

## FITCHINS 1985

BLACK RHINO PROJECT (ZC 21/5/9): SUMMARY OF RESULTS FROM 3rd SURVEY, UMFOLOZI GAME RESERVE

A total of 200 hours (over 25 days) were spent in the field; all patrol blocks were covered on foot. A total of 737 km (map measured) were walked which averaged 29,5 km/day (range 21,0-41,6).

Although the annual control burns were started on 11th July very few rhino patrols were carried out on them as the burning sequence did not correlate with the randomness of the patrols.

BLACK RHINOCEROS1. Sex and age structure

		West	East	South	TOTAL
Adult	♂	6	1	1	8
	♀	4	2	1	7
	unsexed		1		1
Subadult(5-8 years)	♂	1			1
	♀			1	1
Immature(3-5 years)	♂		1		1
	♀			1	1
Calves(birth-1 year)	♂				-
	♀	3			3
	unsexed		1		1
TOTAL		14	6	4	24

No. identifiable black rhino (adult and subadult) : 17  
 No. black rhino seen during 3rd survey : 24  
 Contact rate of black rhino/day : 0,96

Contact rate of black rhino/km walked:

1st survey (26 in 505,7 km) : 0,051  
 2nd survey (21 in 579,0 km) : 0,036  
 3rd survey (24 in 736,9 km) : 0,032

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Average: (71 in 1821,6 km) : 0,039

2. Physical condition

All black rhino seen were in excellent condition.

3. Mortality

The remains of a black rhino were found in the Mpafa/Lubisana area (GR 8065A) on 25th June. The remains were scattered over a large area by scavengers. Estimated time of death as April/early May. The skull and posterior horn were not found; anterior horn recovered and given to Warden, Umfolozi Game Reserve. Suspect adult male judging from the size and shape of the anterior horn.

4. Group structure

	Group size	n
♂ adult	1	7
♂ adult ♀ adult )	3	1
1 calf		
♀ adult	1	1
♀ adult 1 calf	2	2
♀ adult ♀ sub- )	3	1
adult 1 )		
immature )	4	1
2♀ adult 1 )		
immature 1 calf		
♂ subadult	1	1
unsexed adult	1	1
	TOTAL	15

5. Black rhino population estimate based on square-lipped rhino sighting ratio

Area	Square-lipped rhino		Black rhino	
	population estimate 1984	No. seen in sample	No. seen in sample	Population estimate
West	536	185	14	40
East	96	27	6	21
South	132	29	4	18
TOTAL	764	241	24	79

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6. Summary of black rhino encountered during 1st, 2nd and 3rd surveys in Umfolozi Game Reserve

Code No.	Area	adult	Sub-adult	immature	calf	Survey no.		
						1st	2nd	3rd
1a		♀					•	
1c				♀			•	
3a		♀				•	•	
3b			♂			•		
4			♂♂♂			•		
5a			♀			•	•	
6						•		
9a		♂						•
9b			♀				•	
9c					♀			•
11			♂			•	•	•
12a		♀				•	•	
13		♂♂				•		•
14a		♂♂				•	•	
14b					♀	•	•	
15		♂				•		
16a		♂				•	•	
16b				♂		•	•	
17		♂				•	•	
20		♂♂♂				•		•
23		♂♂♂				•		
24a		♂♂					•	
24b					♂		•	
25		♂					•	
28		♂♂					•	
29a		♂♂♂♂					•	
35a		♂♂♂♂						•
36		♂♂						•
37a		♂						•
37b		♂			♀			•
38		♂						•
39		♂♂						•
40a		♂♂						•
40b					♀			•
41		♂						•
18		♂				•		
31a		♂						•
31b			♂					•
32a		♂						•
32b					1			•
33		♂						•
21a			♀			•		•
22a		♂				•		•
22b				♀		•		•
26		♂					•	
27a			♀				•	
30a			♀				•	
34		♂						•

Population structure

		West	East	South	TOTAL
Adult	♂	12	2	2	16
	♀	11	2	1	14
Subadult	♂	3	1		4
	♀	2		3	5
Immature	♂	1			1
	♀	1			1
Calf	♂	1			1
	♀	4		1	5
unsexed			1		1
TOTAL		35	6	7	48

Note: The data exclude the unidentifiable rhino repeat sightings and 3 individuals located north of the Black Umfolozi river

SQUARE LIPPED RHINOCEROS1. Sex and age structure

Sex and age		West	East	South	TOTAL
adult	♂	44	7	8	59
	♀	51	7	9	67
unsexed		2			2
		97	14	17	128
Subadult (5-7 yrs)	♂	6	1		7
	♀	4	1		5
		10	2		12
immature (1-5 yrs)	♂	35	4	5	44
	♀	16	3	4	23
unsexed		1	1		2
		52	8	9	69
calf (birth-1 yr)	♂	13	1	1	15
	♀	10	2	2	14
unsexed		3			3
		26	3	3	32
TOTAL		185	27	29	241

Sex ratio ♀ : ♂		Age composition %	
100 : 88	92	53,1	58,1
100 : 140		5,0	
100 : 191		28,6	
100 : 107		13,3	

