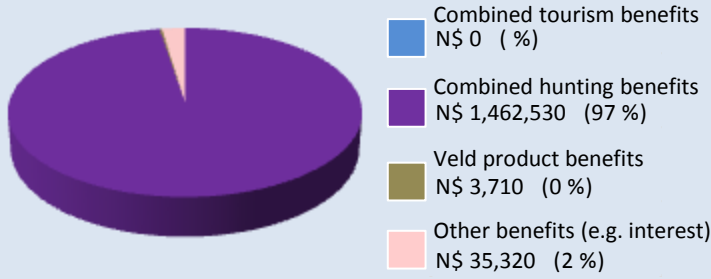# Dzoti

Annual Natural Resource Report

2012

maximising wildlife benefits by minimising threats...

Conservancy status

Benefits from natural resources in 2011
the chart shows the main benefit sources and values and their percentage of the total benefits

Approximate Total Benefits N$ 1,501,560

- Combined tourism benefits N$ 0 (%)
- Combined hunting benefits N$ 1,462,530 (97 %)
- Veld product benefits N$ 3,710 (0 %)
- Other benefits (e.g. interest) N$ 35,320 (2 %)

Two of the most significant benefits for the conservancy:
✓ cash income to the conservancy to cover running costs and invest in developments
✓ employment benefits to conservancy residents

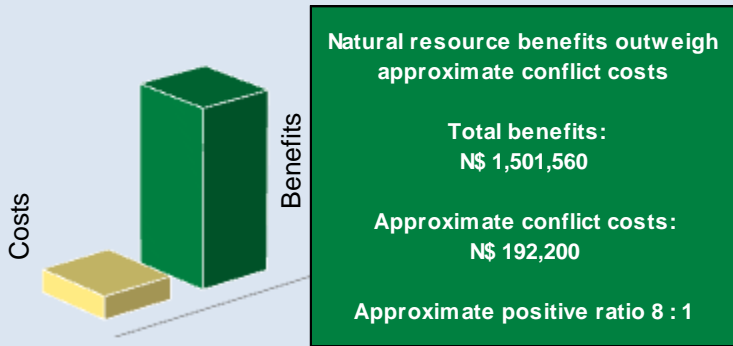| Conservancy income			N$ 1,367,560
Employment benefits	Private Sector	31 staff	N$ 94,000
	Conservancy	21 staff	N$ 308,700

Cost of natural resource conflicts in 2011
estimates are based on average national values

Estimated human wildlife conflict cost	N$ 138,140
Estimated poached high value species loss	N$ 54,060
Total conflict cost estimate	N$ 192,200

Natural resource cost–benefit ratio in 2011
the chart shows the approximate ratio of benefits to costs

Natural resource benefits outweigh approximate conflict costs

Total benefits: N$ 1,501,560

Approximate conflict costs: N$ 192,200

Approximate positive ratio 8 : 1

* The annual data collection process results in a lag of 1 year for income data *

Management performance in 2012

	Category	Score	Performance
1	Adequate staffing	3	
2	Adequate expenditure	2	
3	Audit attendance	5	
4	NR management plan	1	
5	Zonation	1	
6	Leadership	2	
7	Display of material	2	
8	Event Book modules	4	
9	Event Book quality	2	
10	Compliance	3	
11	Game census	4	
12	Reporting & adaptive m/ment	4	
13	Law enforcement	3	
14	Human Wildlife Conflict	3	
15	Sources of NR income	1	
16	Benefits produced	2	
17	Resource Sustainability	2	

