



RANGELAND CONDITION ASSESSMENT

A MULTI-CRITERIA METHOD

for African grassland and savanna

Property name: _____

Site no: _____ Assessors: _____

Date: _____ Time: _____ Long-term average rainfall (mm/year): _____

Waypoint no: ____ or Site coordinates: S: _____ E: _____



WORKING ON GRASS

1. SITE DESCRIPTION

step 1

Complete the site description information below;

Terrain unit:	Crest	Midslope	Footslope	Valley bottom	
Slope:	Steep	Medium	Gentle	Flat or even	
Soil texture:	Sandy	Sandy loam	Loam	Clay loam	Clay
Soil depth:	Deep	Medium	Shallow	Gravelly / rocky	

Name the common grasses:

(from most to least common: 1 - 10)

1. _____
2. _____
3. _____
4. _____
5. _____
6. _____
7. _____
8. _____
9. _____
10. _____

Name the common trees and woody shrubs (optional):

(from most to least common)

1. _____
2. _____
3. _____
4. _____
5. _____
6. _____

Name the common forbs/herbs (optional):

(from most to least common)

1. _____
2. _____
3. _____
4. _____
5. _____
6. _____

Comments:

Step 2

2. EVALUATION

Apply scores to criteria A – D:

A.	How many good (decreaser) grazing grasses are present? (quality grazing)		
1	Mainly poor grazing grasses present	1 – 2	Score A: ↓
2	Moderate and poor grazing grasses mixed	3 – 4	
3	Mainly moderate grazing grasses present	5 – 6	
4	Good and moderate grazing grasses mixed	7 – 8	
5	Mainly good grazing grasses present	9 – 10	
B.	What is the condition of palatable (decreaser) grazing grasses? (vigour)		
1	Tufts are very small and very weak	1 – 2	Score B: ↓
2	Tufts are small and weak	3 – 4	
3	Tufts are moderate in size	5 – 6	
4	Tufts are large and healthy	7 – 8	
5	Tufts are very large and very healthy	9 – 10	
C.	How much grass biomass is present? (quantity grazing)		
1	Very low levels of grass biomass	1 – 2	Score C: ↓
2	Low levels of grass biomass	3 – 4	
3	Moderate levels of grass biomass	5 – 6	
4	High levels of grass biomass	7 – 8	
5	Very high levels of grass biomass	9 – 10	
D.	How good is the ground cover?		
1	Very poor ground cover	1 – 2	Score D: ↓
2	Poor ground cover	3 – 4	
3	Moderate levels of ground cover	5 – 6	
4	High levels ground cover	7 – 8	
5	Very high levels of ground cover	9 – 10	
	TOTAL (A + B + C + D)		

step 2

2. EVALUATION

Apply scores to the following criteria (E – H):

E.	How much encroachment by unwanted plants is present?					
1	Heavy encroachment is present	1	Score E: ↓			
2	Heavy to medium encroachment present	2 – 3				
3	Medium encroachment is present	4 – 5				
4	Medium to light encroachment is present	6 – 7				
5	Only light encroachment is present	8 – 9				
6	No encroachment present	10				
F.	How is the soil surface condition? (erosion)					
1	Severe levels of topsoil loss	1 – 2	Score F: ↓			
2	High levels of topsoil loss	3 – 4				
3	Moderate levels of topsoil loss	5 – 6				
4	Slight levels of topsoil loss	7 – 8				
5	No topsoil loss	9 – 10				
G.	How high is the botanical diversity? (indigenous grasses, forbs & trees)					
1	Very low (less than 9 species visible)	1 – 2	Score G: ↓			
2	Low (less than 10 - 19 species visible)	3 – 4				
3	Moderate (20 – 29 species visible)	5 – 6				
4	High (30 – 39 species visible)	7 – 8				
5	Very high (> 40 species visible)	9 – 10				
H.	What is the soil type? (agricultural potential)					
	Texture ↓	Soil depth →	Deep	Shallow	Gravelly	Score H: ↓ Minimum score of 0
1	Sandy soil (< 10% clay)		2 – 4	-3	-5	
2	Sandy loam soil (10 – 15% clay)		5 – 6	-3	-5	
3	Loam soil (15 – 25% clay)		7 – 8	-3	-5	
4	Clay loam soil (25 – 40% clay)		9 – 10	-3	-5	
5	Clay soil (40 – 50% clay)		7 – 8	-3	-5	
6	Heavy clay soil (>50% clay)		5 - 6	-3	-5	
	TOTAL (E + F + G + H)					
	GRAND TOTAL (Rangeland condition score)(A – F + E – H)					

step 3

Use now the Rangeland Condition Score (RCS), and long-term average (or previous season's rainfall) for the area to get the estimated grazing capacity in ha/LAU (Large Animal Unit = 450 kg grazer) from the table below:

