

INTRODUCTION OF FOOT-AND-MOUTH DISEASE-INFECTED BUFFALO INTO THE SAVE VALLEY CONSERVANCY IN ZIMBABWE : SUCCESS OR FAILURE ?

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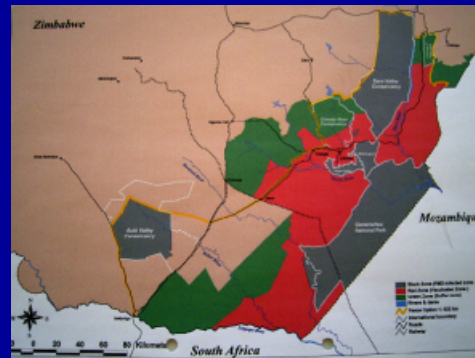
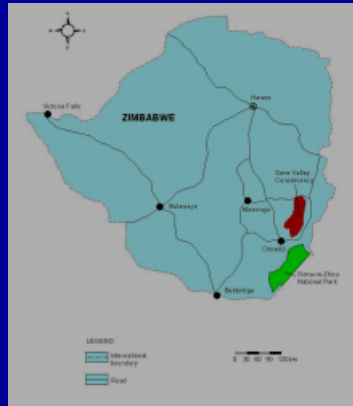
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INTRODUCTION

- The Conservancy was formed in 1991 in the south-east lowveld
- Prior to its formation, the major land-use was cattle ranching
- It comprises 28 properties with 22 individual owners
- The total area is 3400 km² and the perimeter fence is 315 km long
- There are 5 major rivers running through it, or on its borders, including the Save river which is the second largest in Zimbabwe
- There is a constitution binding the owners to certain conditions:
 - removal of internal fences
 - agreement to maintain perimeter fences
 - co-operation on restocking and wildlife utilization

LOCATION OF SAVE VALLEY CONSERVANCY



RE-STOCKING WITH WILDLIFE OTHER THAN BUFFALO

- Since 1991, major re-stocking has occurred with the following being introduced:

Elephant
Giraffe
Sable
Wildebeest
Lichtenstein hartebeest
Zebra

Other species have introduced themselves, including:

Wild dog, now numbering approximately 110
Lion
Cheetah

Leopard were always present (now \pm 500)

VETERINARY CONDITIONS FOR INTRODUCTION OF FMD-INFECTED BUFFALO

- Between 1977 and 1983, some 3000 buffalo were shot in the south-east lowveld, in order to gain beef export status to the EU
- However cattle could still not be exported from this area which comprised cattle vaccination and buffer zones; the beef export zones being further north
- Following the severe droughts of the 1980s and early 1990s cattle production became largely non-viable in the south east of Zimbabwe
- Application was made by the Conservancy to the Dept of Veterinary Services in 1993 to re-introduce buffalo
- Standards of fencing and other veterinary conditions, including removal of cattle, were drawn up and implemented over the next two years
- Buffalo were released back into the Conservancy in 1995

STANDARDS OF VETERINARY FENCING

- Double fence minimum of 7.5m apart
- Bush cleared with road and short grass between
- Inner buffalo fence
 - 1.2m 6 strand
 - pos and earth electric strand 0.8m up, and offset
- Outer game fence
 - ≥ 1.8 m high, 12 strand
 - 2 x pos/earth offset electric strands
- River crossings, including Save, with sacrificial fences
- Road crossings with gates, or manned 24 hours
- Voltages to be maintained at ≥ 5 kV
- All fences to be patrolled daily

RATIONALE

- Visual, physical and electric barrier
- No direct contact between livestock and buffalo

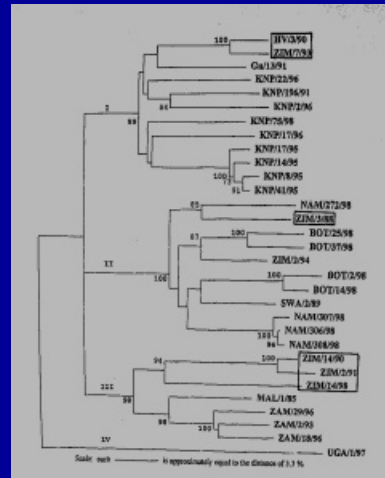
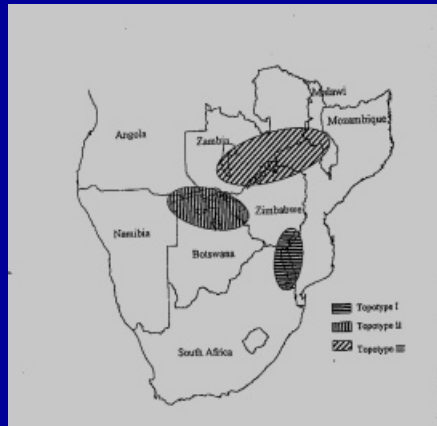




