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BOTSWANA'S Wildlife Dilemma

A clear message to President Ian Khama of Botswana

Extract from President Ian Khama's State of the Nation Address (2013):

"Wildlife: Government has decided to introduce a ban on the hunting of wildlife in all controlled hunting areas in Botswana with effect from January 2014. The decision was necessitated by available scientific-based information indicating that several wildlife species are in decline. The suspension of hunting will allow the government, working with all stakeholders, to focus on understanding the causes of these declines and, where possible, to put in place remedial measures to reverse the trends."



Photo: Alan Ainslie

I do not doubt that “several species (of wild animals)” are in decline in Botswana at this time. I am just amazed that, under the wildlife management regime that has been in force in Botswana over the past 50 years, there is any wildlife left.

Management is: “The action taken by man, or purposefully not taken by man, to achieve a specific man-desired objective”.

There has never been any proactive wildlife management practised in Botswana – ever – except for the issuing of very small numbers of hunting licences every year. Nature has, quite literally, been left to its own devices.

The result of this laissez-faire approach is totally predictable. It is exactly what President Khama has acknowledged in his State of the Nation address: “several wildlife species are in decline” – which is an understatement. They are in free fall – a situation that has been in force now for several years. Reports suggest that several species (compared to 10 and 20 years ago) are down in number by as much as between 50 and 90 per cent.

President Khama’s suspension of hunting in Botswana, however, will not solve the country’s wildlife woes. On the contrary! Not having hunters constantly traversing their hunting concessions will open up the country to commercial poachers; it will therefore exacerbate the problem.

Botswana’s wildlife managers do not have to be rocket scientists to understand the causes of their country’s catastrophic wildlife declines. Neither do they need to use much brain power to determine what *remedial measures* need to be taken. All they need to do is to apply some very basic principles of wildlife management. In order for them to apply these principles, however, they have to understand what they are. They also need to have a very clear understanding of the “man-desired” wildlife management objective(s) they wish to achieve.

Internationally, the pre-eminent “man-desired” wildlife management objective, for any and all wildlife sanctuaries, is to maintain the integrity of their biological diversities. No matter what wildlife management practices are applied, or not applied, therefore, no species (of plant or animal) must be lost to the ecosystem as a consequence. Above all, the soil must be protected from erosion and every kind of habitat, big and small, must be maintained in a healthy state to ensure that narrow-niche animal and plant species do not become locally extinct.

Maintaining species diversity is a straight forward “man-desired objective”. I doubt there is anybody who will find fault with this basic ideal. Subjective objections within the public realm are often encountered, however, when the wildlife management practices instituted to achieve that objective do not meet with everybody’s approval.

Ignorance of the principles of wildlife management, therefore, is the root cause of public dissensions, coupled with human emotions when the killing of animals is prescribed. There is a need, therefore, for governments to constantly educate society with regard to the true wildlife management rationale. There is a vital need, also, for governments to practise responsible wildlife management at all times *despite* uncomprehending public objections, and *despite* aggressive and coercive opposition from the animal rightists whose *raison d’être*, in this context, is to

force governments to abolish all lethal wildlife management practices.

For me to present a rational explanation of the circumstances surrounding the wildlife population declines in Botswana at this time, I must, perforce, descend once again into the fundamentals of the wildlife management equation. Only by doing so can I support the logic and veracity of the remedial action that I here prescribe.

I have covered this subject many times in this magazine, but it bears repeating however many times as it may be necessary in order to “get the message across”. The whole of Southern Africa is infected by the same toxic anti-wildlife management contagion – and the same vectors of this virulent pandemic (the animal rightists) are operative throughout. So the need to try, once again, to get common sense to prevail within the realms of responsible governments and societies at large, is of ever-greater importance.

Once again, therefore, I find myself repeating society’s “conservation priorities”:

- ▶ Our **first priority** must be for the protection and wise-use of the soil – because without soil there would be no plants.
- ▶ Our **second priority** must be for the wise and sustainable use of plants – because without plants there would be no animals.
- ▶ Our **third priority** must be for the wise and sustainable use of animals.

(Note: Animals come last on the list; not because they are not important, but because they are less important than the soil and the plants.)

People who put their concerns for the protection of animals ahead of their concern for the soil and for the plants, therefore, are putting the cart before the horse!

It is important to understand that any game reserve has a finite mass of soil, and that this soil was created many thousands of years ago. In some cases, it was deposited during a long-ago geological period of time that will never be repeated. What soil we have, therefore, needs to be cherished and wisely used.

The next step is to understand and accept that the quantity and the quality of the soil in our game reserves can only produce a finite crop of plant material every year. Plant growth mass, however, varies from year to year because its production is dependent upon the vagaries of the annual seasons. In years of very cold winters and very hot, dry summers, for example, the soil will produce less plant material than it will during years of mild winters and wet summers. We need to conceive of this annual plant production mass, therefore, as an annual “average”.

