

SUPPLEMENTARY MATERIALS

SUPPLEMENTARY MATERIAL A

The total seasonal (dry and wet seasons), annual and moving averages of annual rainfall (Mavannual 2 to Mavannual 5). The rainfall totals are based on averages of totals across a network of 12 rainfall recording stations in Kajiado County. The names of the 12 stations and the years covered by the rainfall records at each station are provided in the text.

Year	Dry	Wet	Annual	Mavannual 2	Mavannual 3	Mavannual 4	Mavannual 5
1959	62.2						
1960	37.8						
1961	62.2	304.1	366.3				
1962	56.3	1175.7	1231.9	799.1			
1963	39.3	853.7	893.0	1062.5	830.4		
1964	80.5	814.1	894.6	893.8	1006.5	846.5	
1965	23.7	436.9	460.6	677.6	749.4	870.0	769.3
1966	30.1	669.9	700.0	580.3	685.1	737.0	836.0
1967	61.8	620.6	682.4	691.2	614.3	684.4	726.1
1968	25.4	933.7	959.1	820.7	780.5	700.5	739.3
1969	30.0	577.4	607.3	783.2	749.6	737.2	681.9
1970	15.7	730.8	746.5	676.9	771.0	748.8	739.1
1971	30.5	452.8	483.2	614.9	612.4	699.0	695.7
1972	76.1	479.4	555.5	519.4	595.1	598.1	670.3
1973	39.1	500.5	539.6	547.6	526.1	581.2	586.4
1974	106.4	532.5	638.8	589.2	578.0	554.3	592.7
1975	52.3	475.7	528.0	583.4	568.8	565.5	549.0
1976	49.8	335.8	385.6	456.8	517.5	523.0	529.5
1977	78.2	619.1	697.3	541.5	537.0	562.4	557.9
1978	19.9	860.6	880.5	788.9	654.5	622.9	626.0
1979	40.5	729.9	770.4	825.4	782.7	683.5	652.4
1980	21.2	500.5	521.7	646.1	724.2	717.5	651.1
1981	40.0	634.1	674.1	597.9	655.4	711.7	708.8
1982	46.6	338.8	385.4	529.7	527.1	587.9	646.4
1983	33.0	709.3	742.2	563.8	600.6	580.9	618.8
1984	19.0	308.0	327.0	534.6	484.9	532.2	530.1

Supplementary Material A. contd....

Year	Dry	Wet	Annual	Mavannual 2	Mavannual 3	Mavannual 4	Mavannual 5
1985	18.2	674.4	692.5	509.7	587.2	536.8	564.2
1986	6.3	566.3	572.6	632.6	530.7	583.6	543.9
1987	79.1	496.7	575.8	574.2	613.6	542.0	582.0
1988	48.3	620.8	669.1	622.5	605.8	627.5	567.4
1989	40.4	675.0	715.4	692.2	653.4	633.2	645.1
1990	35.4	838.2	873.7	794.5	752.7	708.5	681.3
1991	47.0	434.9	481.9	677.8	690.3	685.0	663.2
1992	25.9	612.1	637.9	559.9	664.5	677.2	675.6
1993	20.6	543.8	564.4	601.2	561.4	639.5	654.7
1994	32.1	547.3	579.4	571.9	593.9	565.9	627.5
1995	35.6	751.5	787.1	683.3	643.6	642.2	610.2
1996	82.6	550.9	633.6	710.3	666.7	641.1	640.5
1997	38.6	615.8	654.5	644.0	691.7	663.6	643.8
1998	124.1	1452.4	1576.4	1115.4	954.8	912.9	846.2
1999	34.0	371.0	405.0	990.7	878.6	817.4	811.3
2000	26.6	435.7	462.3	433.6	814.6	774.5	746.3
2001	67.6	809.5	877.1	669.7	581.5	830.2	795.1
2002	17.6	682.3	699.9	788.5	679.8	611.1	804.1
2003	67.7	840.5	908.2	804.0	828.4	736.9	670.5
2004	33.8	735.9	769.7	838.9	792.6	813.7	743.4
2005	36.7	703.3	740.0	754.8	805.9	779.4	799.0
2006	64.4	605.4	669.8	704.9	726.5	771.9	757.5
2007	34.4	925.1	959.5	814.6	789.7	784.7	809.4
2008	46.7	409.5	456.2	707.8	695.1	706.3	719.0
2009	48.2	467.6	515.8	486.0	643.8	650.3	668.2
2010	28.0	1103.4	1131.4	823.6	701.1	765.7	746.5
2011	276.9						

SUPPLEMENTARY MATERIAL B

The wildlife and livestock population size estimates for Eastern and Western Kajiado County of Kenya based on aerial surveys conducted by the Department of Resource Surveys and Remote Sensing of Kenya from 1977 to 2011.

Region	Year	Month	Date	Strip Width (m)	Sampling Fraction (%)	Area (km ²)	Species	Population Size	Standard Error
East Kajiado	1977	February	01/02/77	224	2.24	7730.3	Buffalo	0	0
East Kajiado	1978	March	01/03/78	224	4.13	7730.3	Buffalo	3038	1843
East Kajiado	1980	October	01/10/80	250	4.4	7730.3	Buffalo	1207	1168
East Kajiado	1981	September	01/09/81	490	9.19	7730.3	Buffalo	1723	1591
East Kajiado	1982	April	01/03/82	415	7.5	7730.3	Buffalo	150	107
East Kajiado	1986	April	01/04/86	304	5.64	7730.3	Buffalo	2227	1986
East Kajiado	1987	March	01/03/87	282	5.44	7730.3	Buffalo	624	595
East Kajiado	1990	May	01/05/90	304	6.03	7730.3	Buffalo	1894	1118
East Kajiado	1991	March	01/03/91	304	5.64	7730.3	Buffalo	80	54
East Kajiado	1991	October	01/10/91	282	5.84	7730.3	Buffalo	1335	1252
East Kajiado	1992	November	01/11/92	282	5.68	7730.3	Buffalo	1216	770
East Kajiado	1994	April	01/04/94	282	5.8	7730.3	Buffalo	1773	1260
East Kajiado	1998	March	01/03/98	282	5.62	7730.3	Buffalo	1488	959
East Kajiado	2000	November	01/11/00	282	5.55	7730.3	Buffalo	1896	1405
East Kajiado	2006	March	01/03/06	282	5.54	7730.3	Buffalo	265	176
East Kajiado	2007	December	01/12/07	282	5.43	7730.3	Buffalo	1813	1300
East Kajiado	2010	February	01/02/10			8300.0	Buffalo		
East Kajiado	2010	March	01/03/10			8797.0	Buffalo	235	
East Kajiado	2010	October	01/10/10			8300.0	Buffalo	0	0
East Kajiado	2011	November	01/11/11	282	5.4	7730.3	Buffalo	230	222
East Kajiado	1977	February	01/02/77	224	2.24	7730.3	Cattle	182498	55477
East Kajiado	1978	March	01/03/78	224	4.13	7730.3	Cattle	155897	23865
East Kajiado	1980	October	01/10/80	250	4.4	7730.3	Cattle	271655	36787
East Kajiado	1981	September	01/09/81	490	9.19	7730.3	Cattle	220559	28335
East Kajiado	1982	April	01/03/82	415	7.5	7730.3	Cattle	143218	23220
East Kajiado	1986	April	01/04/86	304	5.64	7730.3	Cattle	186248	34613
East Kajiado	1987	March	01/03/87	282	5.44	7730.3	Cattle	171178	22379
East Kajiado	1990	May	01/05/90	304	6.03	7730.3	Cattle	208021	22628

Supplementary Material B. contd....

Region	Year	Month	Date	Strip Width (m)	Sampling Fraction (%)	Area (km ²)	Species	Population Size	Standard Error
East Kajiado	1991	March	01/03/91	304	5.64	7730.3	Cattle	228488	38816
East Kajiado	1991	October	01/10/91	282	5.84	7730.3	Cattle	226077	28654
East Kajiado	1992	November	01/11/92	282	5.68	7730.3	Cattle	168003	16405
East Kajiado	1994	April	01/04/94	282	5.8	7730.3	Cattle	151411	22574
East Kajiado	1998	March	01/03/98	282	5.62	7730.3	Cattle	114763	15075
East Kajiado	2000	November	01/11/00	282	5.55	7730.3	Cattle	114376	13371
East Kajiado	2006	March	01/03/06	282	5.54	7730.3	Cattle	87893	15021
East Kajiado	2007	December	01/12/07	282	5.43	7730.3	Cattle	105973	19938
East Kajiado	2010	February	01/02/10			8300.0	Cattle	49129	7627
East Kajiado	2010	March	01/03/10			8797.0	Cattle	48389	
East Kajiado	2010	October	01/10/10			8300.0	Cattle	39028	5263
East Kajiado	2011	November	01/11/11	282	5.4	7730.3	Cattle	112992	21131
East Kajiado	1977	February	01/02/77	224	2.24	7730.3	Donkeys	12800	4776
East Kajiado	1978	March	01/03/78	224	4.13	7730.3	Donkeys	11552	2207
East Kajiado	1980	October	01/10/80	250	4.4	7730.3	Donkeys	4419	888
East Kajiado	1981	September	01/09/81	490	9.19	7730.3	Donkeys	5171	1102
East Kajiado	1982	April	01/03/82	415	7.5	7730.3	Donkeys	3529	1008
East Kajiado	1986	April	01/04/86	304	5.64	7730.3	Donkeys	4897	1507
East Kajiado	1987	March	01/03/87	282	5.44	7730.3	Donkeys	4745	1378
East Kajiado	1990	May	01/05/90	304	6.03	7730.3	Donkeys	6958	1405
East Kajiado	1991	March	01/03/91	304	5.64	7730.3	Donkeys	5561	1235
East Kajiado	1991	October	01/10/91	282	5.84	7730.3	Donkeys	5420	851
East Kajiado	1992	November	01/11/92	282	5.68	7730.3	Donkeys	3010	819
East Kajiado	1994	April	01/04/94	282	5.8	7730.3	Donkeys	3527	686
East Kajiado	1998	March	01/03/98	282	5.62	7730.3	Donkeys	3440	700
East Kajiado	2000	November	01/11/00	282	5.55	7730.3	Donkeys	4648	1076
East Kajiado	2006	March	01/03/06	282	5.54	7730.3	Donkeys	2022	470
East Kajiado	2007	December	01/12/07	282	5.43	7730.3	Donkeys	3897	1700
East Kajiado	2010	February	01/02/10			8300.0	Donkeys	1196	246
East Kajiado	2010	March	01/03/10			8797.0	Donkeys	617	

