

LAND CAPABILITY

(a) General

The main intention of this study is to provide land capability assessments for specific activities. The list of rating systems used in this report is by no means comprehensive. It is hoped that as new rating systems are developed it will be a simple matter for management to apply the systems for themselves and thus build upon their existing knowledge.

Research into developing new rating systems is still in its infancy in the Soil Conservation Authority, and as such, some of the charts included in this report have not been fully tested. Any apparent shortcomings would best be treated with caution. Despite these shortcomings it should still be possible to apply the tables and identify those factors which will be limiting to future development.

Care should be exercised when interpreting the capability assessments. The land capability ratings derived from the ratings systems describe the capability of land in the study area relative to land which has absolutely no limitations present. This virtually means that average land will receive only a Fair rating. The tables also assume that average management will be applied.

If high levels of input and skilled management are used it should be theoretically possible to successfully develop any area of land. Thus, if particular activity received the worst rating of Unsuited, it would not mean that the land could not be developed, but that very high levels of input and management would be necessary to overcome the limitation.

(b) Rating Systems for Land Based Recreation

It is intended that the activities listed below be combined in different groups to describe various kinds of land based recreation.

Table 3 shows the activities which need to be considered for different recreation uses.

Rating systems used to assess land capability for the following activities:

- (i) car parks and roads
- (ii) intensive use areas
- (iii) camp sites
- (iv) paths and trails
- (v) building foundations
- (vi) septic effluent absorption fields
- (vii) playing fields
- (viii) earthen dams
- (ix) source of road fill
- (x) source of topsoil
- (xi) source of sand

(c) Using the Rating Tables

Representative soil data from each map unit is summarised in Table 4. This data is fed into Tables 6-16, and the results from each mapping unit are presented in Tables 17-25. The map that is included with this report is used to determine which mapping unit covers the area of interest. Tables 17-25 are then consulted to determine the ratings for each activity. The ratings as determined in this report are very good (1), good (2), Fair (3), poor (4), or unsuited (5).

(d) Assessment – Summary

A summary sheet (Table 5) compiled from Tables 17-25 has been included so that each activity can be readily compared. The overall rating is listed and subscripts identify the most limiting features.

Table 3 - Activities Involved In Different Kinds Of Land Based Recreation

Kind of Activity (Rating Systems)	Car Parks & Roads	Intensive Use Areas	Camp Sites	Paths & Trails	Playing Fields	Earthen Dams	Building Foundations	Septic Effluent Absorption Fields	Source of Road Sill	Source of Sand	Source of Topsoil
Picnicking	√	√		√			√	√			
Barbequing		√					√	√			
Pleasure Driving	√										
Car Parking	√						√	√	√		
Walking Tracks				√							
Sporting	√	√		√	√		√	√			√
Little Athletics	√	√		√	√		√	√			√
School Groups		√	√	√	√			√			
Orienteering				√							
Horse riding		√		√							
Scout Groups		√	√	√	√			√			
Bird Watching	Not determined by physical land features										
Nature Study	“ “										
Rock Climbing	Determined by user preferences										
T. V. Filming	“ “										
Photography	“ “										

Table 4 - Summary Sheet
(Using Representative Site Data)

