Gondwana Kalahari Park
Game Count 2020

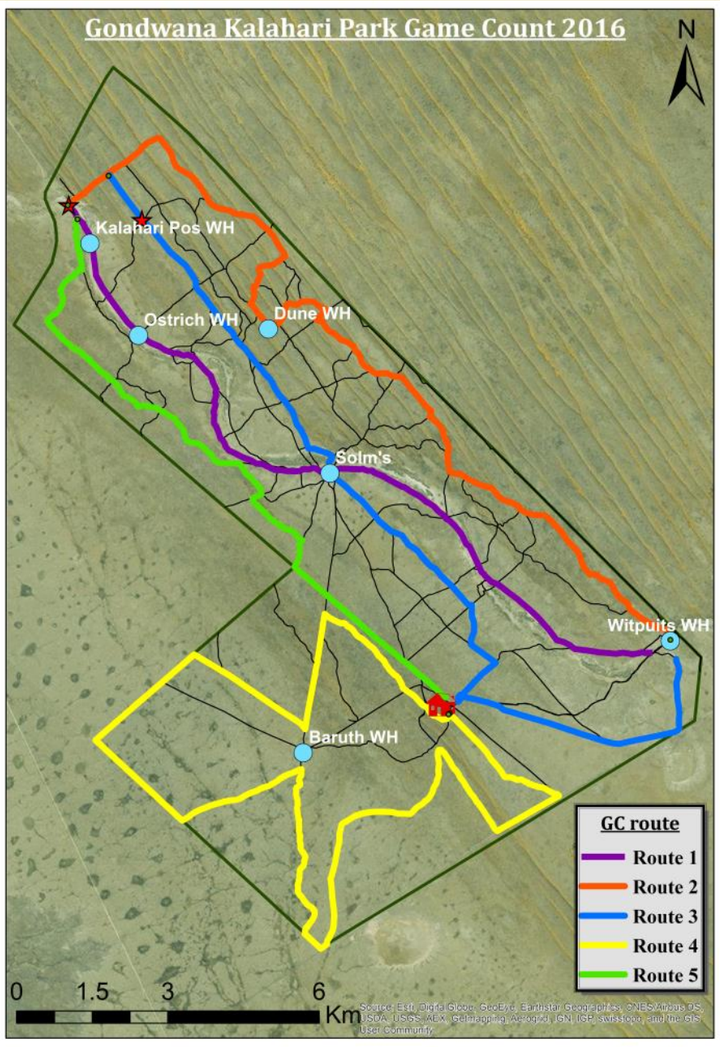
Introduction

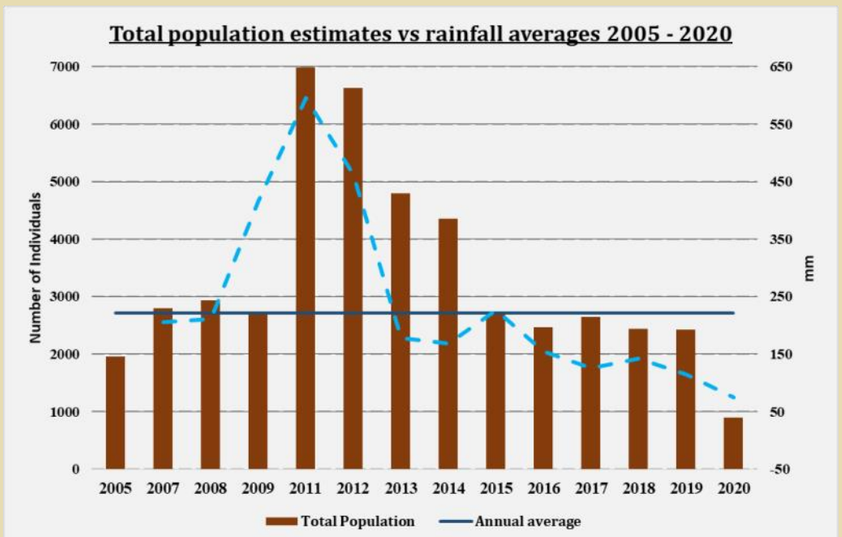
This poster provides summarized results and analysis of the annual game count held in the Gondwana Kalahari Park on 25 and 26 July 2020.

The relentless drought has left the park in dire veld condition. The 2019-2020 rainfall season has been the lowest in the park's recorded history with just 67mm.
Over the last year we harvested over three-quarters of the large game and many more died due to a lack of veld. We have kept the remaining stock alive by feeding them at selected spots in the park.

This year's game count results showed the drastic decrease in game numbers, with gemsbok numbers being down 86% compared to 2019 and plains zebra and wildebeest down 93% and 97% respectively. Red hartebeest have all disappeared from the park as most of them died, a few were harvested, and a few got onto neighbouring properties. Only giraffe managed to increase, as 4 more calves were born over the last year, bringing the total to 22. Naturally, successful reproduction in the other game species over the past season has been very low.

The parks grazer biomass and modelled carrying capacity, although very low, have now evened out since the harvesting interventions.