Region	Year	Month	Date	Strip Width (m)	Sampling Fraction (%)	Area (km ²)	Species	Population Size	Standard Error
East Kajiado	2010	October	01/10/10			8300.0	Donkeys	1261	292
East Kajiado	2011	November	01/11/11	282	5.4	7730.3	Donkeys	1760	641
East Kajiado	1977	February	01/02/77	224	2.24	7730.3	Eland	4452	2144
East Kajiado	1978	March	01/03/78	224	4.13	7730.3	Eland	9444	5424
East Kajiado	1980	October	01/10/80	250	4.4	7730.3	Eland	1387	525
East Kajiado	1981	September	01/09/81	490	9.19	7730.3	Eland	751	245
East Kajiado	1982	April	01/03/82	415	7.5	7730.3	Eland	588	313
East Kajiado	1986	April	01/04/86	304	5.64	7730.3	Eland	3572	752
East Kajiado	1987	March	01/03/87	282	5.44	7730.3	Eland	2289	948
East Kajiado	1990	May	01/05/90	304	6.03	7730.3	Eland	7183	1638
East Kajiado	1991	March	01/03/91	304	5.64	7730.3	Eland	1565	314
East Kajiado	1991	October	01/10/91	282	5.84	7730.3	Eland	2226	537
East Kajiado	1992	November	01/11/92	282	5.68	7730.3	Eland	3827	843
East Kajiado	1994	April	01/04/94	282	5.8	7730.3	Eland	6198	2532
East Kajiado	1998	March	01/03/98	282	5.62	7730.3	Eland	5090	2752
East Kajiado	2000	November	01/11/00	282	5.55	7730.3	Eland	4240	1591
East Kajiado	2006	March	01/03/06	282	5.54	7730.3	Eland	796	522
East Kajiado	2007	December	01/12/07	282	5.43	7730.3	Eland	1271	611
East Kajiado	2010	February	01/02/10			8300.0	Eland	2494	1307
East Kajiado	2010	March	01/03/10			8797.0	Eland	1621	
East Kajiado	2010	October	01/10/10			8300.0	Eland	301	141
East Kajiado	2011	November	01/11/11	282	5.4	7730.3	Eland	1802	853
East Kajiado	1977	February	01/02/77	224	2.24	7730.3	Elephant	657	443
East Kajiado	1978	March	01/03/78	224	4.13	7730.3	Elephant	109	106
East Kajiado	1980	October	01/10/80	250	4.4	7730.3	Elephant	873	845
East Kajiado	1981	September	01/09/81	490	9.19	7730.3	Elephant	320	179
East Kajiado	1982	April	01/03/82	415	7.5	7730.3	Elephant	286	209
East Kajiado	1986	April	01/04/86	304	5.64	7730.3	Elephant	1143	808
East Kajiado	1987	March	01/03/87	282	5.44	7730.3	Elephant	83	80
East Kajiado	1990	May	01/05/90	304	6.03	7730.3	Elephant	3132	2446

Supplementary Material B. contd....

Region	Year	Month	Date	Strip Width (m)	Sampling Fraction (%)	Area (km ²)	Species	Population Size	Standard Error
East Kajiado	1991	March	01/03/91	304	5.64	7730.3	Elephant	180	89
East Kajiado	1991	October	01/10/91	282	5.84	7730.3	Elephant	1045	857
East Kajiado	1992	November	01/11/92	282	5.68	7730.3	Elephant	1016	468
East Kajiado	1994	April	01/04/94	282	5.8	7730.3	Elephant	389	219
East Kajiado	1998	March	01/03/98	282	5.62	7730.3	Elephant	1166	861
East Kajiado	2000	November	01/11/00	282	5.55	7730.3	Elephant	897	458
East Kajiado	2006	March	01/03/06	282	5.54	7730.3	Elephant	898	685
East Kajiado	2007	December	01/12/07	282	5.43	7730.3	Elephant	1709	623
East Kajiado	2010	February	01/02/10			8300.0	Elephant	1094	425
East Kajiado	2010	March	01/03/10			8797.0	Elephant	1292	
East Kajiado	2010	October	01/10/10			8300.0	Elephant	774	308
East Kajiado	2011	November	01/11/11	282	5.4	7730.3	Elephant	1194	672
East Kajiado	2010	March	01/03/10			8797.0	Gagzelle	3905	
East Kajiado	1977	February	01/02/77	224	2.24	7730.3	Gerenuk	505	134
East Kajiado	1978	March	01/03/78	224	4.13	7730.3	Gerenuk	684	234
East Kajiado	1980	October	01/10/80	250	4.4	7730.3	Gerenuk	308	160
East Kajiado	1981	September	01/09/81	490	9.19	7730.3	Gerenuk	49	36
East Kajiado	1982	April	01/03/82	415	7.5	7730.3	Gerenuk	693	168
East Kajiado	1986	April	01/04/86	304	5.64	7730.3	Gerenuk	120	68
East Kajiado	1987	March	01/03/87	282	5.44	7730.3	Gerenuk	83	62
East Kajiado	1990	May	01/05/90	304	6.03	7730.3	Gerenuk	168	69
East Kajiado	1991	March	01/03/91	304	5.64	7730.3	Gerenuk	361	116
East Kajiado	1991	October	01/10/91	282	5.84	7730.3	Gerenuk	1103	334
East Kajiado	1992	November	01/11/92	282	5.68	7730.3	Gerenuk	279	112
East Kajiado	1994	April	01/04/94	282	5.8	7730.3	Gerenuk	194	100
East Kajiado	1998	March	01/03/98	282	5.62	7730.3	Gerenuk	482	172
East Kajiado	2000	November	01/11/00	282	5.55	7730.3	Gerenuk	305	131
East Kajiado	2006	March	01/03/06	282	5.54	7730.3	Gerenuk	102	68
East Kajiado	2007	December	01/12/07	282	5.43	7730.3	Gerenuk	229	78
East Kajiado	2010	February	01/02/10			8300.0	Gerenuk	146	45

Region	Year	Month	Date	Strip Width (m)	Sampling Fraction (%)	Area (km ²)	Species	Population Size	Standard Error
East Kajiado	2010	March	01/03/10			8797.0	Gerenuk	73	
East Kajiado	2010	October	01/10/10			8300.0	Gerenuk	143	48
East Kajiado	2011	November	01/11/11	282	5.4	7730.3	Gerenuk	167	80
East Kajiado	1977	February	01/02/77	224	2.24	7730.3	Ggazelle	9107	2831
East Kajiado	1978	March	01/03/78	224	4.13	7730.3	Ggazelle	18614	2388
East Kajiado	1980	October	01/10/80	250	4.4	7730.3	Ggazelle	14261	2439
East Kajiado	1981	September	01/09/81	490	9.19	7730.3	Ggazelle	8101	1304
East Kajiado	1982	April	01/03/82	415	7.5	7730.3	Ggazelle	7058	1265
East Kajiado	1986	April	01/04/86	304	5.64	7730.3	Ggazelle	10958	1821
East Kajiado	1987	March	01/03/87	282	5.44	7730.3	Ggazelle	6472	1270
East Kajiado	1990	May	01/05/90	304	6.03	7730.3	Ggazelle	14892	2098
East Kajiado	1991	March	01/03/91	304	5.64	7730.3	Ggazelle	9837	1943
East Kajiado	1991	October	01/10/91	282	5.84	7730.3	Ggazelle	15931	2175
East Kajiado	1992	November	01/11/92	282	5.68	7730.3	Ggazelle	11084	1592
East Kajiado	1994	April	01/04/94	282	5.8	7730.3	Ggazelle	13566	1836
East Kajiado	1998	March	01/03/98	282	5.62	7730.3	Ggazelle	13721	1950
East Kajiado	2000	November	01/11/00	282	5.55	7730.3	Ggazelle	14842	1777
East Kajiado	2006	March	01/03/06	282	5.54	7730.3	Ggazelle	2757	598
East Kajiado	2007	December	01/12/07	282	5.43	7730.3	Ggazelle	9776	2042
East Kajiado	2010	February	01/02/10			8300.0	Ggazelle	2815	451
East Kajiado	2010	October	01/10/10			8300.0	Ggazelle	5360	690
East Kajiado	2011	November	01/11/11	282	5.4	7730.3	Ggazelle	10291	1880
East Kajiado	1977	February	01/02/77	224	2.24	7730.3	Giraffe	5666	1901
East Kajiado	1978	March	01/03/78	224	4.13	7730.3	Giraffe	7062	1811
East Kajiado	1980	October	01/10/80	250	4.4	7730.3	Giraffe	4239	772
East Kajiado	1981	September	01/09/81	490	9.19	7730.3	Giraffe	2339	537
East Kajiado	1982	April	01/03/82	415	7.5	7730.3	Giraffe	2051	376
East Kajiado	1986	April	01/04/86	304	5.64	7730.3	Giraffe	4776	969
East Kajiado	1987	March	01/03/87	282	5.44	7730.3	Giraffe	2372	563
East Kajiado	1990	May	01/05/90	304	6.03	7730.3	Giraffe	5983	1085

Supplementary Material B. contd....

