GRIETJIE
PRIVATE NATURE
RESERVE

FEBRUARY 2014

NEWSLETTER

Photograph. S Schmid

COMMITTEE UPDATE **by Hans Schmid**

Quarterly Balule Meeting

a) Protrack gave an interesting presentation on their efforts and modus operandi. Due to the huge area they have to cover in Balule, some 42,000 ha, and the limited financial resources available to combat the rhino poaching gangs, their primary task is to be a deterrent and to follow up on any shots heard and spoor found. One day a week is set aside for intensive fire arm and bush training and they expect to become more efficient as the training progresses.
b) Sean Nielsen – the proposals made by Sean to join Balule were discussed. There are certain concerns and it was resolved that Andy Dott (Balule chairman) would put the Balule compliance list together and the

primary affected regions, Parsons, ONGR, and GPNR, will then add their local concerns (access, hunting, traversing rights etc.).

c) Tshukudu has also approached Balule for incorporation.

d) For security reasons, it was decided by Balule that all personnel (wardens and rangers) be subjected to a polygraph test with special reference to disseminating information on rhinos. Craig Spencer (Transfontier Africa) offered to sponsor the rangers. GPNR would also like the 3 gate guards to take this voluntary test which costs about R700 per person.

Municipal Rates & Taxes

About 3 months ago the Municipality envisaged publication of the new valuation and zoning roll early this year. According to an official, the tenders to prepare the new roll are now available and the new roll will only be published in June 2014. It is essential that owners then assess their new valuation and zoning, a time limit is then set to submit objections. We will try and keep you posted.

Contacting Non-payers

The committee members have been making a substantial effort to contact non-payers on Grietjie in order to assess any complaints or understand reasons for non-compliance. This is a drawn out process with personal contact and is already bearing fruit. This committee effort will be ongoing but as members, if you are interested in seeing GPNR develop as a nature reserve, you can also assist us by talking to your acquaintances on Grietjie and liaising with the committee.

Finances

Financially we are still on budget, income for January was R37,982 and expenditure was R50,387. Included in the month's cost was R7,290 for a base station and a fourth handheld radio as well as batteries. We now have a radio system that allows Johan to contact the 3 rangers and the gate from almost every location on Grietjie. Some owners have already purchased their own radios in order to also make use of the radio network. The radio system was explained in more detail by Johan in the last "Words from the Warden".

Road Works

As we have secured sufficient funds for the Maggies Hill phase 2 project, we will now be purchasing reinforcing mesh, sand, stone and cement as well as a further 4 tons of cold mix tar for the road repairs.

Johan and Blackie have started improving Scorpion road from plot 36 to plot 39. This will take some time to complete as we will spend 2 days a week from mid-March on pre-casting pavers for Maggies Hill.

Access Control

We cannot confirm that the access controls are totally efficient at present. There are still short comings that we address with our gate staff, but in order to make access control effective, owners must also cooperate with the rules. It was decided that we should highlight one rule per month to create awareness and hopefully ensure better compliance. The access control rules were distributed in November 2012 and anyone needing a fresh copy can obtain them from Grietjiecomms. Our rules are to enhance the security on Grietjie and ensure safety of residents and their staff as well as the game.

Visitors to owner's staff *– Access will only be granted to the staff visitor if prior approval (in writing or by phone call) has been given by the owner to the warden directly or via "grietjiecomms". The owner is also responsible to organize transport for this visitor from and to the gate and must arrange for issue and signature of an exit permit. If the owner does not want any staff visitors on his premises, for perhaps*

security reasons, a letter can be sent to "grietjiecomms" stating the owner's decision not to allow any visitors to his staff. A standard letter can also be written by the owner to "grietjiecomms" giving specific people blanket permission to visit their staff. Details of names, ID numbers and transport arrangements must be provided.

Labour

Fanie, the new gate guard who started work with us on the 24th December 2013, resigned on 12 February. A replacement, Terrance Sivalo, has commenced work at the gate, is still undergoing training and is on probation. Please be patient with him and give him your support.

Community Projects – INVASIVE ALIEN PLANTS **by Blackie de Swardt & Peter Meier**

We are trying to clear Grietjie of all invasive alien vegetation and this month we will be concentrating on the PRICKLY PEAR.

