

LEWA WILDLIFE CONSERVANCY



ANNUAL GAME COUNT REPORT

March 2012

Compiled by: Wildlife Department

INTRODUCTION

The need for close monitoring of wildlife has become more pressing as the goals for conservation have expanded to sustaining biological diversity, ecosystem function and ecological services. Quantification of species trends and factors governing populations and ecosystem viability are vital to forecasting, planning and managing wildlife populations.

In Lewa Wildlife Conservancy (LWC), wildlife counts have been compiled for over 26 species conducted over the last 23 years. These counts have been used to compare trends of different species over the years. They cover all the mammal species from dik diks to large ungulates as well as carnivores giving a good measure of the most dominant species within the conservancy.

OBJECTIVES

The objectives of the Lewa annual game count is to determine:

1. The abundance of wildlife species
2. Trends in species numbers compared with past counts.

This information is thus used to identify species numbers on a declining trend and design conservation measures that address such declines.

METHODOGY

Game counts on LWC have been conducted on an annual basis for total counts usually in the month of February. This is a half a day exercise conducted entirely by the experienced LWC staff, beginning from 7.00 am to 11.30 am. During this period, temperatures are low and wildlife is still active thus making them more easily spotted.

The whole area of LWC was divided into six census blocks demarcated by either roads or geographical features such as rivers and valleys. Both aerial and ground surveys were used, with aerial counts employed on specific areas mainly in valleys that are not easily accessed by roads and in thick woodlands.

A day before the count, the entire crew had an orientation, so that everybody would have a clear sense of the role they would play. Each ground team was equipped with at least one pair of binoculars and a hand held radio for communication. The aircraft was fitted with a GPS used in navigation and recording the survey paths. The flight path ran from east to west or north to south depending on the direction of sun rays and gradient. Transects were placed at 500m intervals.

Recording of data was done on datasheets distributed to each group. The aerial observer recorded animal sightings on a map. Any double counts were identified and eliminated after the census.

RESULTS

A total of 25 people were involved in the census either as observers or recorders. The exercise lasted for four and half hours. It was successfully accomplished on all the census blocks (Figure 1).