Count Methodology

The primary objectives of the game count is to determine the density and distribution of game, and to estimate the total number of game in a given — or the total — area. For this reason, the survey methodology used is a combination of the road strip census and the game distribution maps technique. In layman's terms, these can be explained as follows:

Road-Strip count:

The total area is divided into (5) game count zones, each with its own standardized route. The game count zones were, as far as possible, deliberately predetermined into homogenous habitats because the visibility of animals differs in each habitat. Each route forms a strip transect through its zone within which the animals are counted. During the count, all animals on either side of the road are recorded. The length of the transect (distance travelled) and it's relation to the area represented in the zone is used to calculate the area correction factor for each zone. The respective area and predetermined species correction-factors are then used to calculate the population estimates.

Game distribution maps

In order to determine and show the distribution and density of game in the various zones of the count area, monad grids are used to map the locality of the animals counted. Each route is supplied with a map containing the monads, with reference numbers, of the zone in which that route is set.

Objectives of the game count

Objective 1: Population and biomass estimates

The population estimates for individual species in the total count area are derived from the actual number of animals seen during the count, and the relevant species and area correction-factors that are applied to that number. The actual numbers seen are multiplied by the relevant area and species correction-factors to get the population estimates.

Formula for calculating population estimates
(S x A) x B=P

S = Actual number of animals seen
A = Area correction-factor
B = Species correction-factor
P = Population estimate

Population estimates are then multiplied by the mean weight of the individual species and divided by the total count area (ha) to get the estimated biomass per species. These Biomass estimates are important in terms of managing habitat conditions and inter-species competition.

Formula for calculating biomass estimates
(E x M) ÷ H = B

E = Estimated wildlife numbers
M = Mean mass per species
H = Total no. of hectares
B = Biomass estimate

Objective 2: Wildlife density and distribution

For resource management purposes we use the wildlife density and distribution results instead of the population estimates, as these give a better reflection of where the animals are and how densely populated each count zone is.

To calculate the population density, the actual number of animals per species counted in each zone is divided by the respective route length and then multiplied by 100 to get the number of animals seen per 100km.

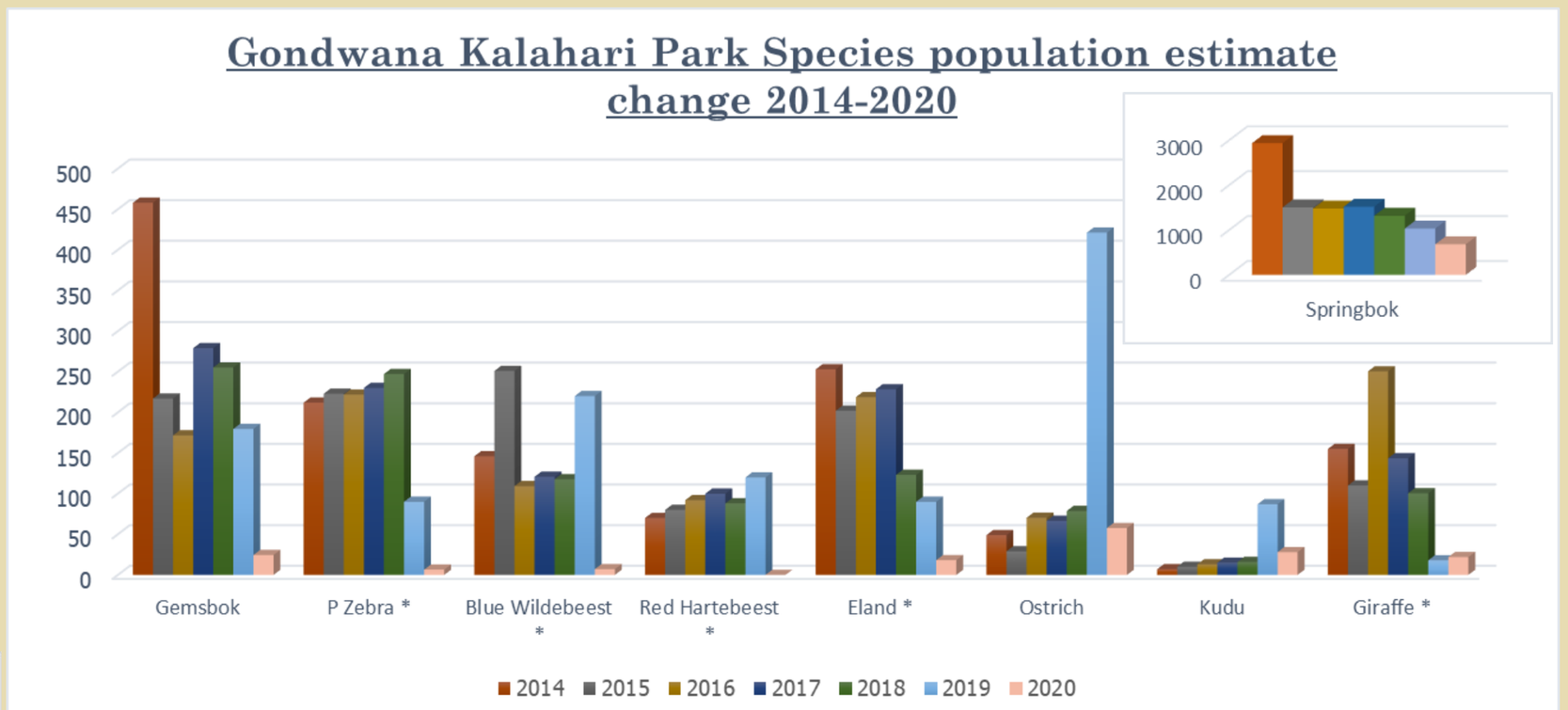
Formula for calculating wildlife density
(S ÷ R) x 100 = K