Region	Year	Month	Date	Strip Width (m)	Sampling Fraction (%)	Area (km ²)	Species	Population Size	Standard Error
East Kajiado	1991	March	01/03/91	304	5.64	7730.3	Giraffe	5360	658
East Kajiado	1991	October	01/10/91	282	5.84	7730.3	Giraffe	4897	593
East Kajiado	1992	November	01/11/92	282	5.68	7730.3	Giraffe	7296	1256
East Kajiado	1994	April	01/04/94	282	5.8	7730.3	Giraffe	5594	870
East Kajiado	1998	March	01/03/98	282	5.62	7730.3	Giraffe	4929	687
East Kajiado	2000	November	01/11/00	282	5.55	7730.3	Giraffe	4893	631
East Kajiado	2006	March	01/03/06	282	5.54	7730.3	Giraffe	2022	334
East Kajiado	2007	December	01/12/07	282	5.43	7730.3	Giraffe	4919	1265
East Kajiado	2010	February	01/02/10			8300.0	Giraffe	2699	470
East Kajiado	2010	March	01/03/10			8797.0	Giraffe	2283	
East Kajiado	2010	October	01/10/10			8300.0	Giraffe	1032	254
East Kajiado	2011	November	01/11/11	282	5.4	7730.3	Giraffe	3982	1239
East Kajiado	1977	February	01/02/77	224	2.24	7730.3	Hartebeest	1619	1045
East Kajiado	1978	March	01/03/78	224	4.13	7730.3	Hartebeest	1012	525
East Kajiado	1980	October	01/10/80	250	4.4	7730.3	Hartebeest	385	221
East Kajiado	1981	September	01/09/81	490	9.19	7730.3	Hartebeest	2585	1371
East Kajiado	1982	April	01/03/82	415	7.5	7730.3	Hartebeest	708	435
East Kajiado	1986	April	01/04/86	304	5.64	7730.3	Hartebeest	1705	738
East Kajiado	1987	March	01/03/87	282	5.44	7730.3	Hartebeest	145	109
East Kajiado	1990	May	01/05/90	304	6.03	7730.3	Hartebeest	787	279
East Kajiado	1991	March	01/03/91	304	5.64	7730.3	Hartebeest	160	152
East Kajiado	1991	October	01/10/91	282	5.84	7730.3	Hartebeest	1258	639
East Kajiado	1992	November	01/11/92	282	5.68	7730.3	Hartebeest	1036	477
East Kajiado	1994	April	01/04/94	282	5.8	7730.3	Hartebeest	1383	569
East Kajiado	1998	March	01/03/98	282	5.62	7730.3	Hartebeest	1428	696
East Kajiado	2000	November	01/11/00	282	5.55	7730.3	Hartebeest	917	390
East Kajiado	2006	March	01/03/06	282	5.54	7730.3	Hartebeest	326	272
East Kajiado	2007	December	01/12/07	282	5.43	7730.3	Hartebeest	333	193
East Kajiado	2010	February	01/02/10			8300.0	Hartebeest	438	219
East Kajiado	2010	March	01/03/10			8797.0	Hartebeest	377	

Region	Year	Month	Date	Strip Width (m)	Sampling Fraction (%)	Area (km ²)	Species	Population Size	Standard Error
East Kajiado	2010	October	01/10/10			8300.0	Hartebeest	100	51
East Kajiado	2011	November	01/11/11	282	5.4	7730.3	Hartebeest	209	142
East Kajiado	1977	February	01/02/77	224	2.24	7730.3	Impala	2681	951
East Kajiado	1978	March	01/03/78	224	4.13	7730.3	Impala	9060	3628
East Kajiado	1980	October	01/10/80	250	4.4	7730.3	Impala	3931	1102
East Kajiado	1981	September	01/09/81	490	9.19	7730.3	Impala	2745	670
East Kajiado	1982	April	01/03/82	415	7.5	7730.3	Impala	2398	723
East Kajiado	1986	April	01/04/86	304	5.64	7730.3	Impala	8188	2338
East Kajiado	1987	March	01/03/87	282	5.44	7730.3	Impala	1290	896
East Kajiado	1990	May	01/05/90	304	6.03	7730.3	Impala	5795	1123
East Kajiado	1991	March	01/03/91	304	5.64	7730.3	Impala	3493	1088
East Kajiado	1991	October	01/10/91	282	5.84	7730.3	Impala	7820	1602
East Kajiado	1992	November	01/11/92	282	5.68	7730.3	Impala	5761	1516
East Kajiado	1994	April	01/04/94	282	5.8	7730.3	Impala	2339	825
East Kajiado	1998	March	01/03/98	282	5.62	7730.3	Impala	4587	1405
East Kajiado	2000	November	01/11/00	282	5.55	7730.3	Impala	6075	1337
East Kajiado	2006	March	01/03/06	282	5.54	7730.3	Impala	1981	1234
East Kajiado	2007	December	01/12/07	282	5.43	7730.3	Impala	3689	1229
East Kajiado	2010	February	01/02/10			8300.0	Impala	890	374
East Kajiado	2010	March	01/03/10			8797.0	Impala	753	
East Kajiado	2010	October	01/10/10			8300.0	Impala	688	257
East Kajiado	2011	November	01/11/11	282	5.4	7730.3	Impala	628	315
East Kajiado	1977	February	01/02/77	224	2.24	7730.3	Oryx	1163	1004
East Kajiado	1978	March	01/03/78	224	4.13	7730.3	Oryx	5721	2448
East Kajiado	1980	October	01/10/80	250	4.4	7730.3	Oryx	1284	588
East Kajiado	1981	September	01/09/81	490	9.19	7730.3	Oryx	689	252
East Kajiado	1982	April	01/03/82	415	7.5	7730.3	Oryx	1100	568
East Kajiado	1986	April	01/04/86	304	5.64	7730.3	Oryx	1043	635
East Kajiado	1987	March	01/03/87	282	5.44	7730.3	Oryx	603	290
East Kajiado	1990	May	01/05/90	304	6.03	7730.3	Oryx	2269	1060

Supplementary Material B. contd....

Region	Year	Month	Date	Strip Width (m)	Sampling Fraction (%)	Area (km ²)	Species	Population Size	Standard Error
East Kajiado	1991	March	01/03/91	304	5.64	7730.3	Oryx	863	324
East Kajiado	1991	October	01/10/91	282	5.84	7730.3	Oryx	638	258
East Kajiado	1992	November	01/11/92	282	5.68	7730.3	Oryx	1794	891
East Kajiado	1994	April	01/04/94	282	5.8	7730.3	Oryx	682	444
East Kajiado	1998	March	01/03/98	282	5.62	7730.3	Oryx	60	41
East Kajiado	2000	November	01/11/00	282	5.55	7730.3	Oryx	81	60
East Kajiado	2006	March	01/03/06	282	5.54	7730.3	Oryx	142	97
East Kajiado	2007	December	01/12/07	282	5.43	7730.3	Oryx	479	314
East Kajiado	2010	February	01/02/10			8300.0	Oryx		
East Kajiado	2010	March	01/03/10			8797.0	Oryx	168	
East Kajiado	2010	October	01/10/10			8300.0	Oryx	86	76
East Kajiado	2011	November	01/11/11	282	5.4	7730.3	Oryx	1718	856
East Kajiado	1977	February	01/02/77	224	2.24	7730.3	Ostrich	2125	740
East Kajiado	1978	March	01/03/78	224	4.13	7730.3	Ostrich	3887	955
East Kajiado	1980	October	01/10/80	250	4.4	7730.3	Ostrich	2415	462
East Kajiado	1981	September	01/09/81	490	9.19	7730.3	Ostrich	1354	232
East Kajiado	1982	April	01/03/82	415	7.5	7730.3	Ostrich	829	181
East Kajiado	1986	April	01/04/86	304	5.64	7730.3	Ostrich	2869	1195
East Kajiado	1987	March	01/03/87	282	5.44	7730.3	Ostrich	3475	1221
East Kajiado	1990	May	01/05/90	304	6.03	7730.3	Ostrich	3038	753
East Kajiado	1991	March	01/03/91	304	5.64	7730.3	Ostrich	3653	1010
East Kajiado	1991	October	01/10/91	282	5.84	7730.3	Ostrich	2226	309
East Kajiado	1992	November	01/11/92	282	5.68	7730.3	Ostrich	3448	544
East Kajiado	1994	April	01/04/94	282	5.8	7730.3	Ostrich	2670	475
East Kajiado	1998	March	01/03/98	282	5.62	7730.3	Ostrich	2675	753
East Kajiado	2000	November	01/11/00	282	5.55	7730.3	Ostrich	1896	365
East Kajiado	2006	March	01/03/06	282	5.54	7730.3	Ostrich	2267	698
East Kajiado	2007	December	01/12/07	282	5.43	7730.3	Ostrich	1834	419
East Kajiado	2010	February	01/02/10			8300.0	Ostrich	1167	242
East Kajiado	2010	March	01/03/10			8797.0	Ostrich	876	

Supplementary Material B. contd....