Figure 1: Census blocks on LWC

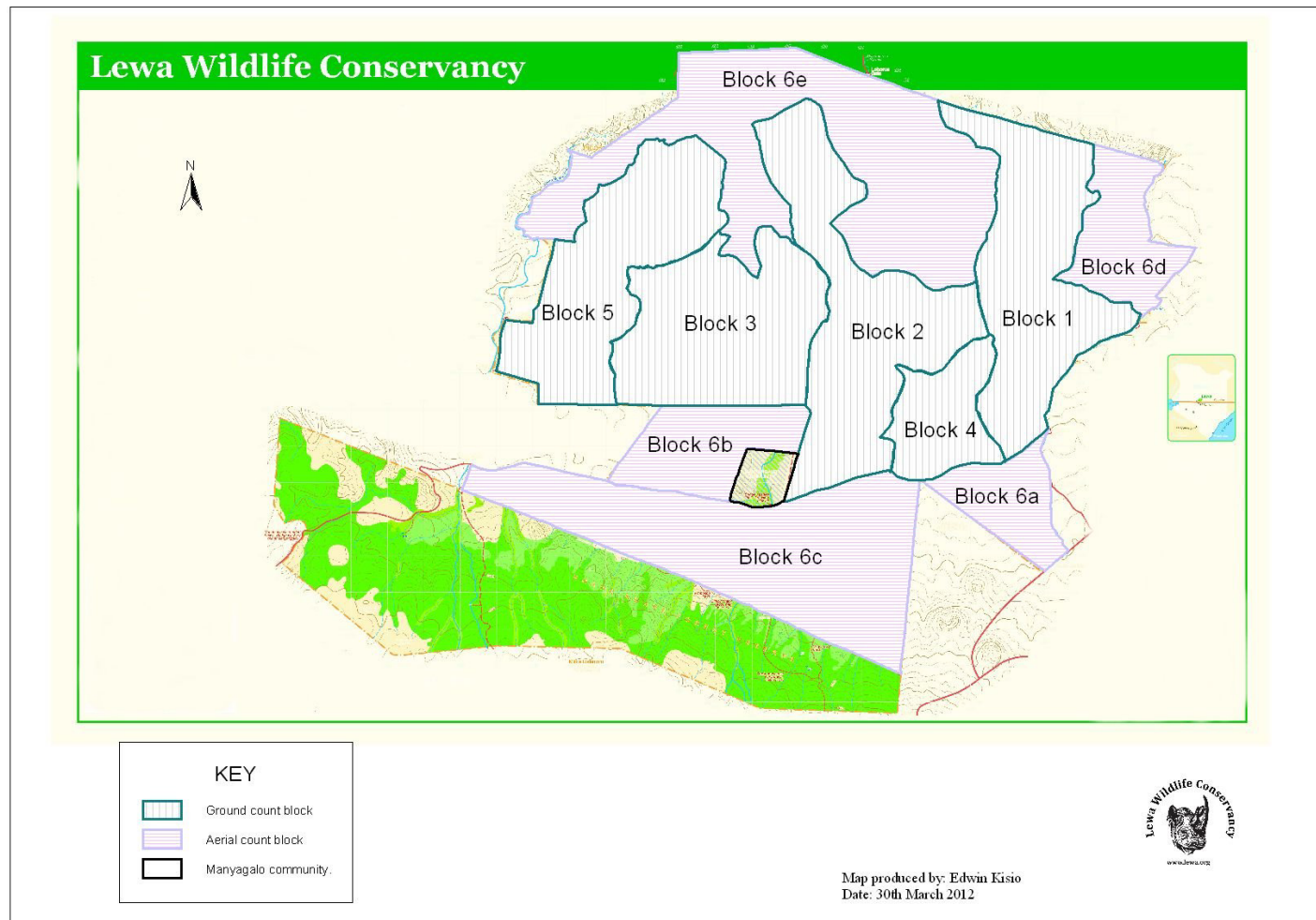


Table1: Wildlife species counted per block

SPECIES	BLOCK 1	BLOCK 2	BLOCK 3	BLOCK 4	BLOCK 5	AERIAL BLOCKS				
						6A	6B	6C	6D	6E
BEISA ORYX	1	11	8		19		7	3		27
BUFFALO	5	116	3	73		1	1			70
BUSH BUCK										
CHEETAH			2							
DIK DIK	6									
ELAND	10	12	8	6	13	9	25			12
ELEPHANT	57	45		6	51	36		28		74
GERENUK	7									
GIRAFFE	38	11	29	1	37	22	9	18	14	62
GRANT GAZELLE	62	114	50	18	81	3	23	34		1
GREATER KUDU					3					
HIPPO			2							
HARTEBEEST			5							
IMPALA	140	64	37	332	96	28		159	39	
JACKAL (Silver backed)	2	6								
KLIPSPRINGER	2									
LEOPARD										
LION	2									
OSTRICH	2	8	16	1	10	2				2
REEDBUCK	4									
RHINO, BLACK	1	12	3	2	1				2	2
RHINO, WHITE	5	3	11	8	9			1		6
SITATUNGA										
WARTHOG	21	4	3	12	4	1		2	3	3
WATERBUCK	16		10	34				26	1	15
ZEBRA, BURCHELL	129	217	139	65	182	6	86	140	106	81
ZEBRA, GREVY'S	61	33	74	25	14	8	81	33	40	9

Block 1 and 2 had the highest number of animals counted with block 3 recording the least number of wildlife; 383 animals followed by block 5; 520 animals. These blocks covered the western region of the conservancy, which has had low rainfall records for the past one year as well as limited water sources. Block 5 had been grazed by cattle and after the December rains 2012, there was a fresh regrowth of grass that could have attracted more wildlife species.

Block 2 recorded the the highest number of Plains zebra as well as bufaloes. This area is largely covered with open grasslands and scattered bush. Block 4 recorded the highest number of impalas. This block covered the Lewa Headquarter of which more than 80% is totally inaccessible to elephants and giraffes. The vegetation cover is quite thick with tall *Acacia xanthophloea* and *Acacia Drepanolobeum*.