There are about six different varieties in South Africa which are all category 1 declared weeds. Category 1 weeds are prohibited on any land or water in South Africa and must be controlled or eradicated where possible. The cladodes (or "ears") of the prickly pear (boere turksvy) can be poisonous to ruminants if fed in quantity. We are therefore asking you to let us know of any plants on your property and to give us permission to enter your property. Once we have a detailed list from the owners of these invaders, we will organize a Community day with owners in a specific area and will then do a combined biological control.

Creeping prickly pear (Opuntia humifusa)

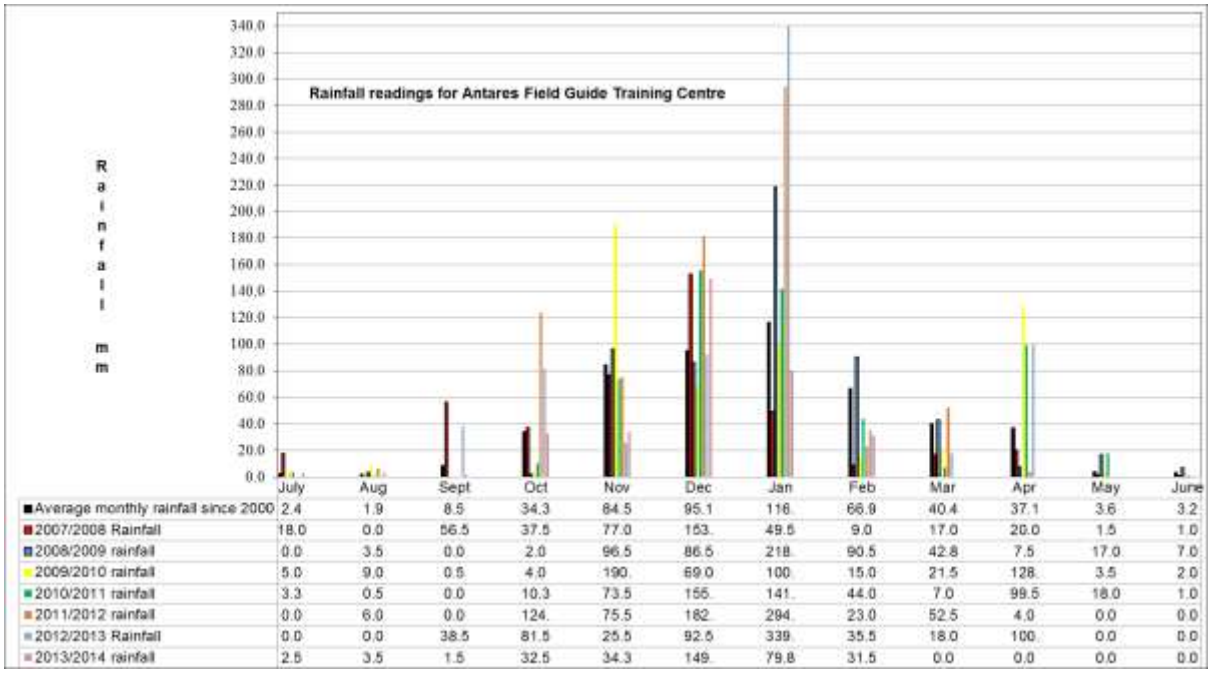
Please contact either Blackie at 082 968 1311, or Peter at 082 855 6852 or email to Grietjiecomms for details of these invaders on your property.

A limited number of pamphlets for invader species have been obtained and are available to owners at the main gate.