Region	Year	Month	Date	Strip Width (m)	Sampling Fraction (%)	Area (km ²)	Species	Population Size	Standard Error
East Kajiado	2010	October	01/10/10			8300.0	Ostrich	1147	187
East Kajiado	2011	November	01/11/11	282	5.4	7730.3	Ostrich	1068	205
East Kajiado	1977	February	01/02/77	224	2.24	7730.3	Sheep and goats	247058	50746
East Kajiado	1978	March	01/03/78	224	4.13	7730.3	Sheep and goats	264628	43165
East Kajiado	1980	October	01/10/80	250	4.4	7730.3	Sheep and goats	146234	26174
East Kajiado	1981	September	01/09/81	490	9.19	7730.3	Sheep and goats	163415	27570
East Kajiado	1982	April	01/03/82	415	7.5	7730.3	Sheep and goats	94171	19689
East Kajiado	1986	April	01/04/86	304	5.64	7730.3	Sheep and goats	154779	26576
East Kajiado	1987	March	01/03/87	282	5.44	7730.3	Sheep and goats	155590	30100
East Kajiado	1990	May	01/05/90	304	6.03	7730.3	Sheep and goats	151191	23230
East Kajiado	1991	March	01/03/91	304	5.64	7730.3	Sheep and goats	154667	27105
East Kajiado	1991	October	01/10/91	282	5.84	7730.3	Sheep and goats	168391	24176
East Kajiado	1992	November	01/11/92	282	5.68	7730.3	Sheep and goats	128828	18836
East Kajiado	1994	April	01/04/94	282	5.8	7730.3	Sheep and goats	96893	13014
East Kajiado	1998	March	01/03/98	282	5.62	7730.3	Sheep and goats	111463	15169
East Kajiado	2000	November	01/11/00	282	5.55	7730.3	Sheep and goats	179862	27250
East Kajiado	2006	March	01/03/06	282	5.54	7730.3	Sheep and goats	186489	27723
East Kajiado	2007	December	01/12/07	282	5.43	7730.3	Sheep and goats	228058	27476
East Kajiado	2010	February	01/02/10			8300.0	Sheep and goats	97397	12321
East Kajiado	2010	March	01/03/10			8797.0	Sheep and goats	101321	

Supplementary Material B. contd....

Region	Year	Month	Date	Strip Width (m)	Sampling Fraction (%)	Area (km ²)	Species	Population Size	Standard Error
East Kajiado	2010	October	01/10/10			8300.0	Sheep and goats	130642	15618
East Kajiado	2011	November	01/11/11	282	5.4	7730.3	Sheep and goats	302298	41088
East Kajiado	1977	February	01/02/77	224	2.24	7730.3	Tgazelle	8196	2902
East Kajiado	1978	March	01/03/78	224	4.13	7730.3	Tgazelle	3750	1088
East Kajiado	1980	October	01/10/80	250	4.4	7730.3	Tgazelle	719	423
East Kajiado	1981	September	01/09/81	490	9.19	7730.3	Tgazelle	430	245
East Kajiado	1982	April	01/03/82	415	7.5	7730.3	Tgazelle	633	335
East Kajiado	1986	April	01/04/86	304	5.64	7730.3	Tgazelle	1605	530
East Kajiado	1987	March	01/03/87	282	5.44	7730.3	Tgazelle	1977	1022
East Kajiado	1990	May	01/05/90	304	6.03	7730.3	Tgazelle	3713	872
East Kajiado	1991	March	01/03/91	304	5.64	7730.3	Tgazelle	240	168
East Kajiado	1991	October	01/10/91	282	5.84	7730.3	Tgazelle	1529	418
East Kajiado	1992	November	01/11/92	282	5.68	7730.3	Tgazelle	1614	656
East Kajiado	1994	April	01/04/94	282	5.8	7730.3	Tgazelle	409	216
East Kajiado	1998	March	01/03/98	282	5.62	7730.3	Tgazelle	482	277
East Kajiado	2000	November	01/11/00	282	5.55	7730.3	Tgazelle	754	559
East Kajiado	2006	March	01/03/06	282	5.54	7730.3	Tgazelle	653	281
East Kajiado	2007	December	01/12/07	282	5.43	7730.3	Tgazelle	2126	940
East Kajiado	2010	February	01/02/10			8300.0	Tgazelle	598	206
East Kajiado	2010	March	01/03/10			8797.0	Tgazelle	331	
East Kajiado	2010	October	01/10/10			8300.0	Tgazelle	573	201
East Kajiado	2011	November	01/11/11	282	5.4	7730.3	Tgazelle	1592	1153
East Kajiado	1977	February	01/02/77	224	2.24	7730.3	Warthog	0	0
East Kajiado	1978	March	01/03/78	224	4.13	7730.3	Warthog	848	461
East Kajiado	1980	October	01/10/80	250	4.4	7730.3	Warthog	591	263
East Kajiado	1981	September	01/09/81	490	9.19	7730.3	Warthog	49	36
East Kajiado	1982	April	01/03/82	415	7.5	7730.3	Warthog	226	103
East Kajiado	1986	April	01/04/86	304	5.64	7730.3	Warthog	401	148
East Kajiado	1987	March	01/03/87	282	5.44	7730.3	Warthog	374	196

Region	Year	Month	Date	Strip Width (m)	Sampling Fraction (%)	Area (km ²)	Species	Population Size	Standard Error
East Kajiado	1990	May	01/05/90	304	6.03	7730.3	Warthog	468	182
East Kajiado	1991	March	01/03/91	304	5.64	7730.3	Warthog	542	195
East Kajiado	1991	October	01/10/91	282	5.84	7730.3	Warthog	329	130
East Kajiado	1992	November	01/11/92	282	5.68	7730.3	Warthog	219	127
East Kajiado	1994	April	01/04/94	282	5.8	7730.3	Warthog	409	133
East Kajiado	1998	March	01/03/98	282	5.62	7730.3	Warthog	301	152
East Kajiado	2000	November	01/11/00	282	5.55	7730.3	Warthog	20	19
East Kajiado	2006	March	01/03/06	282	5.54	7730.3	Warthog	245	132
East Kajiado	2007	December	01/12/07	282	5.43	7730.3	Warthog	62	43
East Kajiado	2010	February	01/02/10			8300.0	Warthog	248	106
East Kajiado	2010	March	01/03/10			8797.0	Warthog	29	
East Kajiado	2010	October	01/10/10			8300.0	Warthog		
East Kajiado	2011	November	01/11/11	282	5.4	7730.3	Warthog	1027	553
East Kajiado	1977	February	01/02/77	224	2.24	7730.3	Waterbuck	50	50
East Kajiado	1978	March	01/03/78	224	4.13	7730.3	Waterbuck	711	561
East Kajiado	1980	October	01/10/80	250	4.4	7730.3	Waterbuck	411	397
East Kajiado	1981	September	01/09/81	490	9.19	7730.3	Waterbuck	394	352
East Kajiado	1982	April	01/03/82	415	7.5	7730.3	Waterbuck	45	43
East Kajiado	1986	April	01/04/86	304	5.64	7730.3	Waterbuck	220	156
East Kajiado	1987	March	01/03/87	282	5.44	7730.3	Waterbuck	228	138
East Kajiado	1990	May	01/05/90	304	6.03	7730.3	Waterbuck	150	130
East Kajiado	1991	March	01/03/91	304	5.64	7730.3	Waterbuck	20	19
East Kajiado	1991	October	01/10/91	282	5.84	7730.3	Waterbuck	0	0
East Kajiado	1992	November	01/11/92	282	5.68	7730.3	Waterbuck	199	171
East Kajiado	1994	April	01/04/94	282	5.8	7730.3	Waterbuck	643	416
East Kajiado	1998	March	01/03/98	282	5.62	7730.3	Waterbuck	0	0
East Kajiado	2000	November	01/11/00	282	5.55	7730.3	Waterbuck	81	55
East Kajiado	2006	March	01/03/06	282	5.54	7730.3	Waterbuck	122	118
East Kajiado	2007	December	01/12/07	282	5.43	7730.3	Waterbuck	0	0
East Kajiado	2010	March	01/02/10			8300.0	Waterbuck		

Supplementary Material B. contd....