Wildlife status summary in 2012

B. Zebra, Duiker, Elephant, Giraffe, Impala, Kudu, Roan, Sable, Steenbok, Warthog
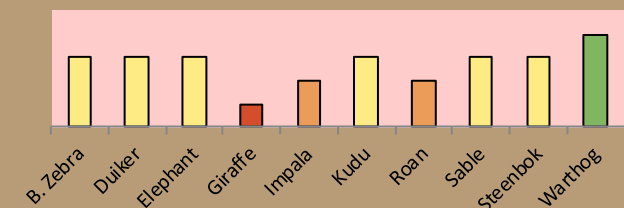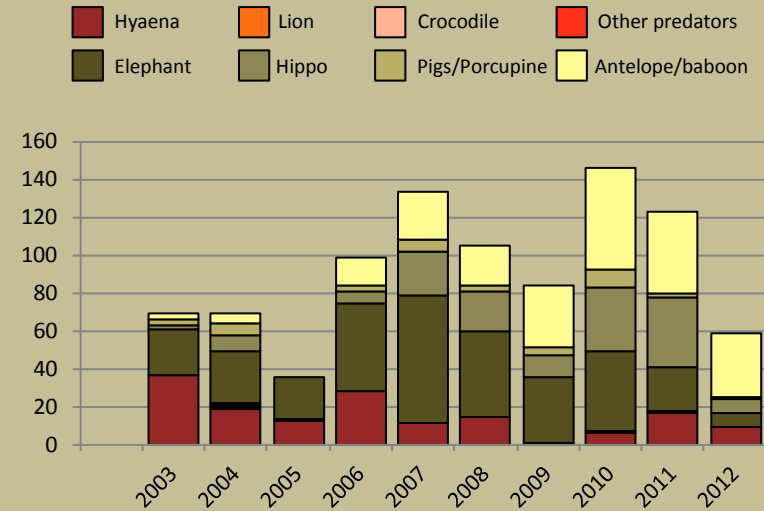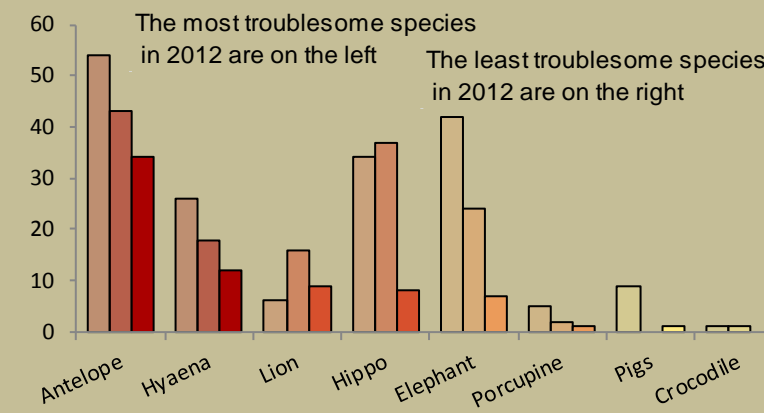
Human wildlife conflict

Human wildlife conflict trend
the chart shows the total number of incidents each year, subdivided by species, grouped as herbivores and predators

Legend: Hyaena, Lion, Crocodile, Other predators, Elephant, Hippo, Pigs/Porcupine, Antelope/baboon


Most troublesome problem animals 2010-2012
the chart shows the number of incidents per species for the last 3 years; the darkest bar (on the right) indicates the current year for each species

The most troublesome species in 2012 are on the left

The least troublesome species in 2012 are on the right

Antelope, Hyaena, Lion, Hippo, Elephant, Porcupine, Pigs, Crocodile

Type of damage by problem animals 2010-2012
the chart shows the number of incidents per category for the last 3 years; the darkest bar (on the right) indicates the current year for each type

Livestock attack, Other damage, Crop damage, Human attack
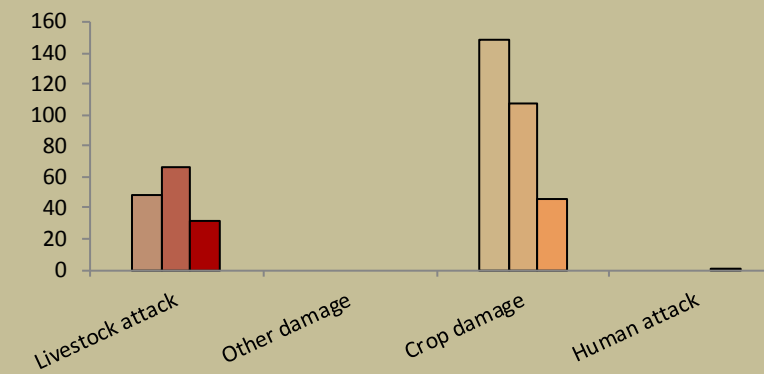
Poaching