A proportion of this plant material comprises edible plants in the form of grass, woody plants and herbs. These edible plants provide food for herbivorous animals (grazers and browsers) – and they are finite, too. The soil, combined with sunlight, appropriate temperatures and good rain, can only produce so much food every year – and no more – which has to be shared by all the many herbivorous animals that inhabit the game reserve.



To greatly simplify my explanation, I am going to ask you to imagine a game reserve that supports elephants and (an arbitrary) 10 “other” species of herbivorous animals (browsers and grazers). In Figure 1, each species population, including elephants, is represented by an identical biomass – so within this illustration they all start off being “equal”.

Beneath each of the “blocks” of animal species populations on the diagram, there is a block that represents the annual production of “plant food” – the food in each block being enough to sustain each animal population for a whole year.

And right at the bottom of each diagram there is a block that represents the “parent or stock plants” which are responsible for the annual food production. This is the treasure trove. This is “the goose that lays the golden eggs”. It is the food production factory that makes the sustainable maintenance of the game reserve’s numbers and diversity of wild animal species possible. **It is vitally important that this stock of “production plants” is never degraded.**

Under this state of affairs the soil is protected, by good vegetative cover, from erosion by sun, wind and (especially) rain; the food plants are being utilised by the animals at a sustainable rate; the habitats are not degrading; and species diversity (of plants and animals) is safe. The ecosystem, therefore, is in a desirable state of ecological balance.

This condition probably existed in Botswana’s wildlife sanctuaries in the 1950s. **Figure 1 (our starting point)** therefore reflects the general situation that probably pertained in “about” 1960. My guesstimate of elephant numbers at that time is 7 500.

It is not important that this number be accurate because the purpose of this article is only to articulate the trends of the wildlife dynamics in Botswana over the last 50 years – in the complete absence of responsible management.

Figure 1: Botswana’s Wildlife Sanctuaries – 1960

Elephant (7 500)	Other animal species									
	Species 1	Species 2	Species 3	Species 4	Species 5	Species 6	Species 7	Species 8	Species 9	Species 10
Annual food production and consumption										
Parent plant resource										

Figures 2, 3, 4 and 5 graphically depict the numerical status of elephants and of all the “other” wild animal populations and, ultimately, what is happening to their habitats, at the end of each decade: **1970, 1980, 1990 and 2000** (extrapolating in the narrative to the present time).



Elephants are preferential grazers – they *prefer* to eat grass when it is green, palatable and nutritious (i.e. during the rains). During the dry season, however, when all edible grass has been consumed, elephants simply shift to eating the green leaves of trees and shrubs, and to eating tree bark. Other animals also eat grass and/or the leaves of trees and shrubs. Few, however, share the elephants’ propensity to switch from the one to the other so readily. Most are either almost totally browsers or almost totally grazers. The elephants, therefore, not only compete with all other species of animal for available food (both grazing and browse) – they *out-compet*e them.

Elephants in Botswana now move up to 25 km every day to and from water, during the dry season, in their daily search for food (50 km/day). Few other

animals can match such long daily journeys. Elephants, therefore, have several and considerable survival advantages over all other wild animal species, particularly during drought years.



In the year 2000, the Botswana Wildlife Authority stated that, during the 1990s, the country’s elephant herds had increased at an average rate of 8 per cent per annum. So, in my diagrams, I have subjectively used an annual incremental rate of 7.2 per cent because it conveniently results in an elephant population doubling its numbers every 10 years.



Figure 2 depicts the theoretical situation that existed in Botswana in 1970 – **at the end of the first decade**. Here the elephant population has doubled in number (there are twice as many as there were in 1960) and each animal will still be eating the same quantity of food. The elephants, therefore, will now be eating some of the annual-production plant food that the other 10 animal species populations depend upon. Due to deficient nutrition, these other animal populations therefore will be starting to shrink in number and/or they will start to eat the parent plants that produce the food each year.

Figure 3 depicts the theoretical situation that existed in Botswana in 1980 – **at the end of the second decade**. Here the elephant population has doubled in size again – there now being twice as many as there were in 1970, and four times as many as there were in 1960. And each elephant will continue to eat the same amount of food every day. This will squeeze the other animal species populations even more; they will consequently, due to enforced starvation, reduce even more in numbers, and/or to survive, they will be forced to eat even more of the parent “stock” plants that produce the annual food supply. And, undoubtedly, the elephants will by then also be eating some of the foundation food-producing plants.