Region	Year	Month	Date	Strip Width (m)	Sampling Fraction (%)	Area (km ²)	Species	Population Size	Standard Error
East Kajiado	2010	March	01/03/10			8797.0	Waterbuck	18	
East Kajiado	2010	October	01/10/10			8300.0	Waterbuck	57	51
East Kajiado	2011	November	01/11/11	282	5.4	7730.3	Waterbuck	0	0
East Kajiado	1977	February	01/02/77	224	2.24	7730.3	Wildebeest	16140	2848
East Kajiado	1978	March	01/03/78	224	4.13	7730.3	Wildebeest	14234	4083
East Kajiado	1980	October	01/10/80	250	4.4	7730.3	Wildebeest	20273	8653
East Kajiado	1981	September	01/09/81	490	9.19	7730.3	Wildebeest	16794	5341
East Kajiado	1982	April	01/03/82	415	7.5	7730.3	Wildebeest	8883	5055
East Kajiado	1986	April	01/04/86	304	5.64	7730.3	Wildebeest	20511	6074
East Kajiado	1987	March	01/03/87	282	5.44	7730.3	Wildebeest	12757	5792
East Kajiado	1990	May	01/05/90	304	6.03	7730.3	Wildebeest	26033	4804
East Kajiado	1991	March	01/03/91	304	5.64	7730.3	Wildebeest	19815	9359
East Kajiado	1991	October	01/10/91	282	5.84	7730.3	Wildebeest	26500	8234
East Kajiado	1992	November	01/11/92	282	5.68	7730.3	Wildebeest	13576	3622
East Kajiado	1994	April	01/04/94	282	5.8	7730.3	Wildebeest	15866	2831
East Kajiado	1998	March	01/03/98	282	5.62	7730.3	Wildebeest	7323	1595
East Kajiado	2000	November	01/11/00	282	5.55	7730.3	Wildebeest	10418	2548
East Kajiado	2006	March	01/03/06	282	5.54	7730.3	Wildebeest	16279	5943
East Kajiado	2007	December	01/12/07	282	5.43	7730.3	Wildebeest	16779	6770
East Kajiado	2010	February	01/02/10			8300.0	Wildebeest	802	267
East Kajiado	2010	March	01/03/10			8797.0	Wildebeest	3410	
East Kajiado	2010	October	01/10/10			8300.0	Wildebeest	3053	1598
East Kajiado	2011	November	01/11/11	282	5.4	7730.3	Wildebeest	4045	1037
East Kajiado	1977	February	01/02/77	224	2.24	7730.3	Zebra	18619	7045
East Kajiado	1978	March	01/03/78	224	4.13	7730.3	Zebra	15986	4953
East Kajiado	1980	October	01/10/80	250	4.4	7730.3	Zebra	12899	3820
East Kajiado	1981	September	01/09/81	490	9.19	7730.3	Zebra	13051	4325
East Kajiado	1982	April	01/03/82	415	7.5	7730.3	Zebra	13196	6071
East Kajiado	1986	April	01/04/86	304	5.64	7730.3	Zebra	14470	4302
East Kajiado	1987	March	01/03/87	282	5.44	7730.3	Zebra	18002	7036

Supplementary Material B. contd....

Region	Year	Month	Date	Strip Width (m)	Sampling Fraction (%)	Area (km ²)	Species	Population Size	Standard Error
East Kajiado	1990	May	01/05/90	304	6.03	7730.3	Zebra	28827	4876
East Kajiado	1991	March	01/03/91	304	5.64	7730.3	Zebra	24854	5664
East Kajiado	1991	October	01/10/91	282	5.84	7730.3	Zebra	26539	8120
East Kajiado	1992	November	01/11/92	282	5.68	7730.3	Zebra	22607	6976
East Kajiado	1994	April	01/04/94	282	5.8	7730.3	Zebra	32258	4854
East Kajiado	1998	March	01/03/98	282	5.62	7730.3	Zebra	29133	5668
East Kajiado	2000	November	01/11/00	282	5.55	7730.3	Zebra	24812	4829
East Kajiado	2006	March	01/03/06	282	5.54	7730.3	Zebra	16974	2542
East Kajiado	2007	December	01/12/07	282	5.43	7730.3	Zebra	20927	8096
East Kajiado	2010	February	01/02/10				Zebra	3034	575
East Kajiado	2010	March	01/03/10				Zebra	6029	
East Kajiado	2010	October	01/10/10				Zebra	6865	2158
East Kajiado	2011	November	01/11/11	282	5.4	7730.3	Zebra	5847	1861
West Kajiado	1977	January	01/02/77	224	2.35	11388.5	Buffalo	2633	2471
West Kajiado	1978	March	01/03/78	224	4.7	11388.5	Buffalo	0	0
West Kajiado	1980	October	01/10/80	250	4.99	11388.5	Buffalo	500	491
West Kajiado	1981	September	01/09/81	490	10.07	11388.5	Buffalo	1629	1096
West Kajiado	1982	April	01/03/82	415	8.37	11388.5	Buffalo	226	175
West Kajiado	1986	April	01/04/86	304	5.77	11388.5	Buffalo	1559	1011
West Kajiado	1987	March	01/03/87	282	5.66	11388.5	Buffalo	689	554
West Kajiado	1990	May	01/05/90	304	6.07	11388.5	Buffalo	247	187
West Kajiado	1991	March	01/03/91	304	5.85	11388.5	Buffalo	136	89
West Kajiado	1991	October	01/10/91	282	5.98	11388.5	Buffalo	1422	1009
West Kajiado	1992	November	01/11/92	282	5.02	11388.5	Buffalo	0	0
West Kajiado	1994	April	01/04/94	282	5.85	11388.5	Buffalo	51	36
West Kajiado	1998	March	01/03/98	282	5.81	11388.5	Buffalo	86	83
West Kajiado	2000	November	01/11/00	282	5.6	11388.5	Buffalo	53	39
West Kajiado	2006	March	01/03/06	282	5.46	11388.5	Buffalo	146	142
West Kajiado	2007	December	01/12/07	282	5.69	11388.5	Buffalo	369	360
West Kajiado	2011	November	01/11/11	282	5.65	11388.5	Buffalo	230	229

Supplementary Material B. contd....

Region	Year	Month	Date	Strip Width (m)	Sampling Fraction (%)	Area (km ²)	Species	Population Size	Standard Error
West Kajiado	1977	January	01/02/77	224	2.35	11388.5	Cattle	226403	36344
West Kajiado	1978	March	01/03/78	224	4.7	11388.5	Cattle	225323	22306
West Kajiado	1980	October	01/10/80	250	4.99	11388.5	Cattle	318071	33172
West Kajiado	1981	September	01/09/81	490	10.07	11388.5	Cattle	213871	22697
West Kajiado	1982	April	01/03/82	415	8.37	11388.5	Cattle	230463	20181
West Kajiado	1986	April	01/04/86	304	5.77	11388.5	Cattle	246310	33818
West Kajiado	1987	March	01/03/87	282	5.66	11388.5	Cattle	246113	29499
West Kajiado	1990	May	01/05/90	304	6.07	11388.5	Cattle	321638	25417
West Kajiado	1991	March	01/03/91	304	5.85	11388.5	Cattle	256119	32841
West Kajiado	1991	October	01/10/91	282	5.98	11388.5	Cattle	295543	31208
West Kajiado	1992	November	01/11/92	282	5.02	11388.5	Cattle	229688	25221
West Kajiado	1994	April	01/04/94	282	5.85	11388.5	Cattle	208612	27604
West Kajiado	1998	March	01/03/98	282	5.81	11388.5	Cattle	191434	21286
West Kajiado	2000	November	01/11/00	282	5.6	11388.5	Cattle	115206	15797
West Kajiado	2006	March	01/03/06	282	5.46	11388.5	Cattle	125823	16965
West Kajiado	2007	December	01/12/07	282	5.69	11388.5	Cattle	128926	13951
West Kajiado	2011	November	01/11/11	282	5.65	11388.5	Cattle	173006	14895
West Kajiado	1977	January	01/02/77	224	2.35	11388.5	Donkeys	13122	1855
West Kajiado	1978	March	01/03/78	224	4.7	11388.5	Donkeys	17910	3878
West Kajiado	1980	October	01/10/80	250	4.99	11388.5	Donkeys	8374	2630
West Kajiado	1981	September	01/09/81	490	10.07	11388.5	Donkeys	6060	1950
West Kajiado	1982	April	01/03/82	415	8.37	11388.5	Donkeys	5219	872
West Kajiado	1986	April	01/04/86	304	5.77	11388.5	Donkeys	7276	1161
West Kajiado	1987	March	01/03/87	282	5.66	11388.5	Donkeys	7175	1937
West Kajiado	1990	May	01/05/90	304	6.07	11388.5	Donkeys	6297	1010
West Kajiado	1991	March	01/03/91	304	5.85	11388.5	Donkeys	7226	1120
West Kajiado	1991	October	01/10/91	282	5.98	11388.5	Donkeys	10908	3037
West Kajiado	1992	November	01/11/92	282	5.02	11388.5	Donkeys	7660	1863
West Kajiado	1994	April	01/04/94	282	5.85	11388.5	Donkeys	5142	897
West Kajiado	1998	March	01/03/98	282	5.81	11388.5	Donkeys	7646	1094