Number of incidents per year
Commercial poaching is a serious threat to conservancy benefits. The chart shows the number of incidents per category

Legend: Subsistence, Commercial, High Value
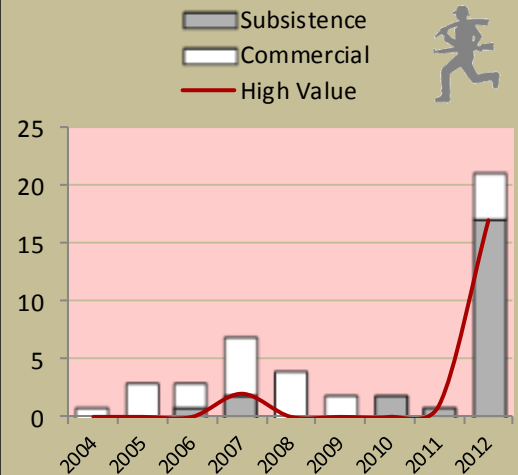
Traps and firearms recovered
number of incidents per category

Legend: Firearms recovered, Traps/snares recovered
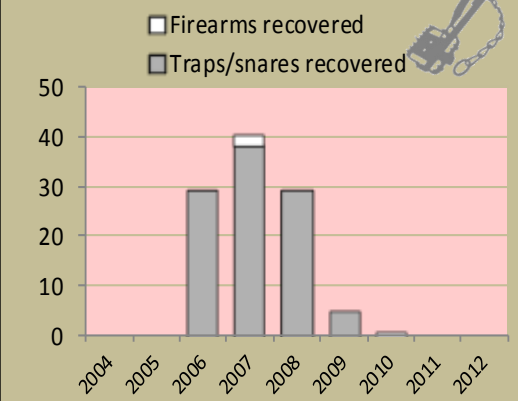
Arrests and convictions
number of incidents per category

Legend: Arrests, Convictions
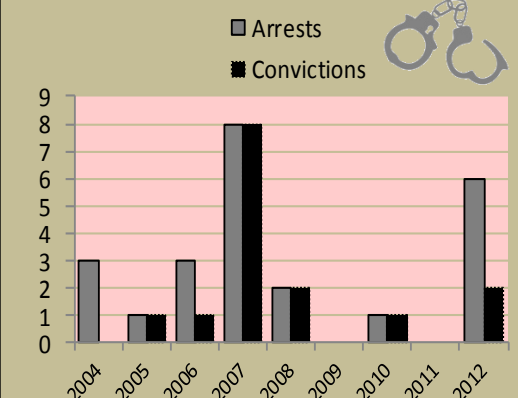
Wildlife removals – quota use and value

Species	Quota 2012						Animals actually used in 2012					
	Total	Potential Total Value N$	Trophy	Potential Trophy Value N$	Other Use	Potential Other use Value N$	Trophy	Own Use & Premium	Shoot & Sell	Capture & Sale	Problem Animal	Total Use
Buffalo	11	424,825	8	424,000	3	825	8	4			1	13
Bushbuck	1		1				1					1
Crocodile							1					1
Duiker	2	2,316	2	2,316								
Elephant*	8	621,995	5	612,455			4	4			1	9
Hippo	6	80,302	4	79,752	2	550	3	3				6
Hyaena	2	5,962	2	5,962								
Impala	1	1,744	1	1,744			1					1
Kudu							1	1				2
Leopard	1	20,586	1	20,586								
Roan*	2	95,112	2	95,112			1					1
Sitatunga	1		1				1					1
Warthog	3	7,467	3	7,467								
B. Zebra	5	19,670	5	19,670			3					3

Potential value estimates (N$) for quotas are based on:
- **Potential trophy value** - the average national trophy value of each trophy species multiplied by the quota number
- **Potential other use value** - the average national meat value of each common species multiplied by the quota number
  - the average live sale value of each high value species (indicated with an *) multiplied by the quota number
  - high value species are never used for meat

Key to the status barometer

Wildlife status

extinct, very rare, rare, uncommon, common, abundant

weak/bad, reasonable, good
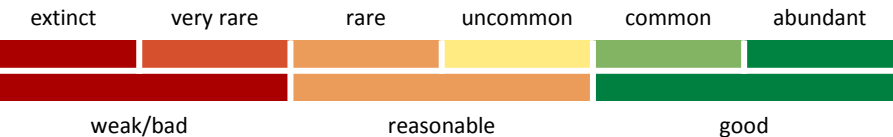
Management performance & other data

Success/threat flags

▶ success/benefit created

◀ weakness/action needed

Conservancies reduce environmental costs while increasing environmental benefits. Benefits from wildlife can far outweigh human wildlife conflict costs.

monitoring numbers and trends for a healthy conservancy...