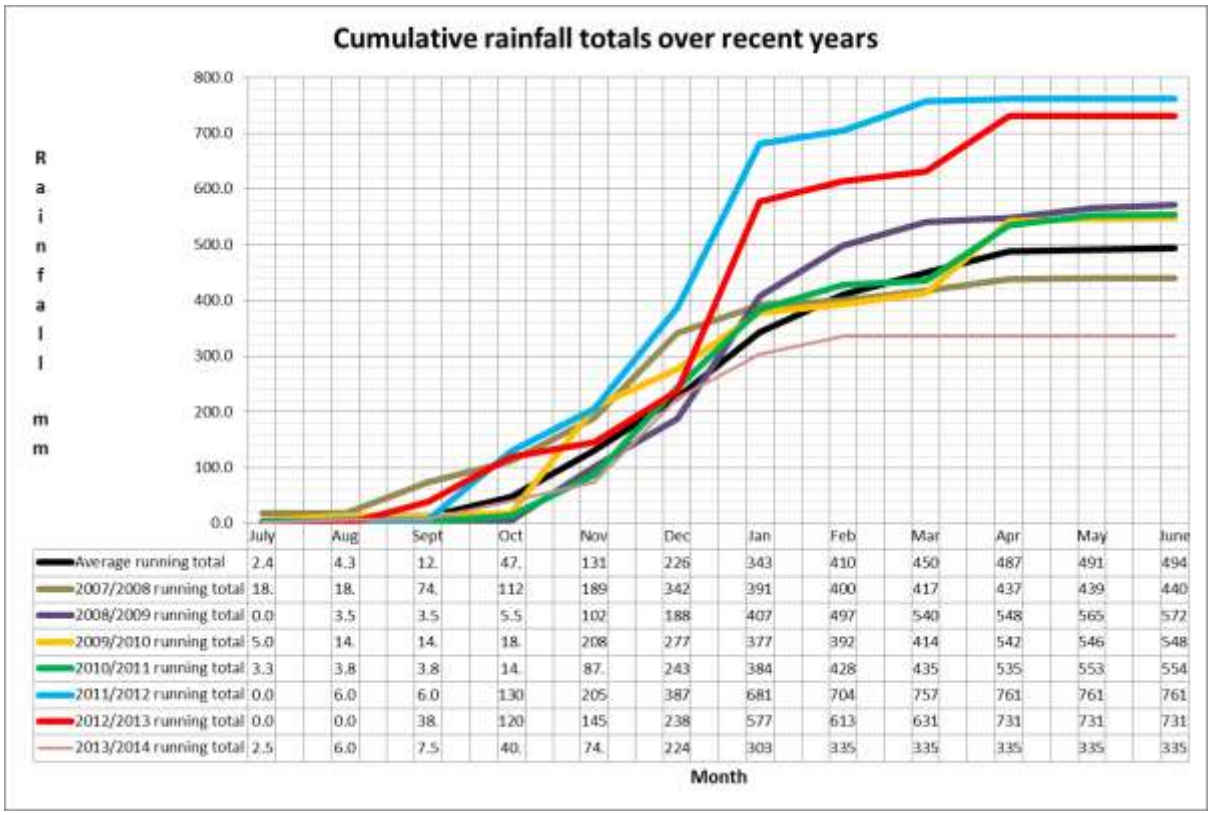
Queen of the night (Cereus hildmanniasus subsp. Uruguayanus)