Region	Year	Month	Date	Strip Width (m)	Sampling Fraction (%)	Area (km ²)	Species	Population Size	Standard Error
West Kajiado	2000	November	01/11/00	282	5.6	11388.5	Donkeys	4893	775
West Kajiado	2006	March	01/03/06	282	5.46	11388.5	Donkeys	8365	1615
West Kajiado	2007	December	01/12/07	282	5.69	11388.5	Donkeys	7667	1088
West Kajiado	2011	November	01/11/11	282	5.65	11388.5	Donkeys	6498	1211
West Kajiado	1977	January	01/02/77	224	2.35	11388.5	Eland	2548	1252
West Kajiado	1978	March	01/03/78	224	4.7	11388.5	Eland	11316	3551
West Kajiado	1980	October	01/10/80	250	4.99	11388.5	Eland	2203	557
West Kajiado	1981	September	01/09/81	490	10.07	11388.5	Eland	943	240
West Kajiado	1982	April	01/03/82	415	8.37	11388.5	Eland	597	154
West Kajiado	1986	April	01/04/86	304	5.77	11388.5	Eland	4313	1080
West Kajiado	1987	March	01/03/87	282	5.66	11388.5	Eland	2156	610
West Kajiado	1990	May	01/05/90	304	6.07	11388.5	Eland	4830	1472
West Kajiado	1991	March	01/03/91	304	5.85	11388.5	Eland	1007	269
West Kajiado	1991	October	01/10/91	282	5.98	11388.5	Eland	1405	481
West Kajiado	1992	November	01/11/92	282	5.02	11388.5	Eland	1769	470
West Kajiado	1994	April	01/04/94	282	5.85	11388.5	Eland	1110	323
West Kajiado	1998	March	01/03/98	282	5.81	11388.5	Eland	499	226
West Kajiado	2000	November	01/11/00	282	5.6	11388.5	Eland	803	330
West Kajiado	2006	March	01/03/06	282	5.46	11388.5	Eland	823	301
West Kajiado	2007	December	01/12/07	282	5.69	11388.5	Eland	738	457
West Kajiado	2011	November	01/11/11	282	5.65	11388.5	Eland	1894	925
West Kajiado	1977	January	01/02/77	224	2.35	11388.5	Elephant	0	0
West Kajiado	1978	March	01/03/78	224	4.7	11388.5	Elephant	0	0
West Kajiado	1980	October	01/10/80	250	4.99	11388.5	Elephant	0	0
West Kajiado	1981	September	01/09/81	490	10.07	11388.5	Elephant	0	0
West Kajiado	1982	April	01/03/82	415	8.37	11388.5	Elephant	11	11
West Kajiado	1986	April	01/04/86	304	5.77	11388.5	Elephant	0	0
West Kajiado	1987	March	01/03/87	282	5.66	11388.5	Elephant	0	0
West Kajiado	1990	May	01/05/90	304	6.07	11388.5	Elephant	0	0
West Kajiado	1991	March	01/03/91	304	5.85	11388.5	Elephant	0	0

Supplementary Material B. contd....

Region	Year	Month	Date	Strip Width (m)	Sampling Fraction (%)	Area (km ²)	Species	Population Size	Standard Error
West Kajiado	1991	October	01/10/91	282	5.98	11388.5	Elephant	0	0
West Kajiado	1992	November	01/11/92	282	5.02	11388.5	Elephant	0	0
West Kajiado	1994	April	01/04/94	282	5.85	11388.5	Elephant	0	0
West Kajiado	1998	March	01/03/98	282	5.81	11388.5	Elephant	0	0
West Kajiado	2000	November	01/11/00	282	5.6	11388.5	Elephant	0	0
West Kajiado	2006	March	01/03/06	282	5.46	11388.5	Elephant	0	0
West Kajiado	2007	December	01/12/07	282	5.69	11388.5	Elephant	52	52
West Kajiado	2011	November	01/11/11	282	5.65	11388.5	Elephant	0	0
West Kajiado	1977	January	01/02/77	224	2.35	11388.5	Gerenuk	297	186
West Kajiado	1978	March	01/03/78	224	4.7	11388.5	Gerenuk	659	183
West Kajiado	1980	October	01/10/80	250	4.99	11388.5	Gerenuk	120	58
West Kajiado	1981	September	01/09/81	490	10.07	11388.5	Gerenuk	0	0
West Kajiado	1982	April	01/03/82	415	8.37	11388.5	Gerenuk	214	94
West Kajiado	1986	April	01/04/86	304	5.77	11388.5	Gerenuk	0	0
West Kajiado	1987	March	01/03/87	282	5.66	11388.5	Gerenuk	247	116
West Kajiado	1990	May	01/05/90	304	6.07	11388.5	Gerenuk	65	43
West Kajiado	1991	March	01/03/91	304	5.85	11388.5	Gerenuk	68	38
West Kajiado	1991	October	01/10/91	282	5.98	11388.5	Gerenuk	1154	648
West Kajiado	1992	November	01/11/92	282	5.02	11388.5	Gerenuk	85	41
West Kajiado	1994	April	01/04/94	282	5.85	11388.5	Gerenuk	170	98
West Kajiado	1998	March	01/03/98	282	5.81	11388.5	Gerenuk	51	37
West Kajiado	2000	November	01/11/00	282	5.6	11388.5	Gerenuk	0	0
West Kajiado	2006	March	01/03/06	282	5.46	11388.5	Gerenuk	0	0
West Kajiado	2007	December	01/12/07	282	5.69	11388.5	Gerenuk	0	0
West Kajiado	2011	November	01/11/11	282	5.65	11388.5	Gerenuk	194	93
West Kajiado	1977	January	01/02/77	224	2.35	11388.5	Ggazelle	13080	2919
West Kajiado	1978	March	01/03/78	224	4.7	11388.5	Ggazelle	20356	2397
West Kajiado	1980	October	01/10/80	250	4.99	11388.5	Ggazelle	7132	1112
West Kajiado	1981	September	01/09/81	490	10.07	11388.5	Ggazelle	5692	779
West Kajiado	1982	April	01/03/82	415	8.37	11388.5	Ggazelle	7165	858

Supplementary Material B. contd....

Region	Year	Month	Date	Strip Width (m)	Sampling Fraction (%)	Area (km ²)	Species	Population Size	Standard Error
West Kajiado	1986	April	01/04/86	304	5.77	11388.5	Ggazelle	13478	1768
West Kajiado	1987	March	01/03/87	282	5.66	11388.5	Ggazelle	9102	1428
West Kajiado	1990	May	01/05/90	304	6.07	11388.5	Ggazelle	15529	1891
West Kajiado	1991	March	01/03/91	304	5.85	11388.5	Ggazelle	10267	2072
West Kajiado	1991	October	01/10/91	282	5.98	11388.5	Ggazelle	13200	1600
West Kajiado	1992	November	01/11/92	282	5.02	11388.5	Ggazelle	7935	1342
West Kajiado	1994	April	01/04/94	282	5.85	11388.5	Ggazelle	12609	1850
West Kajiado	1998	March	01/03/98	282	5.81	11388.5	Ggazelle	12037	1982
West Kajiado	2000	November	01/11/00	282	5.6	11388.5	Ggazelle	11501	1292
West Kajiado	2006	March	01/03/06	282	5.46	11388.5	Ggazelle	7230	1324
West Kajiado	2007	December	01/12/07	282	5.69	11388.5	Ggazelle	4080	1082
West Kajiado	2011	November	01/11/11	282	5.65	11388.5	Ggazelle	14308	1967
West Kajiado	1977	January	01/02/77	224	2.35	11388.5	Giraffe	7771	2256
West Kajiado	1978	March	01/03/78	224	4.7	11388.5	Giraffe	5892	868
West Kajiado	1980	October	01/10/80	250	4.99	11388.5	Giraffe	3225	422
West Kajiado	1981	September	01/09/81	490	10.07	11388.5	Giraffe	3000	483
West Kajiado	1982	April	01/03/82	415	8.37	11388.5	Giraffe	2675	395
West Kajiado	1986	April	01/04/86	304	5.77	11388.5	Giraffe	6358	961
West Kajiado	1987	March	01/03/87	282	5.66	11388.5	Giraffe	3375	581
West Kajiado	1990	May	01/05/90	304	6.07	11388.5	Giraffe	4269	722
West Kajiado	1991	March	01/03/91	304	5.85	11388.5	Giraffe	3587	538
West Kajiado	1991	October	01/10/91	282	5.98	11388.5	Giraffe	4784	867
West Kajiado	1992	November	01/11/92	282	5.02	11388.5	Giraffe	3108	572
West Kajiado	1994	April	01/04/94	282	5.85	11388.5	Giraffe	3007	668
West Kajiado	1998	March	01/03/98	282	5.81	11388.5	Giraffe	2066	663
West Kajiado	2000	November	01/11/00	282	5.6	11388.5	Giraffe	1089	383
West Kajiado	2006	March	01/03/06	282	5.46	11388.5	Giraffe	1702	714
West Kajiado	2007	December	01/12/07	282	5.69	11388.5	Giraffe	281	183
West Kajiado	2011	November	01/11/11	282	5.65	11388.5	Giraffe	1133	441
West Kajiado	1977	January	01/02/77	224	2.35	11388.5	Hartebeest	169	99

Supplementary Material B. contd....