Over 70% of the species were counted in block 1. This block is covered with different vegetation types namely: *Acacia mellifera*, *Acacia tortilis*, *Acacia drepanolobeum*, *Acacia seyal* and grass species: *Pennisetum*, *Chrysopogon* and *Sorghum versicolor*, thus attracting different wildlife species.

The aerial count blocks recorded the highest number of plains zebra of 419 individuals. 171 Grevys zebra were counted on the same blocks with a single concentration of 67 individuals in one herd. Majority of these were recorded from the South to South East of the conservancy. Highest concentration of lactating Grevy's zebra were counted on the East of the conservancy next to wilderness trails.

The count recorded very low numbers for some other species. Only 50 warthogs were recorded representing a 56% decline from the previous year. This may have been undercounted possibly due to the long grass in LWC following the December rains.

Ostrich recorded the highest increment from 20 the previous year to 41. Other species that recorded a significant increment were elephants and plains zebra. Grevy zebra recorded 1.9% increment. (Table 2).

Table 2: Summary of the total counts for all the wildlife species (2004 – 2012) and variances for each species 2011-2012)

SPECIES	Feb-04	Feb-05	Mar-06	Mar-07	Mar-08	Feb-09	Feb-10	Mar-11	Mar-12	%Variance
BEISA ORYX	85	49	69	91	115	65	76	72	76	5.6
BUFFALO	233	255	339	343	349	402	403	332	269	-19.0
BUSH BUCK	>20	>20	>20	>20	>20	>20	>20	20	20	0.0
CHEETAH	8	8	8	5	6	6	5	11	12	9.1
ELAND	137	214	169	248	255	218	165	123	95	-22.8
ELEPHANT	216	297	392	256	177	211	207	184	297	61.4
GERENUK	7	11	11	~10	~10	~10	~10	9	7	-22.2
GIRAFFE	177	173	147	189	243	293	252	243	241	-0.8
GRANT GAZELLE	261	258	320	362	452	376	371	378	386	2.1
GREATER KUDU	36	>20	>20	>20	12	17	16	24	23	-4.2
HIPPO	2	2	2	2	2	2	2	2	2	0.0
HARTEBEEST	2	2	2	2	2	24	5	7	7	0.0
IMPALA	679	836	739	829	922	1029	1227	953	895	-6.1
JACKAL (Silver backed)	>12	>12	>12	>12	>12	>12	>12	>12	>12	0.0
KLIPSPRINGER	>6	>8	>8	>8	>8	>8	>8	10	2	-80.0
LEOPARD	>8	8	8	>8	8	8	8	10	10	0.0
LION	28	24	16	12	12	16	19	17	21	23.5
OSTRICH	68	48	36	48	74	44	50	20	41	105.0
RHINO, BLACK	36	40	48	53	55	64	65	62	71	14.5
RHINO, WHITE	32	39	36*	36	38	45	46	53	58	9.4
SITATUNGA	16	14	14	<10	<10	<10	<10	2	1	-50.0
WARTHOG	129	170	140	163	277	160	162	114	50	-56.1
WATERBUCK	52	116	134	93	173	175	96	171	102	-40.4
ZEBRA, BURCHELL	1102	1094	970	1098	1184	1288	1164***	908	1151	26.8
ZEBRA, GREVY'S	435	448	399	430	370	364**	343***	371	378	1.9

Note: Over 70 buffaloes were missed in block 5. This approximation is based on the daily reports from the field rangers received at the Lewa Gate.

Some species such as Rhinos and lions have known numbers, so the table was updated from our current monitoring data. Other species like Kudu, Hartbeest, Cheetah and Leopard had their data correlated with the daily reports by the field rangers.

CONCLUSION

The census reports have implications for conservation in LWC. Specifically the increase in elephant numbers this year is not surprising, given the increased number of elephant poaching in the LMD area in December 2011 and January 2012.

Rainfall patterns have an impact on the distribution of wildlife in different habitat types; as such it will be important to conduct both wet and dry season wildlife counts to provide a better understanding of landscape and resources utilization.