RAINFALL AND TEMPERATURE STATS

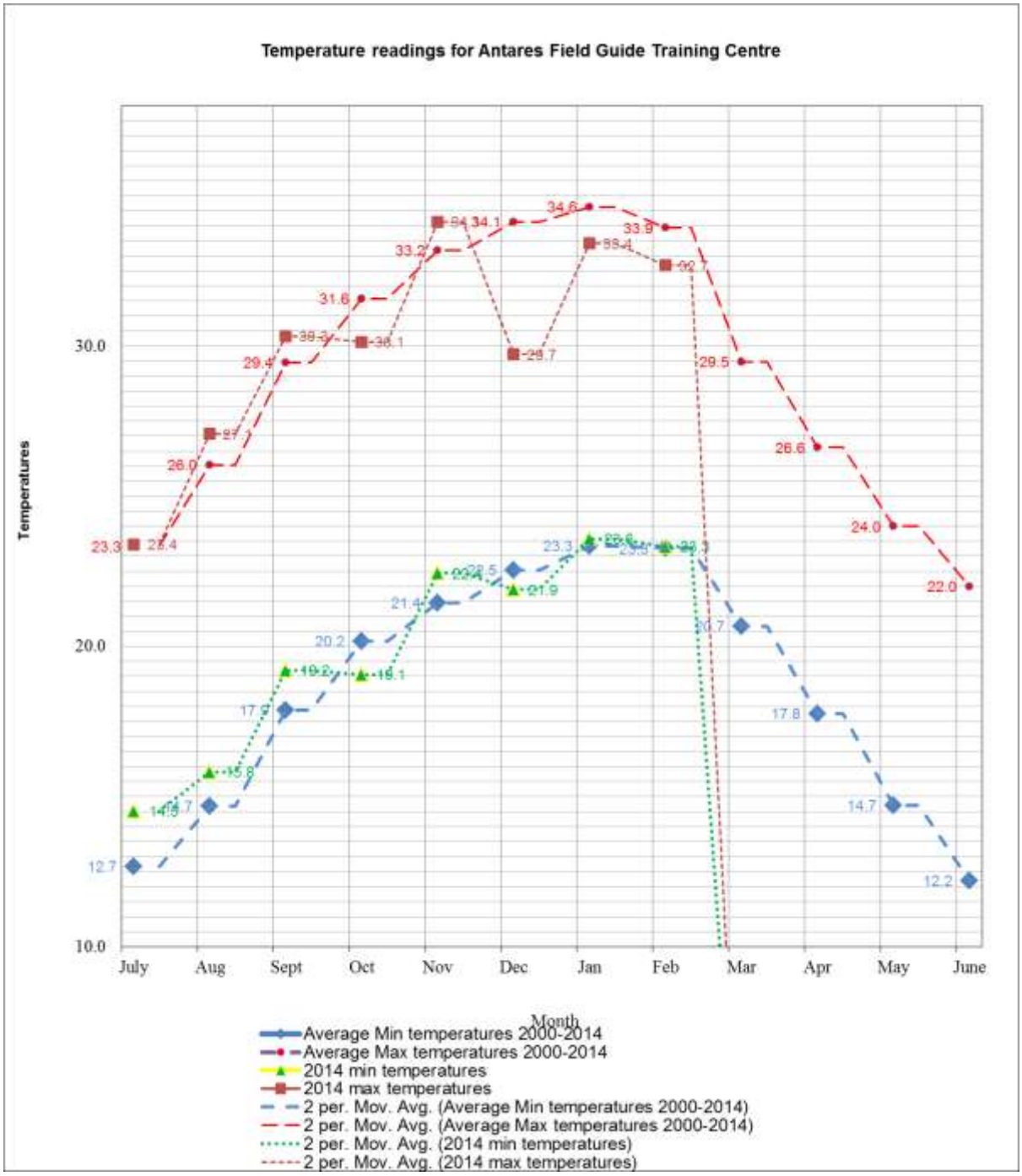
by Ian Owtram



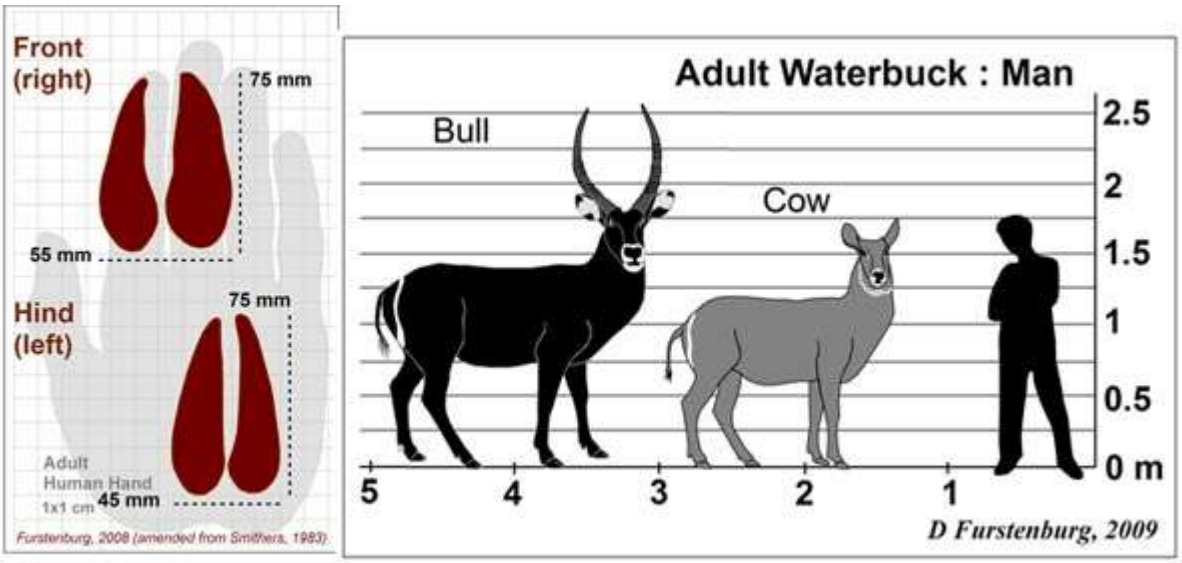
	July	Aug	Sept	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	June
Average monthly rainfall since 2000	2.4	1.9	8.5	34.3	84.5	95.1	116.	66.9	40.4	37.1	3.6	3.2
2007/2008 Rainfall	18.0	0.0	56.5	37.5	77.0	153.	49.5	9.0	17.0	20.0	1.5	1.0
2008/2009 rainfall	0.0	3.5	0.0	2.0	96.5	86.5	218.	90.5	42.8	7.5	17.0	7.0
2009/2010 rainfall	5.0	9.0	0.5	4.0	190.	69.0	100.	15.0	21.5	128.	3.5	2.0
2010/2011 rainfall	3.3	0.5	0.0	10.3	73.5	155.	141.	44.0	7.0	99.5	18.0	1.0
2011/2012 rainfall	0.0	6.0	0.0	124.	75.5	182.	294.	23.0	52.5	4.0	0.0	0.0
2012/2013 Rainfall	0.0	0.0	38.5	81.5	25.5	92.5	339.	35.5	18.0	100.	0.0	0.0
2013/2014 rainfall	2.5	3.5	1.5	32.5	34.3	149.	79.8	31.5	0.0	0.0	0.0	0.0