Region	Year	Month	Date	Strip Width (m)	Sampling Fraction (%)	Area (km ²)	Species	Population Size	Standard Error
West Kajiado	1978	March	01/03/78	224	4.7	11388.5	Hartebeest	2084	636
West Kajiado	1980	October	01/10/80	250	4.99	11388.5	Hartebeest	741	245
West Kajiado	1981	September	01/09/81	490	10.07	11388.5	Hartebeest	1728	907
West Kajiado	1982	April	01/03/82	415	8.37	11388.5	Hartebeest	1349	474
West Kajiado	1986	April	01/04/86	304	5.77	11388.5	Hartebeest	1905	693
West Kajiado	1987	March	01/03/87	282	5.66	11388.5	Hartebeest	1095	501
West Kajiado	1990	May	01/05/90	304	6.07	11388.5	Hartebeest	1665	527
West Kajiado	1991	March	01/03/91	304	5.85	11388.5	Hartebeest	717	417
West Kajiado	1991	October	01/10/91	282	5.98	11388.5	Hartebeest	1020	445
West Kajiado	1992	November	01/11/92	282	5.02	11388.5	Hartebeest	1082	416
West Kajiado	1994	April	01/04/94	282	5.85	11388.5	Hartebeest	956	369
West Kajiado	1998	March	01/03/98	282	5.81	11388.5	Hartebeest	120	99
West Kajiado	2000	November	01/11/00	282	5.6	11388.5	Hartebeest	0	0
West Kajiado	2006	March	01/03/06	282	5.46	11388.5	Hartebeest	36	35
West Kajiado	2007	December	01/12/07	282	5.69	11388.5	Hartebeest	0	0
West Kajiado	2011	November	01/11/11	282	5.65	11388.5	Hartebeest	88	87
West Kajiado	1977	January	01/02/77	224	2.35	11388.5	Impala	8578	2117
West Kajiado	1978	March	01/03/78	224	4.7	11388.5	Impala	21015	2615
West Kajiado	1980	October	01/10/80	250	4.99	11388.5	Impala	3926	1165
West Kajiado	1981	September	01/09/81	490	10.07	11388.5	Impala	4043	1086
West Kajiado	1982	April	01/03/82	415	8.37	11388.5	Impala	5051	1100
West Kajiado	1986	April	01/04/86	304	5.77	11388.5	Impala	9667	2096
West Kajiado	1987	March	01/03/87	282	5.66	11388.5	Impala	5107	1488
West Kajiado	1990	May	01/05/90	304	6.07	11388.5	Impala	8176	2192
West Kajiado	1991	March	01/03/91	304	5.85	11388.5	Impala	3997	1611
West Kajiado	1991	October	01/10/91	282	5.98	11388.5	Impala	6006	1455
West Kajiado	1992	November	01/11/92	282	5.02	11388.5	Impala	6269	1415
West Kajiado	1994	April	01/04/94	282	5.85	11388.5	Impala	3707	974
West Kajiado	1998	March	01/03/98	282	5.81	11388.5	Impala	3151	879
West Kajiado	2000	November	01/11/00	282	5.6	11388.5	Impala	1893	646

Region	Year	Month	Date	Strip Width (m)	Sampling Fraction (%)	Area (km ²)	Species	Population Size	Standard Error
West Kajiado	2006	March	01/03/06	282	5.46	11388.5	Impala	860	388
West Kajiado	2007	December	01/12/07	282	5.69	11388.5	Impala	1020	540
West Kajiado	2011	November	01/11/11	282	5.65	11388.5	Impala	424	236
West Kajiado	1977	January	01/02/77	224	2.35	11388.5	Oryx	3142	2202
West Kajiado	1978	March	01/03/78	224	4.7	11388.5	Oryx	4360	1931
West Kajiado	1980	October	01/10/80	250	4.99	11388.5	Oryx	701	202
West Kajiado	1981	September	01/09/81	490	10.07	11388.5	Oryx	466	184
West Kajiado	1982	April	01/03/82	415	8.37	11388.5	Oryx	895	313
West Kajiado	1986	April	01/04/86	304	5.77	11388.5	Oryx	693	334
West Kajiado	1987	March	01/03/87	282	5.66	11388.5	Oryx	353	176
West Kajiado	1990	May	01/05/90	304	6.07	11388.5	Oryx	1186	449
West Kajiado	1991	March	01/03/91	304	5.85	11388.5	Oryx	768	276
West Kajiado	1991	October	01/10/91	282	5.98	11388.5	Oryx	50	48
West Kajiado	1992	November	01/11/92	282	5.02	11388.5	Oryx	498	307
West Kajiado	1994	April	01/04/94	282	5.85	11388.5	Oryx	341	264
West Kajiado	1998	March	01/03/98	282	5.81	11388.5	Oryx	0	0
West Kajiado	2000	November	01/11/00	282	5.6	11388.5	Oryx	71	68
West Kajiado	2006	March	01/03/06	282	5.46	11388.5	Oryx	91	62
West Kajiado	2007	December	01/12/07	282	5.69	11388.5	Oryx	70	66
West Kajiado	2011	November	01/11/11	282	5.65	11388.5	Oryx	0	0
West Kajiado	1977	January	01/02/77	224	2.35	11388.5	Ostrich	424	290
West Kajiado	1978	March	01/03/78	224	4.7	11388.5	Ostrich	574	167
West Kajiado	1980	October	01/10/80	250	4.99	11388.5	Ostrich	1061	230
West Kajiado	1981	September	01/09/81	490	10.07	11388.5	Ostrich	427	110
West Kajiado	1982	April	01/03/82	415	8.37	11388.5	Ostrich	441	93
West Kajiado	1986	April	01/04/86	304	5.77	11388.5	Ostrich	2875	1042
West Kajiado	1987	March	01/03/87	282	5.66	11388.5	Ostrich	2050	907
West Kajiado	1990	May	01/05/90	304	6.07	11388.5	Ostrich	1731	464
West Kajiado	1991	March	01/03/91	304	5.85	11388.5	Ostrich	1537	337
West Kajiado	1991	October	01/10/91	282	5.98	11388.5	Ostrich	4935	3377

Supplementary Material B. contd....

Region	Year	Month	Date	Strip Width (m)	Sampling Fraction (%)	Area (km ²)	Species	Population Size	Standard Error
West Kajiado	1992	November	01/11/92	282	5.02	11388.5	Ostrich	3899	2409
West Kajiado	1994	April	01/04/94	282	5.85	11388.5	Ostrich	2169	350
West Kajiado	1998	March	01/03/98	282	5.81	11388.5	Ostrich	1119	329
West Kajiado	2000	November	01/11/00	282	5.6	11388.5	Ostrich	1178	307
West Kajiado	2006	March	01/03/06	282	5.46	11388.5	Ostrich	1592	748
West Kajiado	2007	December	01/12/07	282	5.69	11388.5	Ostrich	562	136
West Kajiado	2011	November	01/11/11	282	5.65	11388.5	Ostrich	548	183
West Kajiado	1977	January	01/02/77	224	2.35	11388.5	Sheep and goats	369906	63902
West Kajiado	1978	March	01/03/78	224	4.7	11388.5	Sheep and goats	542963	66061
West Kajiado	1980	October	01/10/80	250	4.99	11388.5	Sheep and goats	363650	45798
West Kajiado	1981	September	01/09/81	490	10.07	11388.5	Sheep and goats	279996	30726
West Kajiado	1982	April	01/03/82	415	8.37	11388.5	Sheep and goats	216633	25249
West Kajiado	1986	April	01/04/86	304	5.77	11388.5	Sheep and goats	338480	39600
West Kajiado	1987	March	01/03/87	282	5.66	11388.5	Sheep and goats	376107	43796
West Kajiado	1990	May	01/05/90	304	6.07	11388.5	Sheep and goats	473027	53104
West Kajiado	1991	March	01/03/91	304	5.85	11388.5	Sheep and goats	389218	55214
West Kajiado	1991	October	01/10/91	282	5.98	11388.5	Sheep and goats	375146	45881
West Kajiado	1992	November	01/11/92	282	5.02	11388.5	Sheep and goats	369644	41556
West Kajiado	1994	April	01/04/94	282	5.85	11388.5	Sheep and goats	296995	41425
West Kajiado	1998	March	01/03/98	282	5.81	11388.5	Sheep and goats	353610	29872
West Kajiado	2000	November	01/11/00	282	5.6	11388.5	Sheep and goats	274238	25669
West Kajiado	2006	March	01/03/06	282	5.46	11388.5	Sheep and goats	392920	37024