S = Actual number of animals seen
R = Length of route
K = Wildlife density i.e. Animals seen per 100km driven

Wildlife distribution is based on the amount of animals seen in each monad. During the game count, each sighting is marked to the corresponding monad the animal(s) were seen in. That data is then used to map the distribution of the animals (i.e. where animals were seen).

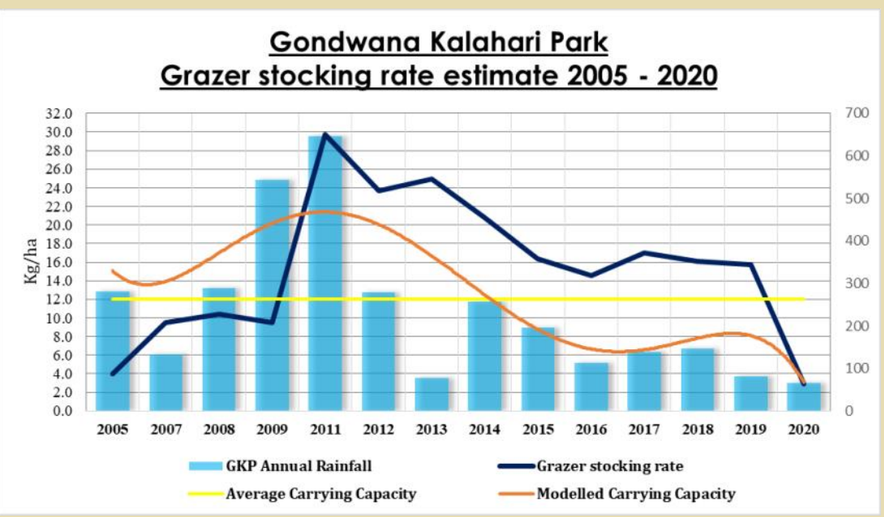
Objective 3: Population change

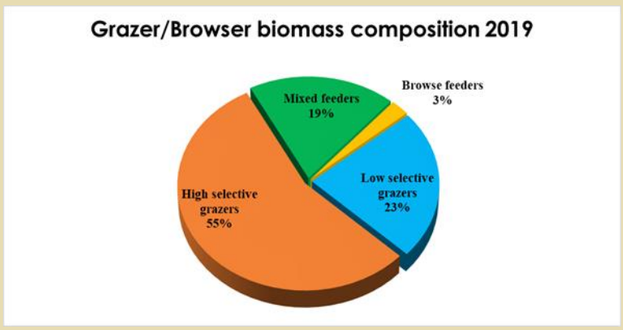
The total estimated numbers of game for the count is compared to those from previous years to illustrate the pollution change.

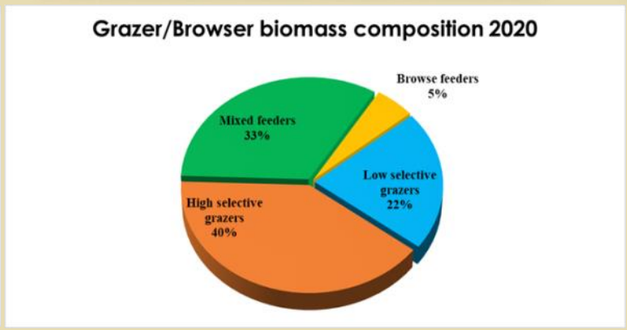


Total estimated numbers of game 2020

Species	Ave No. Counted	Estimate
Gemsbok	16	24
Springbok	416	683
P Zebra	7	7
Blue Wildebeest	5	7
Red Hartebeest	0	0
Eland *	16	*18*
Ostrich	42	58
Kudu	18	28
Giraffe *	18	*22*
Steenbok	5	53
Total	**541**	**899**







PS: While the game count method is good for estimating larger numbers of common plains game, it is less suited to species such as eland, kudu and steenbok.
No single census method is complete in itself, but needs to be supplemented by local knowledge and other sources of info, e.g. independent total counts of re-introduced species, incidental sightings and camera trap recordings.

A warm-hearted THANK YOU to everyone who participated in this year's game count and to the lodge colleagues for their assistance.

See you all at next year's game count!! ☺