	July	Aug	Sept	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	June
Average running total	2.4	4.3	12.	47.	131	226	343	410	450	487	491	494
2007/2008 running total	18.	18.	74.	112	189	342	391	400	417	437	439	440
2008/2009 running total	0.0	3.5	3.5	5.5	102	188	407	497	540	548	565	572
2009/2010 running total	5.0	14.	14.	18.	208	277	377	392	414	542	546	548
2010/2011 running total	3.3	3.8	3.8	14.	87.	243	384	428	435	535	553	554
2011/2012 running total	0.0	6.0	6.0	130	205	387	681	704	757	761	761	761
2012/2013 running total	0.0	0.0	38.	120	145	238	577	613	631	731	731	731
2013/2014 running total	2.5	6.0	7.5	40.	74.	224	303	335	335	335	335	335


Temperature readings for Antares Field Guide Training Centre
Temperatures
30.0
20.0
10.0
July
Aug
Sept
Oct
Nov
Dec
Jan
Feb
Mar
Apr
May
June
Month
Average Min temperatures 2000-2014
Average Max temperatures 2000-2014
2014 min temperatures
2014 max temperatures
2 per. Mov. Avg. (Average Min temperatures 2000-2014)
2 per. Mov. Avg. (Average Max temperatures 2000-2014)
2 per. Mov. Avg. (2014 min temperatures)
2 per. Mov. Avg. (2014 max temperatures)

WATERBUCK *Kobus ellipsiprymnus* by Sharon Schmid



Waterbuck

During the recent Mike Peel presentation, questions were raised concerning the density of the waterbuck population on GPNR, as well as a possible sex ratio imbalance as the bachelor herds do appear to be excessive. I was curious about the answers to these questions so went on a fact finding mission and while I was busy with that, I learned a number of other interesting facts concerning waterbuck.

Ecology

Waterbuck are one of the most water-dependant species of antelopes. They must drink at least twice daily, consuming an average of 9 litres of water daily which is higher than the requirements of cattle. Consequently, they are limited to areas within 2km of water.
Although they will not bathe in water, they swim well and will enter it to escape predators.
Although it appears to be accepted that waterbuck prefer grassy plains near water, surveys in KNP show that waterbuck favour mountain bushveld, whilst avoiding bushwillow woodland, thorn thickets and sandveld. Females will frequent areas of dense woody vegetation in summer to provide cover for calves.