2. Group structure

Group structure	No. in group					n
	adult	subadult	immature	calf	TOTAL	
♂ adult	1				1	35
♂ adult ♂ subadult ♀ subadult	1	2			3	1
♂ adult ♀ adult 1 immature	2		1		3	8
♂ adult ♀ adult 1 calf	2			1	3	8
♂ adult ♀ adult 2 immature	2		2		4	1
♂ adult 3 ♀ adult ♂ subadult 2 immature 2 calves	4	1	2	2	9	1
2 ♂ adult ♀ adult	3				3	1
3 ♂ adult ♀ adult 1 immature	4		1		5	1
♀ adult	1				1	1
♀ adult 1 immature	1		1		2	16
♀ adult 1 calf	1			1	2	16
♀ adult 2 calves	1			2	3	1
♀ adult 1 immature 1 calf	1		1	1	3	3
♀ adult ♀ subadult 1 immature	1	1	1		3	1
♀ adult 2 immature	1		2		3	3
♀ adult 9 immature	1		9		10	1
3 ♀ adult 1 immature 1 calf	3		1	1	5	1
♂ subadult ♀ subadult	1	1			2	3
♂ subadult ♂ immature	1		1		2	2
♂ immature			1		1	1
2 ♂ immature			2		2	3
3 ♂ immature			3		3	1
4 ♂ immature			4		4	1
3 ♀ immature			3		3	1
2 adult 1 immature	2		1		3	1
						112

(241 rhino)

3. Physical condition

All square-lipped rhino seen were in excellent condition. Apart from the odd horn wounds in males only (adults) the following injuries were noted:

- ♀ adult half anterior horn broken off: Manya  
 ♀ adult, udder and teats deformed, large, swollen and pendulous : Mfulumkhulu  
 ♂ 14 months, severely damaged penis, large and pendulous; Nthabayamapiva

### MISCELLANEOUS OBSERVATIONS

#### 1. Leopard

28.6.85 adult disturbed in thicket, alerted by growling before seen at close quarters. Mpafa/Machitshaneni, 1230 hours (GR 8264A)

#### 2. Elephant (population 29)

22.7.85 fresh tracks of two animals (plus fresh dung) in the Sontuli cliffs area (GR 8575D)

27.7.85 13 located in dense Spirostachys africanus thicket: Madwaleni, 1055 hours (GR 9072D)

29.7.85 3 located at 0749 hours and 4 at 0945 hours: both groups in dense Spirostachys africanus thickets: Ngelweni (GR 9371A and 9270B respectively)

#### 3. Predation

(a) Buffalo: 19.7.85 adult female (foetus present) and unsexed calf killed by lions in the Nkawu valley; 2 black maned lions feeding on the carcass of the adult female 0911 hours. 9 spotted hyaenas, numerous white backed vultures, 1 lappet faced vulture, 1 hooded vulture (rare in this region), 1 tawny eagle and numerous pied crows in attendance close by (GR 8573D)

(b) porcupine: 30.7.85. remains of freshly killed porcupine near Cibilibomvu, blood still wet, guts removed and spread out around the remaining quills. Fresh leopard tracks clearly visible (GR 7759D).

(c) unidentified rodent: 10.6.85. adult black crowned tchagra (Tchagra senegala) carrying a small rodent in its beak - just able to fly. Estimated body length 60 mm and tail length 80 mm. Masimba 1226 hours (GR 9773C).

4. Attached as Appendix 1 is a summary of animals seen (no. groups and total number counted) for each area in Umfolozi Game Reserve.

Appendix 1

Summary of animals seen on foot during 3rd survey: Umfolozi Game Reserve, June, July and August 1985.

Note: Gp = no. groups, N = number animals.

AREA	WEST		EAST		SOUTH		TOTAL	
Distance walked (km)	480,7		118,8		137,4		736,4	
	Gp	N	Gp	N	Gp	N	Gp	N
elephant	3	20					3	20
square-lipped rhino	82	185	15	27	15	29	112	241
black rhino	10	14	3	6	2	4	15	24
buffalo	6	103			3	6	9	109
giraffe	9	57					9	57
wildebeest	91	448	6	30	12	70	109	548
zebra	59	325	4	16	13	102	76	443
kudu	20	57	4	13	3	19	27	89
nyala	29	58	5	9	17	43	51	110
bushbuck	1	1	1	1			2	2
waterbuck	11	39	2	7	1	4	14	50
common reedbuck			1	3			1	3
Mountain reedbuck	2	6			1	2	3	8
impala	70	981	10	80	8	129	88	1190
grey duiker	7	7	1	1	3	3	11	11
red bush duiker			1	1			1	1
steenbuck	2	2					2	2
warthog	24	47	8	16	4	6	36	69
bushpig								-
lion	1	2					1	2
leopard	1	1					1	1
cheetah							-	-
spotted hyaena	5	15					5	15
black backed jackal							-	-
slender mongoose	2	2					2	2
banded mongoose	2		2		1		5	
scrub hare	3	3			2	2	5	5
porcupine							-	-
baboon	14		4		6		24	
vervet monkey	9		1		3		13	
leopard tortoise	1		1			1	3	
hinge backed tortoise							-	
Natal bush snake						1	1	
puffadder						2	2	
crocodile	6					9	15	