

BLACK RHINO PROJECT (ZC 21/5/9): SUMMARY OF RESULTS FROM  
2nd SURVEY, UMFOLOZI GAME RESERVE

The field conditions were not as harsh as those experienced during the first survey: with the drying out of the grass walking was a lot easier with a slight improvement in visibility as the Panicum spp. became recumbent where they were not supported by woody plants.

A total of 179 hours (over 25 days) were spent in the field; all patrol blocks were covered on foot. A total of 579 km (map measured) were walked which averaged 23,2 km/day (range 11,5 - 44,0).

BLACK RHINOCEROS

1. Sex and age structure

		West	East	South	Total
Adult	♂	4		1	5
	♀	8			8
Subadult-(5-8 years)	♂	1			1
	♀	1		2	3
Immature-(1-2 years)	♂	2			2
	♀	1			1
Calves-(birth-1 year)	♂	1			1
	♀				-
Total		18	-	3	21

N°. identifiable black rhino (adult and subadult) : 17

N°. black rhino seen during 2nd survey : 21

Contact rate of black rhino/day : 0,84

2. Physical condition

All black rhino seen were in excellent condition.

3. Group structure

Group	Group size	N°.
♂ adult	1	2
♂ adult ♀ adult	2	2
♂ adult ♀ subadult	2	1
♀ adult	1	2
♀ adult & calf	2	1
♀ adult & immature	2	3
♂ adult & ♂ subadult	2	1
♀ subadult	1	1
TOTAL:		13

4. Black rhino population estimate based on square lipped rhino sighting ratio\*

Area	Square lipped rhino		Black rhino		
	population estimate 1984	N° seen in sample*	N° seen in sample	population estimate	
West	536	192	18	50	) 69 ) ) )
East	96	13	--	--	
South	132	21	3	19	
TOTAL	764	226	21	71	

\* Numbers of rhinos seen includes those sighted en route to patrol blocks.

5. Summary of black rhino encountered during the 1st and 2nd surveys.

(excludes 2 rhino not sighted clearly on 1st survey, and also repeat sightings during a survey)

Code N°	Area	Adult	Subadult	Immature	Calf	1st Survey	2nd Survey
3a	WEST	♀					
3b			♂				
4			♂				
5a			♀				
6		♂					
11			♂				
12a		♀					
13		♂					
14a		♀					
14b					♀		
15		♂					
16a		♀					
16b				♂			
17		♂					
20		♂					
9b			♀				
23		♂					
24a		♀					
24b					♂		
25		♂					
28		♂					
29a		♀					
1a		♀					
1b				♀			
18	EAST	♂					
21a			♀				
22a		♀					
26		♂					
27a			♂				
30a			♂				
10a	WEST/	♀					
10b	CORRIDOR			♂			

\*Exclude these as

Population structure

♂ adult	10
♀ adult	8
♂ subadult	3
♀ subadult	5
♂ immature	1
♀ immature	1
♂ calf	1
♀ calf	1

Total: 30 ( Excludes 3 from Corridor above)

SQUARE LIPPED RHINOCEROS

1. Sex and age structure

Sex and age	West	East	South	Total
Adult ♂	54	2	11	67
♀	57	4	4	65
	111	6	15	132
Subadult ♂	8	1		9
(5-7 years) ♀	3			3
	11	1		12
Immature ♂	23	3		26
(1-5 years) ♀	22	1	2	25
	45	4	2	51
Calf ♂	13	2	1	16
(birth-1 year) ♀	7			7
?	3		1	4
	23	2	2	27
TOTAL:	190	13	19	222*

Sex ratio ♀ : ♂	Age Composition %
100:103	59,4
100:300	5,4
100:104	23,0
100:229	12,2

\* 4 rhino could not be sexed or aged, and are therefore excluded from this table.