Diet

As grazers, they prefer good quality medium to tall grass, but when grass is low in protein in the late dry and early wet season, they will take up to 20% browse in KNP. Over every 24 hour period, more time is spent foraging in the dry season with only 4 minutes on average spent in deep sleep, and 3% to 18% resting and light dozing.

Social structure

Herds consist of mixed families of adult cows and calves with or without a dominant territorial bull; bachelor groups of sub-adult males aged between seven months and five years; groups of heifers aged 1–3 years; solitary, territorial bulls aged 6-10 years; and solitary, nomadic post-mature bulls older than 9 years.

Female herds are in continual flux, with no rank, reciprocal grooming or greeting ritual. They generally consist of 4 to 10 individuals. Young males are driven away at weaning or when their horns emerge and join bachelor

herds. Young heifers are driven away 2-3 months after weaning and form heifer herds. In high density situations, heifers and bachelor herds may emigrate.

Young males between 7months and 6 years join a “home” bachelor group which does not readily accept young males from other areas. Herds may consist of up to 30 individuals and have a rank hierarchy based on seniority and size and strength. Conflict is frequent. Bachelors are allowed to cross territories as long as they do not attempt to associate with family groups. If there are too many older bachelors in a group, they may emigrate. Emigrants tend to form their own groups. When old enough, a male must fight a territory holder to take over a territory. To do this he will adopt many ruses such a stationing himself on the border of territories and running into a neighbouring territory if challenged.

Heifers are sexually mature at 20 months and can remain so for 10 yrs. In high density situations heifers may go through a solitary wandering stage whilst seeking a new location, travelling as far as 30km.

Males generally only breed when they are capable of holding a territory at 5-6 years, 3 years after they reach sexual maturity. This could be due to the fitness and experience necessary to obtain and then hold a territory. In fact the prize territories are generally held by males of 7-9 years of age although the average length of time a territory is held is only 1.5 years. The size of territories is also governed by habitat and population density.
Males will permit other males access to water within their territories without strife. Some will tolerate bachelors as long as they behave themselves, while others will chase off all sexually mature males. Others will accept “satellite bulls” that may help them drive off intruders. The advantages to the “satellite bull” are that he gets “on the job training” and has improved chances of taking over the territory when the reigning bull is no longer able to hold it.
Nursery herds have home ranges that overlap male territories. As females pass through territories, male will test their reproductive status.

Breeding

Mating activities peak during winter, but may occur year round. This is followed by 9 months of gestation.
Expectant mothers will isolate themselves in thicket a few days before giving birth. They prefer to return to the same site for subsequent births. After birth, calves are hidden in thickets or long grass for 3-4 weeks and are visited by the mother 3-4 times a day. After a visit, if the calf follows the mother, she may trot away while the calf’s attention is diverted, or she may be forced to run from it. At soon as the calf loses sight of the mother, it will hide itself again. Calves are summoned by a low bleat or moo and will gambol around the mother and race in circles before suckling. Although mothers will wander up to half a kilometre away from the calf during the day, they will loiter in the vicinity of the calf at night. The mother will hold her tail out or up as a signal for the calf to follow her.
Weaning occurs at 6-9 months. Mortality up to weaning can be as high as 50%. Growth is relatively slow and adult weights are only reached at about 2.5 years when sexual maturity attained.

Predators

Adult waterbuck have a reputation for smelly and unpalatable meat. This is due to the musky oil secreted by glands found primarily in the skin of the flanks which forms a waterproof layer around the hair and protects the skin when the waterbuck enters water. There seems to be some discrepancy among scientists that this musky odour discourages lions from predating on them. It is a fact that in KNP adult waterbuck form a large portion of the diet of lions. Certainly on GPNR this is due to their abundance. Other predators concentrate on sub-adult waterbuck.

Sex ratios

After enquiring, I obtained the following sex ratios of the waterbuck population on GPNR from the 2013 game count.

Males 98
Females 124
Calves 35

According to research, ratios in KNP generally fall within the region of 2 males to 3 females (Kingdon) (Spinage), so the population demographics on GPNR are close to normal.
Possibly the large bachelor herds are just more visible than the small scattered groups of females. That aside, if one considers that the average waterbuck male is 6 years old before he can hold a territory, and only manages to hold it for about 1.5 years, there has to be a large pool of up and coming territorial males. Males holding territories are by necessity prime specimens for selective breeding as they must not only be able to fight off other males, but have the attributes to survive without the protection of a herd.