Map Unit	Steep Slopes (SS)	Hilly Outcrops (HO)	Hills and Hill Crests (H)	Rolling Outcrop (RO)	Rolling (R)	Undulating (U)		Drainage Line (DL)	Stream Course & Frontage (SCF)	Gravel Stripping & Excavation
						Uc & Dy soils are Co-Dominant				
Proportion of total land (%)	20	13	3	2	12	30		20	**0.9%	*2.7%
Factual Key	Uc 5.21	Uc 5.21	Uc 5.21	Db 2.32	Dy 3.43	Dy 2.43	Uc 5.21	UG 5.17	Dy & Uc	Uc
Slope (%)	33	11	10	6	5	2	3	3	Variable	Variable
Flooding	-	-	-	-	-	-	-	1 per yr	>1 per yr	>1 per yr
Site Drainage	Excessively well drained	Excessively well drained	Well drained	Well drained	Well drained	Imperfectly drained	Well drained	Poorly drained	Moderately well drained	Well drained
Profile Permeability	High	Moderate	Moderate	Moderate	Moderate	Moderate - Low	Moderate	Low	-	-
Depth to seasonal water table (meters)	>2	>2	>2	>2	>2	Variable	>2	Per. Wet >2 seasonally 45 cm	Variable	-
Surface soil Texture	Sandy loam	Loamy sand	Loamy sand	Coarse loamy sand	Loamy sand (LS)	Sandy loam (SL-LS)	Loamy Sand (LS)	Heavy Clay (HC)	Variable	Clay sand
Depth of Surface Soil (cm)	5	5	10	10	8	20	5	45	-	-
Gravel (% Av. of horizon samples)	25	30	36	22	31	20	23	13	Variable	34
Stones (%)	2	-	-	-	-	-	-	-	1	-
Boulders (%)	10	10	0.2	-	-	-	-	-	-	-
Rock Outcrop (%)	40	15	1	5	0.5	-	-	0.1	-	Variable
Av. Depth to Hard Rock (cm)	20	35	65	75	100	100	100	100	-	Variable
Unified Soil Group	SC	SM	SM	CH	CH	CH	SM	CM	-	SM
Shrink-swell Potential	7.8	1.4	1.4	15.0	16.0	15.4	0.0	20.0	-	-
Organic Matter	Moderate	Low	Low	Moderate	Moderate	Moderate	Low-Moderate	High	-	-
Dispersibility (B Horizon)	Slightly dispersible	Slightly dispersible	Slightly dispersible	Moderately dispersible	Moderately dispersible	Moderately dispersible	Slightly dispersible	Moderately dispersible	-	-
pH of Soil (A Horizon)	5.6	5.5	5.9	5.2	5.0	4.5	6.2	8.0	-	-

* Area mainly within drainage line

** Area mainly outside reserve boundary

Table 5 - Land Capability Assessment – Summary

Activity Map Unit	(i) Car Parks & Roads	(ii) Intensive Use Areas	(iii) Camp Sites	(iv) Paths & Trails	(v) Building Foundation s	(vi) Septic Effluent Absorption Fields	(vii) Playing Fields	(viii) Earthen Dams	(ix) Source of Road Fill	(x) Source of Topsoil	(xi) Source of Sand
SS	Unsuited S.O.R	Unsuited S.O.R	Unsuited S.O.R	Unsuited S	Unsuited S.O.	Unsuited O	Unsuited S.O.R	Unsuited S.P.O.R	Unsuited S.O.R.E	Unsuited S.O.E	Unsuited S.U.O
HO	Poor S.B.O.R.	Unsuited R	Unsuited R	Fair S.B.O	Poor S.B.O.R	Unsuited R	Unsuited O.R	Unsuited R	Poor O.R.E	Unsuited O.E	Unsuited O
H	Poor S.R	Poor R	Poor R	Fair S.A	Fair S.O.R	Fair S.G.O	Poor S.G.O.R	Unsuited P.R	Poor R.E	Unsuited G.E	Unsuited G
RO	Poor U	Poor R	Poor R	Fair A.O	Poor U	Poor O.R	Poor O.R	Unsuited R	Poor R	Unsuited E	Unsuited U
R	Poor U	Fair G	Fair G.A	Fair A	Poor U	Fair G.O	Poor G	Fair U.O.H.E	Poor U.H	Unsuited E	Unsuited U
U	Dy Poor D	Poor D	Fair D	Fair C.D	Fair D	Poor P	Fair D.G	Fair E.P.F	Poor D	Unsuited E	Unsuited G
	Uc Good U	Good U.A	Fair A	Fair A	Good S.U	Good W.P.G.C	Fair G	Poor P	Fair U.E.F	Unsuited E	Poor G
DL	Unsuited F.W	Unsuited F	Unsuited F	Poor F.D.A	Unsuited F	Unsuited F	Unsuited F	Unsuited F	Unsuited F	Unsuited F.A	Unsuited F
SCF	Unsuited F	Unsuited F	Unsuited F	Unsuited F	Unsuited F	Unsuited F	Unsuited F	Unsuited F	Unsuited F	Unsuited F	Unsuited F

Key to Limiting Factors:

A: A Horizon Texture B: Boulders C: Dispersible Clays D: Site Drainage E: A Horizon Depth
 F: Flooding G: Gravel H: Shrink Swell I:pH K: Soluble Salts
 L: Land Slips O: Outcrops P: Permeability R: Depth to Rock S: Slope
 T: Stones U: Unified Soil Group W: Depth to Watertable X: Organic Matter