Current wildlife numbers and status

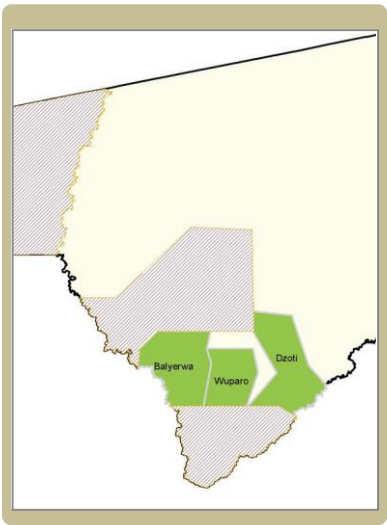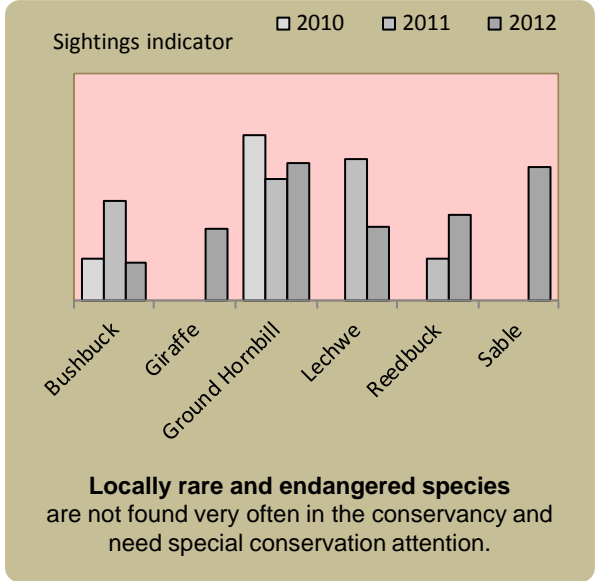| Species	Animals Seen	Estimate	Wildlife Status		
			Count Trend	National Guideline	Desired Number
B. Zebra	30	30			
Duiker	3	116			
Elephant	9	164			
Giraffe					
Impala					
Kudu	6	52			
Roan					
Sable	2				
Steenbok	1				
Warthog	3	7			

Wildlife Status

Count trend – gives the species status in the conservancy based on game count trend data.

National guideline – gives the species status in the conservancy using national guidelines for the conservancy; for example, lions may cause local problems, but are of high value and are rare at landscape level.
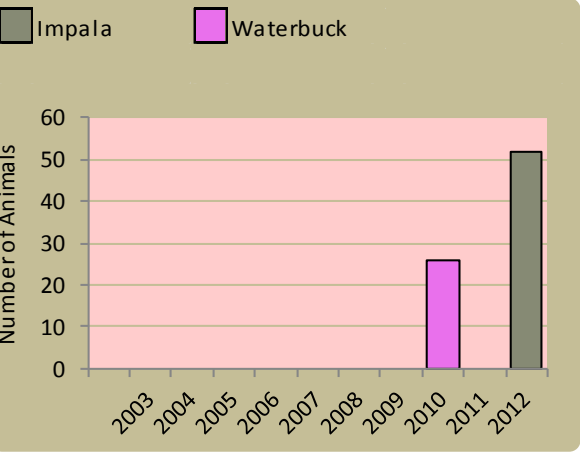
Desired number – gives the species status in the conservancy based on what the conservancy would like to have.