BUFFALO INTRODUCTIONS TO SAVE VALLEY CONSERVANCY

<u>Date Rec'd</u>	<u>Source</u>	<u>Number</u>	<u>Property</u>	<u>Release Date</u>
1993	Lone Star ex Gonarezhou	40	Senuko	1995
1994	Wankie	34	Matendere	1995
1994	Wankie	31	Sango	1995
1994	Wankie	24	Chapungu	1995
1994	Wankie	21	Savuli	1995
1994	Wankie	26	Humani	1995
1994	Wankie	51	Mukwazi	1995
1995	Matetsi	81	Humani	1995
1995	Wankie	23	Humani	1995
1995	Matetsi	38	Mokore	1995
2000	Matetsi	139	Mokore	2001
2000	Marinatha ex Gonarezhou	26	Senuko/Hammond	2001
2000	Nemba Safaris	56	Mokore	2001
2001	Karoi	3	Matendere	2002
2002	Mallilangwe ex Gonarezhou	21	Chishakwe	2002
2002	Mallilangwe ex Gonarezhou	4	Senuko/Hammond	2002
Total		618		

Buffalo were moved to the Conservancy from adjacent areas in the south-east lowveld as well as the west. These areas have different FMD virus topotypes



After capture, the buffalo were held for up to 2 years before release into the Conservancy, often under drought conditions



BUFFALO POPULATION GROWTH AND OFFTAKE

Year	Number of buffalo		Hunting quota	
	No. (estimated)	Comment	Allocated	Shot
1995	369	All released		
1996	402	Natural increase at 9%	10	4
1997	438	Natural increase at 9%	21	8
1998	477	Natural increase at 9%	17	13
1999	520	Natural increase at 9%	26	21
2000	567	Natural increase at 9%	26	11
2001	839	Increase + 221 released	28	18
2002	945	Increase + 30 released	31	16
2003	1030	Natural increase at 9%	49	

- At the more realistic 15% increase per annum, the population is likely to be around 1450
- The 2002 aerial sample count estimated the population to be 1878

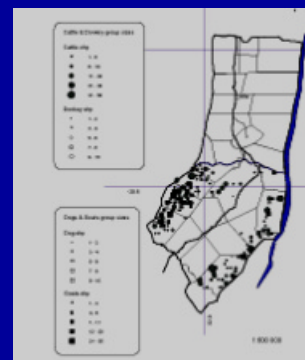
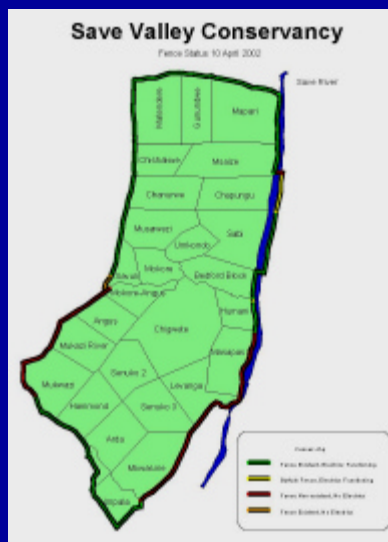
Major problems that have developed include the following, which to some extent are interlinked:

- Failure of the perimeter fence
- Circulation of FMD virus amongst antelope
- Outbreaks of FMD around the Conservancy
- Land occupations

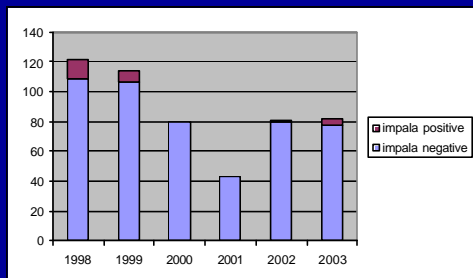
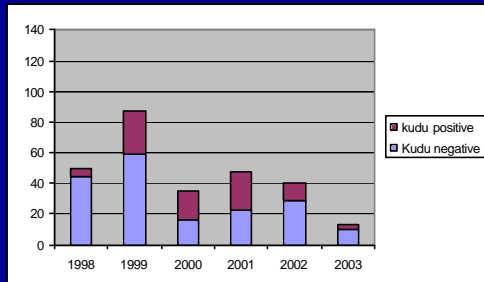
1. Failure of the perimeter fence