RAINFALL →		300	350	400	450	500	550	600	650	700	750	800	850	900		
Score ↓	Condition ↓	↓ HA/LAU ↓					↓ HA/LAU ↓					↓ HA/LAU ↓				
20 - 21	Very poor	39,8	34,1	29,9	26,5	23,9	21,7	19,9	18,4	17,1	15,9	14,9	14,1	13,3		
22 - 23		33,4	28,6	25,1	22,3	20,1	18,2	16,7	15,4	14,3	13,4	12,5	11,8	11,1		
24 - 25		28,8	24,7	21,6	19,2	17,3	15,7	14,4	13,3	12,3	11,5	10,8	10,2	9,6		
26 - 27		25,3	21,7	19,0	16,9	15,2	13,8	12,7	11,7	10,8	10,1	9,5	8,9	8,4		
28 - 29		22,6	19,3	16,9	15,0	13,5	12,3	11,3	10,4	9,7	9,0	8,5	8,0	7,5		
30 - 31	Poor	20,4	17,5	15,3	13,6	12,2	11,1	10,2	9,4	8,7	8,1	7,6	7,2	6,8		
32 - 33		18,5	15,9	13,9	12,4	11,1	10,1	9,3	8,6	7,9	7,4	7,0	6,5	6,2		
34 - 35		17,0	14,6	12,8	11,4	10,2	9,3	8,5	7,9	7,3	6,8	6,4	6,0	5,7		
36 - 37		15,7	13,5	11,8	10,5	9,4	8,6	7,9	7,3	6,7	6,3	5,9	5,6	5,2		
38 - 39		14,6	12,5	11,0	9,8	8,8	8,0	7,3	6,8	6,3	5,9	5,5	5,2	4,9		
40 - 41		13,7	11,7	10,3	9,1	8,2	7,5	6,8	6,3	5,9	5,5	5,1	4,8	4,6		
42 - 43		12,8	11,0	9,6	8,6	7,7	7,0	6,4	5,9	5,5	5,1	4,8	4,5	4,3		
44 - 45		12,1	10,4	9,1	8,1	7,3	6,6	6,0	5,6	5,2	4,8	4,5	4,3	4,0		
46 - 47	Moderate	11,4	9,8	8,6	7,6	6,9	6,2	5,7	5,3	4,9	4,6	4,3	4,0	3,8		
48 - 49		10,8	9,3	8,1	7,2	6,5	5,9	5,4	5,0	4,6	4,3	4,1	3,8	3,6		
50 - 51		10,3	8,8	7,7	6,9	6,2	5,6	5,2	4,8	4,4	4,1	3,9	3,6	3,4		
52 - 53		9,8	8,4	7,4	6,5	5,9	5,4	4,9	4,5	4,2	3,9	3,7	3,5	3,3		
54 - 55		9,4	8,0	7,0	6,3	5,6	5,1	4,7	4,3	4,0	3,8	3,5	3,3	3,1		
56 - 57		9,0	7,7	6,7	6,0	5,4	4,9	4,5	4,1	3,8	3,6	3,4	3,2	3,0		
58 - 59		8,6	7,4	6,5	5,7	5,2	4,7	4,3	4,0	3,7	3,4	3,2	3,0	2,9		
60 - 61		8,3	7,1	6,2	5,5	5,0	4,5	4,1	3,8	3,5	3,3	3,1	2,9	2,8		
62 - 63	Good	7,9	6,8	6,0	5,3	4,8	4,3	4,0	3,7	3,4	3,2	3,0	2,8	2,6		
64 - 65		7,7	6,6	5,7	5,1	4,6	4,2	3,8	3,5	3,3	3,1	2,9	2,7	2,6		
66 - 67		7,4	6,3	5,5	4,9	4,4	4,0	3,7	3,4	3,2	3,0	2,8	2,6	2,5		
68 - 69		7,1	6,1	5,3	4,8	4,3	3,9	3,6	3,3	3,1	2,9	2,7	2,5	2,4		
70 - 71		6,9	5,9	5,2	4,6	4,1	3,8	3,4	3,2	3,0	2,8	2,6	2,4	2,3		
72 - 73		6,7	5,7	5,0	4,4	4,0	3,6	3,3	3,1	2,9	2,7	2,5	2,4	2,2		
74 - 75		6,5	5,5	4,9	4,3	3,9	3,5	3,2	3,0	2,8	2,6	2,4	2,3	2,2		
76 - 77		Very good	6,3	5,4	4,7	4,2	3,8	3,4	3,1	2,9	2,7	2,5	2,4	2,2	2,1	
78 - 79	6,1		5,2	4,6	4,1	3,7	3,3	3,0	2,8	2,6	2,4	2,3	2,1	2,0		
80	6,0		5,1	4,5	4,0	3,6	3,3	3,0	2,8	2,6	2,4	2,2	2,1	2,0		

NB: The result of this assessment is suitable for rotational grazing. For continuous grazing multiply the result by two.

Rainfall table based on Van Zyl 1989 and Fourie & Roberts, 1980. Compiled by Frits van Oudtshoorn (frits@alut.co.za) version 16.1 (2022).