dark green (abundant) – there should be less;
light green (common) – the desired number is reached;
yellow (uncommon) – there should be more;
light orange (rare) – there should be more than double;
dark orange (very rare) – there should be more than triple;
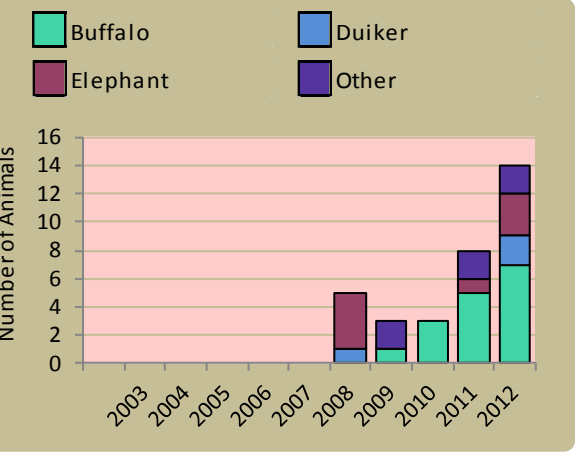**red** (extinct) – the species needs to be reintroduced.
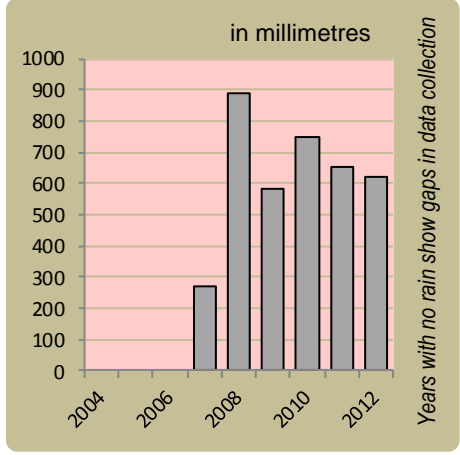
Locally rare species

Sightings indicator ☐ 2010 ☐ 2011 ☐ 2012

Bushbuck, Giraffe, Ground Hornbill, Lechwe, Reedbuck, Sable

Locally rare and endangered species are not found very often in the conservancy and need special conservation attention.

Wildlife introductions

Impala, Waterbuck

Number of Animals (0–60), 2003–2012

Wildlife mortalities

Buffalo, Duiker, Elephant, Other

Number of Animals (0–16), 2003–2012

Annual rainfall

in millimetres

(0–1000), 2004–2012

Years with no rain show gaps in data collection
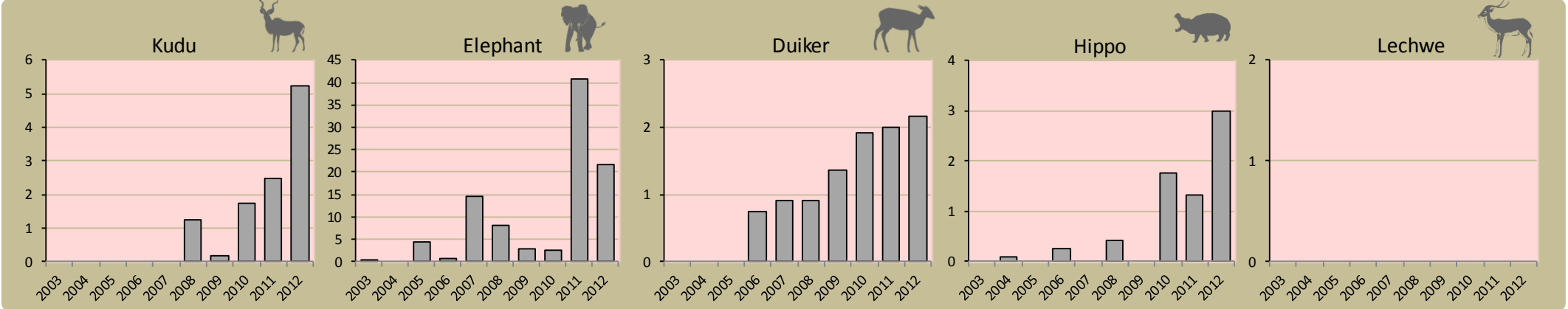
Fixed route patrols

charts show the number of sightings of each species per fixed route foot patrol each year