- **Poor fence maintenance:**
 - prior to land invasions (2000), analysis of fence condition show that the fence electric was only 76% maintained anyway
 - post-land invasions this has dropped to 59%
 - the fence on 8 of the peripheral properties has now been largely destroyed
- **Movement of animals through the fence:**
 - prior to 2000 this was a rare occurrence
 - since then elephant damage has been frequent in the southern areas adjacent to the sugar estates
 - Livestock movements now occur daily in the occupied properties



2. Circulation of FMD virus amongst antelope



- Serosurveys for FMD have been continued since 1998
- 8 species of antelope have been found sero-positive
- Most species show a prevalence of below 10%
- Kudu (overall prevalence of 34%) have been particularly important
- Mortality from FMD in this species has recently been significant
- Infective antelope pose a significant risk of carrying FMD virus outside the Conservancy; greater than the 0.02% estimated by Suttmoller and Thompson in 1997

Severe mortality of kudu from FMD (coronitis and septic arthritis)

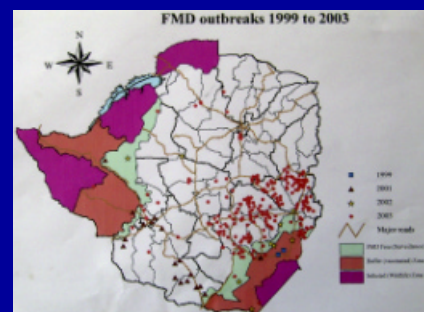
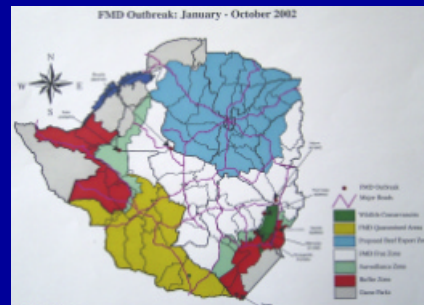


3. Outbreaks of FMD around the Conservancy

Five FMD outbreaks have occurred within 10 kms of the Conservancy, as follows:

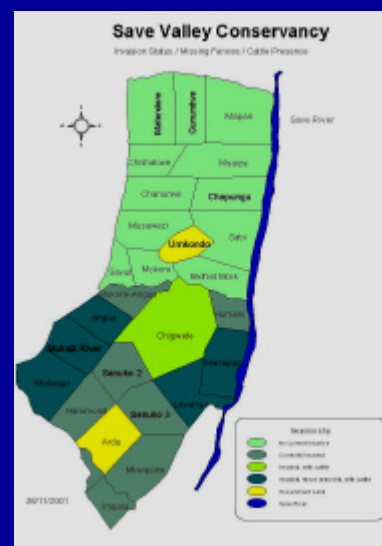
- Aug 1997 - SAT 2 Mukwazi ranch (cattle section)
- Jul 1999 - SAT 1: Mkwesine estate
- Jul 1999 - SAT 3: Mapanza ranch
- Sep 2002 - SAT 2: Matsai Communal Land
- Sep 2002 - SAT 2: Ndwoyo Communal Land

Two of these outbreaks were definitely from the Conservancy, while one was definitely not. The time of year may be significant



4. Land occupations

- Since 2000, some 750 km² (22%) of the Conservancy has been settled; all in the southern half
- 80 km of fencing (26% of the perimeter fence) has been destroyed
- The settlers are attempting to grow crops (maize / cotton) and raise livestock
- There were approx. 5450 cattle in the Conservancy in 2002; more now
- Some 30% of the plains game in the south has been poached
- 7 rhino have been snared, three fatally





Has it all been worth it ?

Costs:

- Extra fencing 950 000
- Fence maintenance 250 000
(excludes stolen fences)
- Buffalo 310 000
- 2 x FMD outbreaks 1500 000
- Political spotlight ?

Benefits:

- 120 buffalo hunts 600 000
- Extra ecotourists 100 000
- Removal of cattle and infrastructure ?
- veld recovery ?
- Experience gained ?

Failure ?: Some



Success ?: Time will tell