## 2. Group Structure

Group Structure	N° in group					
	Adult	Subadult	Immature	Calf	Total	
♂ adult	1				1	47
♂ adult ♀ adult 1 immature	2		1		3	4
♂ adult ♀ adult 1 calf	2			1	3	4
♂ adult ♀ adult 1 immature 1 calf	2		1	1	4	2
♂ adult ♀ adult 2 immature	2		2		4	2
2 ♂ adult	2				2	1
2 ♂ adult ♀ adult	3				3	1
2 ♂ adult ♀ adult 1 immature 1 calf	3		1	1	5	1
♀ adult	1				1	1
♀ adult 1 immature	1		1		2	11
♀ adult 1 calf	1			1	2	16
♀ adult 2 immature	1		2		3	3
♀ adult 3 immature	1		3		4	1
♀ adult 2 immature 1 calf	1		2	1	4	1
♀ adult ♀ subadult	1	1			2	1
♀ adult ♂ subadult 1 immature	1	1	1		3	1
2 ♀ adult	2				2	1
2 ♀ adult 2 calves	2			2	4	1
2 ♀ adult 1 immature 1 calf	2		1	1	4	1
2 ♀ adult 3 immature	2		3		5	2
2 ♀ adult ♂ subadult 3 immature	2	1	3		6	2
2 ♂ subadult		2			2	2
♂ subadult ♀ subadult		2			2	2
2 immature		2			2	2
						110

(218 rhino)

## 3. Physical condition

All square lipped rhino seen were in excellent condition. Apart from the odd horn wounds the following injuries were noted:

♂  $1\frac{1}{2}$  years old limping badly right hind leg: Gqolweni

♂ adult, limping right hind leg: Sabokwe

♀ Adult, tip of tail bitten by hyaena: Ngabaneni : West

## MISCELLANEOUS OBSERVATIONS

### 1. Leopard

- 15.4.85 ♂ adult and ♀ adult lying in a small ticket on the Western slopes of Msasaneni, 0813 hours (GR 7772 b)
- 17.5.85 ♀ adult crossed tourist road at Mantiyane at 0626 hours (GR 8169 b)
- 20.5.85 ♂ adult and ♀ adult: seen at close quarters in a Spirostachys africanus thicket at 0830 hours; Ngwenyakhini stream area (GR 9562 b)
- 27.5.85 1 adult and 2 cubs: Fresh tracks walking along the Munywane stream towards the fence line. (GR 7956 c)

### 2. Serval

- 23.4.85 1 adult crossed tourist road at Magqayisa at 0536 hours (GR 9972 d)

### 3. Elephant (16 released 15.4.85, 14 released May 1985)

- 4.6.85 3 feeding in thicket close to river at 0829 hours: pulling off branches and eating distal leaves and twigs of Ziziphus mucronata (2 animals); using fore feet kicking out tufts of Panicum spp, shaking off the sand with their trunks and then eating leaves and stems (all 3 animals): Nselweni (GR 9371 b).  
12 feeding in Spirostachys africanus thicket/woodland: 2 observed eating leaves and small branches of Spirostachys africanus (1020 hours): Nselweni (GR 9370a)  
2 disturbed in Spirostachys africanus woodland/thicket (1119 hours): Nselweni (GR 9270 c).

### 4. Square lipped rhino

- 30.4.85 ♀ adult very agitated and aggressive protecting the carcass of her young calf (♂ 3 weeks old) from a single adult spotted hyaena (0652 hours) which fled as I approached. The ♀ was eventually driven away from the carcass which was examined: penis of calf eaten by hyaena, umbilical scar had ruptured with the intestines exposed - suspect cause of death peritonitis. Horns not present on calf. Ngabaneni West (GR 8262 a).

### 5. Predation

- a) Leopard tortoise: 21.5.85 large carapace found (fresh) with 'top' removed and contents eaten; from the size of the canine puncture marks in the shell suspect lion responsible. Ziminyaneni (GR 9259 a).
- b) Terrapin Hinged: 20.5.85 large carapace found next to Ngwenyakhini pan: carapace punctured dorsally; from size of bite marks suspect lion. Terrapin not eaten (GR 9763 b)

APPENDIX 1:

SUMMARY OF ANIMALS SEEN ON FOOT DURING 1st SURVEY: UMFOLOZI GAME RESERVE

FEBRUARY AND MARCH 1985 (excludes animals seen en route to patrol blocks)  
(Gp = no. groups, N = number animals)