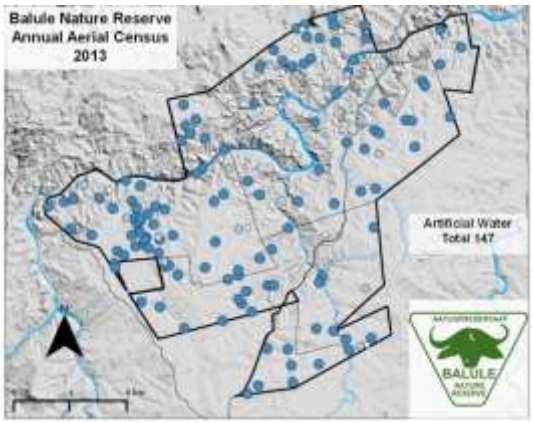
Population density

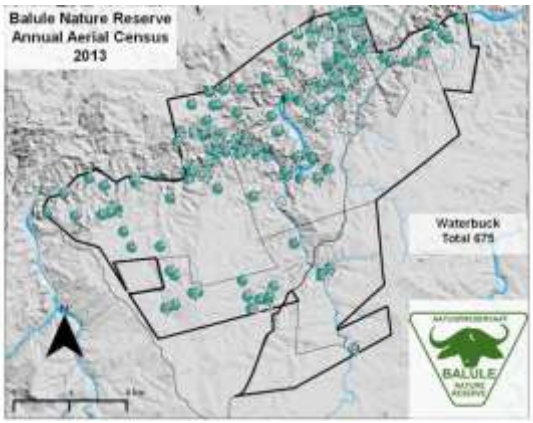
An advisable *maximum* stocking density in an *optimal* habitat is 12.5 ha/waterbuck or 8/km² (Wildlife Ranching). GPNR has a density of 11 ha/waterbuck or 9.1/km².
Waterbuck population densities in Uganda vary from 0.15-17.8/km² (Wildlife Ranching). I was unable to source any data from local areas. All I could establish was that due to their specific requirements, preferred habitats are not common and that waterbuck are easily out-competed by impala.

These are the census results for the waterbuck population on GPNR.

	WET	DRY	%	WET	%	WET	%	WET	%	WET	%	WET	%
	2007	2008	CHANGE	2009	CHANGE	2010	CHANGE	2011	CHANGE	2012	CHANGE	2013	CHANGE
WATERBUCK	169	87	-49%	193	122%	132	-32%	154	17%	160	4%	257	61%

The aerial surveys of artificial water and the location of waterbuck on Balule illustrates that although they congregate near water, they have other habitat requirements which must also be met.





Waterbuck populations are severely affected by dry seasons and tend to have a strong favourable reaction to wet seasons, unlike zebra and wildebeest for instance. This could be due to the fact that they are most severely affected by increased competition for grazing near water points.
The best trophy quality is generally found in outcast, post-mature, solitary bulls aged over ten years.

Key references:

1. Mammals of Africa, Volume 6

By Jonathan Kingdon, David Happold, Thomas Butynski, Michael Hoffmann, Meredith Happold, Jan Kalina

2. East African Mammals: An Atlas of Evolution in Africa, Volume 3 ..., Part 3

By Jonathan Kingdon

3. Wildliferanching.com ©2009
4. The Behaviour Guide to African Mammals by Richard Despard Estes
5. Smithers' Mammals of Southern Africa

by Peter Apps

6. A Territorial Antelope: The Uganda Waterbuck

by C Spinage

7. *Koedoe* 54(1), Art. #1009, 11 pages. Chirima, G.J., Owen-Smith, N. & Erasmus, B.F.N., 2012, 'Changing distributions of larger ungulates in the Kruger National Park from ecological aerial survey data'
8. IUCN SSC Antelope Specialist Group 2008. *Kobus ellipsiprymnus*. In: IUCN 2013. IUCN Red List of Threatened Species. Version 2013.2. <www.iucnredlist.org>. Downloaded on **01 March 2014**.
9. The Kruger Experience: Ecology And Management Of Savanna Heterogeneity

By Harry C. Biggs