Figure 4 depicts the theoretical situation that existed in Botswana in 1990 – **at the end of the third decade**. The elephant population has again doubled

in size – now being twice as many as there were in 1980, four times as many as there were in 1970, and eight times as many as there were in 1960, and each elephant will still be eating the same amount of food. The other animals, due to an ever-growing state of enforced starvation, will be starting to die out (the more sensitive ones) and/or they will be forced to eat even more of the parent-stock food-producing plants in order to survive. The elephants, too, will be eating ever-greater amounts of the foundation food-producing plants.

Figure 2: Botswana's Wildlife Sanctuaries – 1970

Elephant (15 000)		Other animal species									
Species	Species	Species 1	Species 2	Species 3	Species 4	Species 5	Species 6	Species 7	Species 8	Species 9	Species 10
Annual food production and consumption (by elephants only)	Annual food production and consumption										
Parent plant resource	Parent plant resource	Parent plant resource	Parent plant resource	Parent plant resource	Parent plant resource	Parent plant resource	Parent plant resource	Parent plant resource	Parent plant resource	Parent plant resource	Parent plant resource

Figure 3: Botswana's Wildlife Sanctuaries – 1980

Elephant (30 000)				Other animal species									
Annual food production and consumption (by elephants only)				1	2	3	4	5	6	7	8	9	10
Parent plant resource	Parent plant resource	Parent plant resource	Parent plant resource	Annual food production and consumption									
Parent plant resource	Parent plant resource	Parent plant resource	Parent plant resource	Parent plant resource	Parent plant resource	Parent plant resource	Parent plant resource	Parent plant resource	Parent plant resource	Parent plant resource	Parent plant resource	Parent plant resource	Parent plant resource

Figure 4: Botswana's Wildlife Sanctuaries – 1990

Elephant (60 000)				Other animal species									
Annual food production and consumption (by elephants only)				1	2	3	4	5	6	7	8	9	10
Parent plant resource	Parent plant resource	Parent plant resource	Parent plant resource	Annual food production and consumption									
Parent plant resource	Parent plant resource	Parent plant resource	Parent plant resource	Parent plant resource	Parent plant resource	Parent plant resource	Parent plant resource	Parent plant resource	Parent plant resource	Parent plant resource	Parent plant resource	Parent plant resource	Parent plant resource

In Figure 5 – depicting the situation as it pertained in the year 2000 – the elephant population is double the size it was in 1990, and 16 times its size in 1960.

You will note that, by 2000, the other species populations have been squeezed inexorably tight; their numbers have started to fall rapidly because they have been under very severe nutritional stress for many years, and some species of animals and plants have disappeared. To survive, *all* animal populations, in-

cluding the elephants, are now feeding extensively off the parent food-producing plants. This totally undermines the ecosystem's ability to produce any food at all.

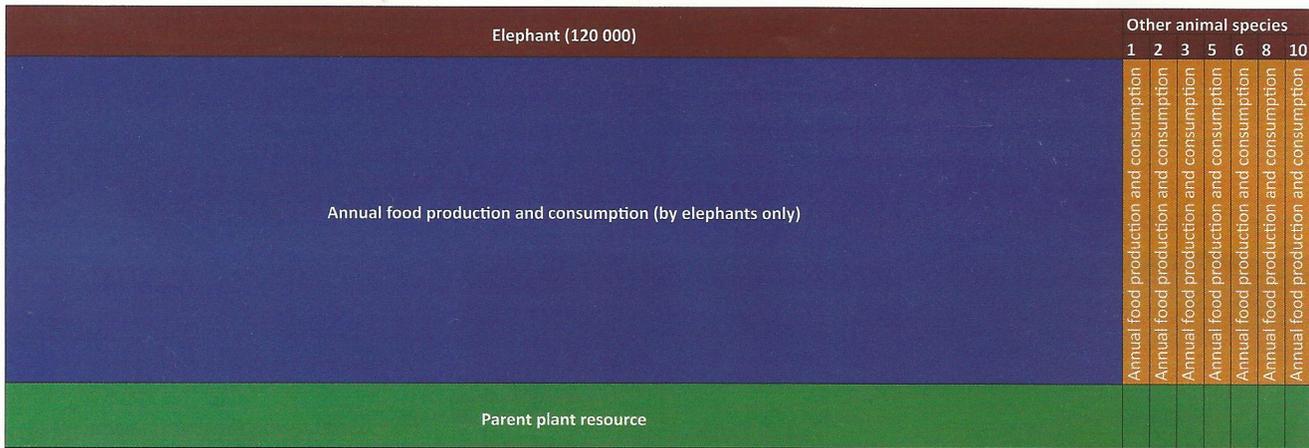
In the year 2000, the elephant population in Botswana reached (by my calculations) 120 000. The figures released by the Botswana government was 120 604. So the government's estimations of the elephant numbers, at that time, agree with mine. And, since then, Botswana has advanced yet another decade (and more)!