AREA	WEST		EAST		SOUTH		TOTAL	
Distance walked (km)	326.1		71.8		92.6		490.5	
	Gp	N	Gp	N	Gp	N	Gp	N
elephant	-	-	-	-	-	-	-	-
square lipped rhino	62	136	10	17	3	18	80	171
black rhino	8	10	1	1	3	4	12	15
buffalo	14	164	2	4	-	-	16	168
giraffe	21	76	-	-	-	-	21	76
wildebeest	74	343	3	4	8	62	85	409
zebra	64	346	1	2	3	17	68	365
kudu	8	18	6	9	3	6	17	33
nyala	18	33	7	16	13	21	38	70
impala	42	609	5	51	2	12	49	672
waterbuck	10	24	2	5	2	13	14	42
common reedbuck	-	-	1	1	-	-	1	1
grey duiker	3	3	3	3	1	1	9	9
red bush duiker	-	-	-	-	-	-	-	-
steenbuck	2	3	-	-	1	1	3	4
warthog	35	90	3	5	5	12	43	107
bushpig	-	-	1	1	-	-	1	1
lion	-	-	-	-	-	-	-	-
leopard	2	2	-	-	-	-	2	2
cheetah	1	2	-	-	-	-	1	2
spotted hyaena	1	1	-	-	-	-	1	1
black backed jackal	-	-	-	-	-	-	-	-
slender mongoose	1	1	-	-	-	-	1	1
banded mongoose	-	-	-	-	-	-	-	-
scrub hare	1	1	-	-	-	-	1	1
porcupine	-	-	-	-	-	-	-	-
baboon	8		5		4		17	
vervet monkey	1		2		4		7	
leopard tortoise		10		1		2		13
hinge backed tortoise		2				2		4
puff adder								-
spitting cobra								-
python								-
black mamba								-
Natal bush snake								-
crocodile		2		1				3
water leguaan		1				4		5

NOTE: Elephant not present in the reserve during this period.

APPENDIX 2:

SUMMARY OF ANIMALS SEEN ON FOOT DURING 2nd SURVEY: UMFOLOZI GAME RESERVE

APRIL and MAY 1985 (excludes animals seen en route to patrol blocks)

(Gp = no. groups, N = number animals)

AREA	WEST		EAST		SOUTH		TOTAL	
Distance walked (km)	400.6		76.1		102.3		579.0	
	Gp	N	Gp	N	Gp	N	Gp	N
elephant	3	17	-	-	-	-	3	17
square lipped rhino	86	170	8	15	11	19	105	204*
black rhino	11	18	-	-	2	3	13	21
buffalo	10	127	4	127	2	10	16	264
giraffe	10	30	-	-	-	-	10	30
wildebeest	81	348	-	-	16	120	97	468
zebra	40	207	1	3	9	33	50	243
kudu	14	30	3	9	1	1	18	40
nyala	10	19	4	7	11	17	25	43
impala	69	621	3	6	10	68	82	695
waterbuck	7	29	1	3	2	6	10	38
common reedbuck	-	-	-	-	-	-	-	-
grey duiker	10	10	2	2	2	2	14	14
red bush duiker	-	-	-	-	1	1	1	1
steenbuck	4	4	-	-	-	-	4	4
warthog	30	75	3	3	2	2	35	80
bushpig	1	2	-	-	-	-	1	2
lion	-	-	-	-	2	4	2	4
leopard	1	2	1	2	-	-	2	4
cheetah	-	-	-	-	-	-	-	-
spotted hyaena	2	3	-	-	1	1	3	4
black backed jackal	1	2	-	-	-	-	1	2
slender mongoose	5	5	-	-	1	1	6	6
banded mongoose	2	-	1	-	-	-	3	-
scrub hare	-	-	-	-	-	-	-	-
porcupine	1	2	1	1	-	-	2	3
baboon	10	-	1	-	6	-	17	-
vervet monkey	11	-	3	-	1	-	14	-
leopard tortoise	-	1	-	-	-	-	-	1
hinge backed tortoise	-	1	-	-	-	1	-	2
puff adder	-	1	-	-	-	-	-	1
spitting cobra	-	3	-	-	-	-	-	3
python	-	1	-	-	-	-	-	1
black mamba	-	1	-	-	-	-	-	1
Natal bush snake	-	-	-	1	-	-	-	1
crocodile	-	4	-	-	-	14	-	18
water leguaan	-	3	-	-	-	-	-	3

(222 -  
this  
report)

\* Presumably this does not mean survey 2, otherwise, why not 22600 in Table 4 (p2)