	SCF