By the year 2010 the state of Botswana's wildlife was chaotic. The elephant population had grown so big it had **almost completely eliminated the parent food-producing plants within walking distance (25 km) of all permanent dry-season water supplies.** The elephants were then suffering dire nutritional stress during every dry season because the energy they obtained from the poor-quality food they were then forced to eat, was less than the energy they needed to walk from the water to the food source, and back to water again, every day – a round trip of 50 km.

Throughout the decade (2000-2010), by the time the six-month long dry season had commenced each year, the elephants had already used up whatever body-fat reserves they had been able to accumulate during the previous rainy season. To survive, their bodies were forced to absorb the energy (protein) that was locked up in their muscles. They became very thin. Lactating mothers stopped producing milk and they abandoned their babies because, without milk, their calves could not keep up with their mothers on the long daily (return) treks between water and food. Lions and hyenas killed the abandoned babies (and lots of starving, larger, young elephant strays were also killed) or the babies died of starvation, and/or of thirst and/or of heat fatigue.

Elephants do not migrate! But from the year 2000 onwards, ever-greater numbers of young adult elephants dispersed from their devastated habitats in Botswana into southern Angola (and other surrounding countries) where food resources were better, and they never came back. Due to increases in calf mortality and dispersals, the elephant population of Botswana seemed to stabilise at about 150 000 animals –

Figure 5: Botswana's Wildlife Sanctuaries – 2000



but I predict that a greater tragedy is still to come.

Today, the once lush riverine forests along the water courses in Botswana's elephant sanctuaries have all been eliminated, and the soil that supported them has been eroded into the rivers. In many places the rivers silted up and, in the Chobe National Park, this silt forced the Chobe River to change its course!

Botswana's riparian forests can never return because the soil that once supported them has now gone. The very rich acacia/combretum woodlands that once grew in ancient alluvial soils away from the rivers have also been killed off – virtually to the last tree. And those precious soils are being pounded daily by myriad animal hooves, desiccated by the sun and blown away by the wind. Practically all the ancient baobabs have been destroyed. And for 25 km away from permanent water, all edible grasses, edible shrubs and edible browse plants have been almost completely eliminated.

The "other" game species that once swarmed so abundantly over the Botswana landscape, are now being forced to live within the 25 km-wide "desert zone" (created by the elephants) every dry season because they cannot, like the elephants, walk 50 km every day to find food; and they have to live within walking distance of permanent water. So, within that foodless "desert" zone all the "other" game animal species are busy dying out.

It is not surprising, therefore, that Botswana's wild animals are dwindling – and, as I have said before, we have not seen the end of it. Since 1990 I have been warning the Botswana government – and its animal rights advisors – that this was going to happen! Indeed, many of these public warnings have been expressed in this very magazine over the last five years!

So: "How can Botswana's wildlife be saved from ultimate extinction?" and "How can Botswana's game reserves be restored to their former glory?" A good start would be to reduce the elephant population as quickly as possible by at least 100 000. Only once that number has been removed should we even try to determine just how many more will need to come off.

Far too much damage has already been done to the wildlife ecosystems in Botswana for us to expect that we can return them to their former glory. Too much soil and too many plants have been lost. The natural physiognomic

characteristics of the old habitats have been almost completely destroyed. But we can, at least, start the reconstruction process by drastically reducing elephant numbers, and by applying other such common-sense vital practices.

There can now be no gain without a great deal of pain!

President Khama has been very badly advised by a host of animal rightist "advisors" for many years – and he has, unfortunately, readily listened to them. Now he has to contend with the consequences. He has followed their advice and banned hunting. He has been persuaded by them that elephant populations can be "stabilised" without the need for culling. Such advice is wrong. It is wrong because the cost of letting elephant populations expand without constraint is the loss of irreplaceable and very precious soil, the loss of vital natural food-plant banks, the loss of diverse habitats, and the loss of wild animal and wild plant species of many kinds.

Botswana has ignored all the tenets of responsible wildlife management for the last 50 years. During that time, it has consistently put the wildlife management cart before the horse. It has totally subjugated its responsibilities to the soil and to the plants of the game reserves, to its perverse need to protect elephants at all costs.

It now remains to be seen if President Khama will see the error of his ways; if he will jettison his erstwhile animal rights "friends"; and if the Botswana government has the courage to do what has to be done!

South Africa and Namibia can learn a valuable lesson from Botswana's experience!



Note from the editor's desk

For the last 30 years, Ron Thomson has been intriguing readers of hunting magazines with deep insights into his unique wildlife management philosophies. Over the last three decades he has written several books on the subject but only his *Managing Our Wildlife Heritage* booklet remains available.

It can be obtained from the author at:

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