Kudu (0–6), 2003–2012
Elephant (0–45), 2003–2012
Duiker (0–3), 2003–2012
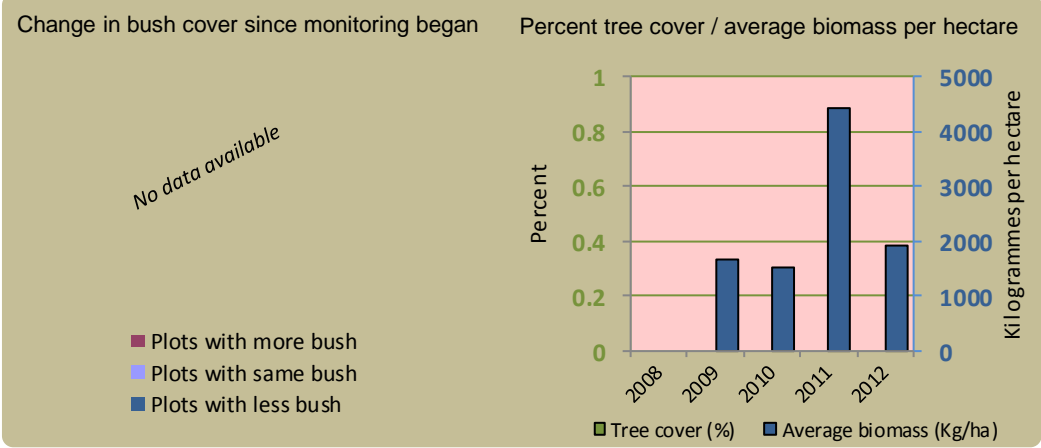Hippo (0–4), 2003–2012
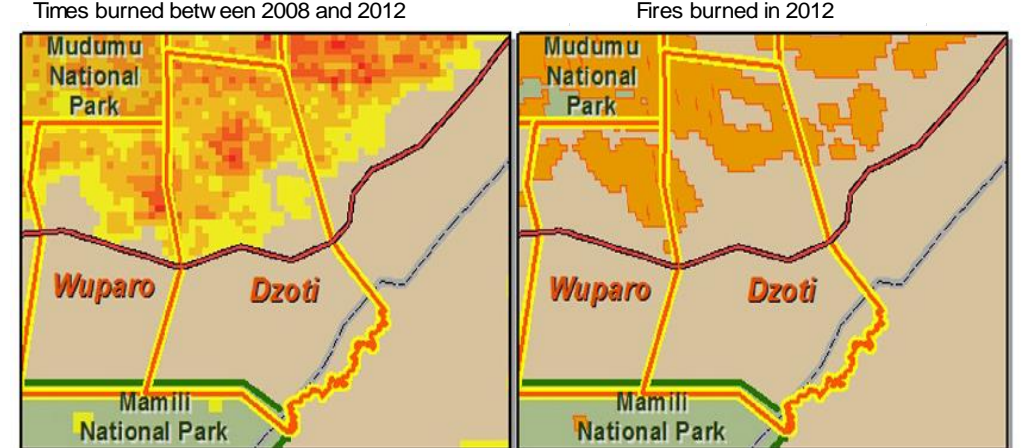Lechwe (0–2), 2003–2012

Predator monitoring

charts show the average number of animals seen per Event Book each year
status barometers reflect the general sightings trend over the last 5 years

Wild Dog (0–1), 2003–2012
Hyaena (0–40), 2003–2012
Cheetah (0–5), 2003–2012
Leopard (0–4), 2003–2012
Lion (0–24), 2003–2012

Vegetation monitoring

Change in bush cover since monitoring began

No data available

- Plots with more bush
- Plots with same bush
- Plots with less bush

Percent tree cover / average biomass per hectare

Percent (0–1) / Kilogrammes per hectare (0–5000), 2008–2012

Tree cover (%), Average biomass (Kg/ha)

Fire monitoring

Times burned between 2008 and 2012

Mudumu National Park, Wuparo, Dzoti, Mamili National Park

Fires burned in 2012

Mudumu National Park, Wuparo, Dzoti, Mamili National Park

Balyerwa, Wuparo, Dzoti

Wildlife provides a wide range of benefits. Some wildlife can cause conflicts, but all wildlife is of value to tourism, trophy hunting and a healthy environment.

By using all the available information and adapting and improving activities, threats such as human wildlife conflict, poaching and other issues can be minimised.