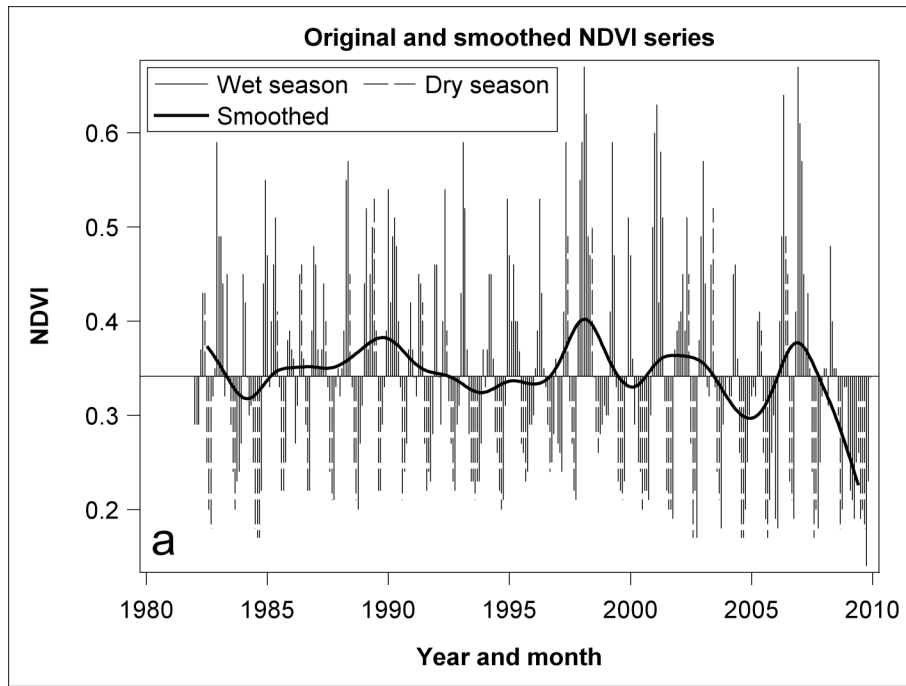
Region	Year	Month	Date	Strip Width (m)	Sampling Fraction (%)	Area (km ²)	Species	Population Size	Standard Error
West Kajiado	2007	December	01/12/07	282	5.69	11388.5	Sheep and goats	372234	33673
West Kajiado	2011	November	01/11/11	282	5.65	11388.5	Sheep and goats	749365	55884
West Kajiado	1977	January	01/02/77	224	2.35	11388.5	Tgazelle	3992	1850
West Kajiado	1978	March	01/03/78	224	4.7	11388.5	Tgazelle	2829	1219
West Kajiado	1980	October	01/10/80	250	4.99	11388.5	Tgazelle	400	289
West Kajiado	1981	September	01/09/81	490	10.07	11388.5	Tgazelle	516	313
West Kajiado	1982	April	01/03/82	415	8.37	11388.5	Tgazelle	262	104
West Kajiado	1986	April	01/04/86	304	5.77	11388.5	Tgazelle	2581	838
West Kajiado	1987	March	01/03/87	282	5.66	11388.5	Tgazelle	335	162
West Kajiado	1990	May	01/05/90	304	6.07	11388.5	Tgazelle	7072	2227
West Kajiado	1991	March	01/03/91	304	5.85	11388.5	Tgazelle	239	131
West Kajiado	1991	October	01/10/91	282	5.98	11388.5	Tgazelle	1154	295
West Kajiado	1992	November	01/11/92	282	5.02	11388.5	Tgazelle	979	395
West Kajiado	1994	April	01/04/94	282	5.85	11388.5	Tgazelle	153	72
West Kajiado	1998	March	01/03/98	282	5.81	11388.5	Tgazelle	1033	567
West Kajiado	2000	November	01/11/00	282	5.6	11388.5	Tgazelle	696	334
West Kajiado	2006	March	01/03/06	282	5.46	11388.5	Tgazelle	512	214
West Kajiado	2007	December	01/12/07	282	5.69	11388.5	Tgazelle	1547	633
West Kajiado	2011	November	01/11/11	282	5.65	11388.5	Tgazelle	1398	546
West Kajiado	1977	January	01/02/77	224	2.35	11388.5	Warthog	1359	553
West Kajiado	1978	March	01/03/78	224	4.7	11388.5	Warthog	1467	515
West Kajiado	1980	October	01/10/80	250	4.99	11388.5	Warthog	641	214
West Kajiado	1981	September	01/09/81	490	10.07	11388.5	Warthog	635	345
West Kajiado	1982	April	01/03/82	415	8.37	11388.5	Warthog	143	59
West Kajiado	1986	April	01/04/86	304	5.77	11388.5	Warthog	589	219
West Kajiado	1987	March	01/03/87	282	5.66	11388.5	Warthog	176	100
West Kajiado	1990	May	01/05/90	304	6.07	11388.5	Warthog	428	187
West Kajiado	1991	March	01/03/91	304	5.85	11388.5	Warthog	512	160
West Kajiado	1991	October	01/10/91	282	5.98	11388.5	Warthog	217	118

Supplementary Material B. contd....

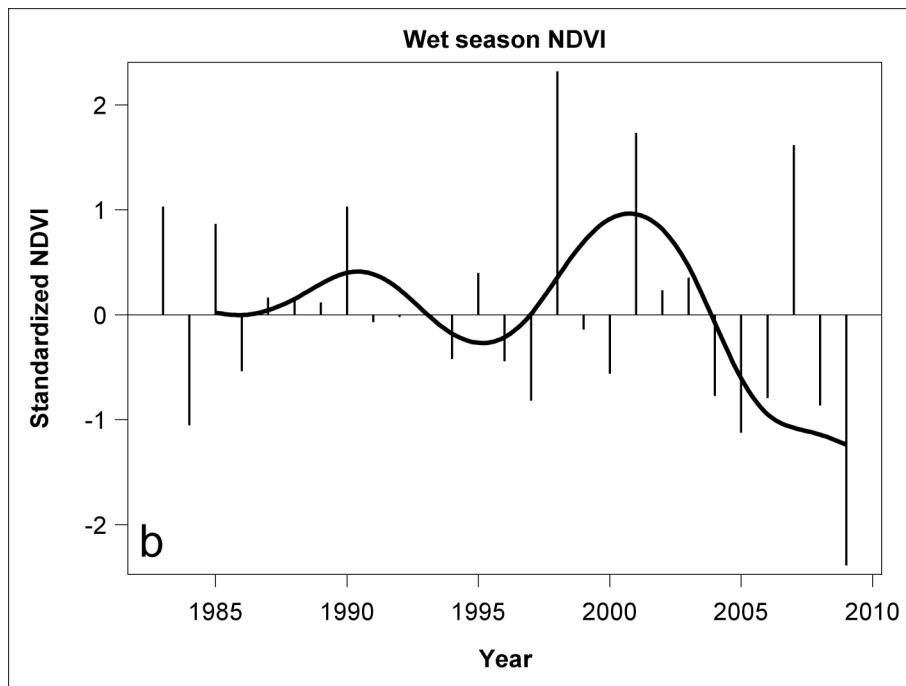
Region	Year	Month	Date	Strip Width (m)	Sampling Fraction (%)	Area (km ²)	Species	Population Size	Standard Error
West Kajiado	1992	November	01/11/92	282	5.02	11388.5	Warthog	309	133
West Kajiado	1994	April	01/04/94	282	5.85	11388.5	Warthog	358	126
West Kajiado	1998	March	01/03/98	282	5.81	11388.5	Warthog	0	0
West Kajiado	2000	November	01/11/00	282	5.6	11388.5	Warthog	142	138
West Kajiado	2006	March	01/03/06	282	5.46	11388.5	Warthog	18	17
West Kajiado	2007	December	01/12/07	282	5.69	11388.5	Warthog	70	54
West Kajiado	2011	November	01/11/11	282	5.65	11388.5	Warthog	1487	573
West Kajiado	1977	January	01/02/77	224	2.35	11388.5	Waterbuck	0	0
West Kajiado	1978	March	01/03/78	224	4.7	11388.5	Waterbuck	382	146
West Kajiado	1980	October	01/10/80	250	4.99	11388.5	Waterbuck	20	19
West Kajiado	1981	September	01/09/81	490	10.07	11388.5	Waterbuck	188	114
West Kajiado	1982	April	01/03/82	415	8.37	11388.5	Waterbuck	11	11
West Kajiado	1986	April	01/04/86	304	5.77	11388.5	Waterbuck	34	24
West Kajiado	1987	March	01/03/87	282	5.66	11388.5	Waterbuck	141	134
West Kajiado	1990	May	01/05/90	304	6.07	11388.5	Waterbuck	214	177
West Kajiado	1991	March	01/03/91	304	5.85	11388.5	Waterbuck	85	59
West Kajiado	1991	October	01/10/91	282	5.98	11388.5	Waterbuck	33	32
West Kajiado	1992	November	01/11/92	282	5.02	11388.5	Waterbuck	0	0
West Kajiado	1994	April	01/04/94	282	5.85	11388.5	Waterbuck	51	49
West Kajiado	1998	March	01/03/98	282	5.81	11388.5	Waterbuck	51	50
West Kajiado	2000	November	01/11/00	282	5.6	11388.5	Waterbuck	160	143
West Kajiado	2006	March	01/03/06	282	5.46	11388.5	Waterbuck	36	35
West Kajiado	2007	December	01/12/07	282	5.69	11388.5	Waterbuck	0	0
West Kajiado	2011	November	01/11/11	282	5.65	11388.5	Waterbuck	0	0
West Kajiado	1977	January	01/02/77	224	2.35	11388.5	Wildebeest	5393	2603
West Kajiado	1978	March	01/03/78	224	4.7	11388.5	Wildebeest	4807	1348
West Kajiado	1980	October	01/10/80	250	4.99	11388.5	Wildebeest	7112	2833
West Kajiado	1981	September	01/09/81	490	10.07	11388.5	Wildebeest	3814	1384
West Kajiado	1982	April	01/03/82	415	8.37	11388.5	Wildebeest	4896	2001
West Kajiado	1986	April	01/04/86	304	5.77	11388.5	Wildebeest	4799	1775

Supplementary Material B. contd....

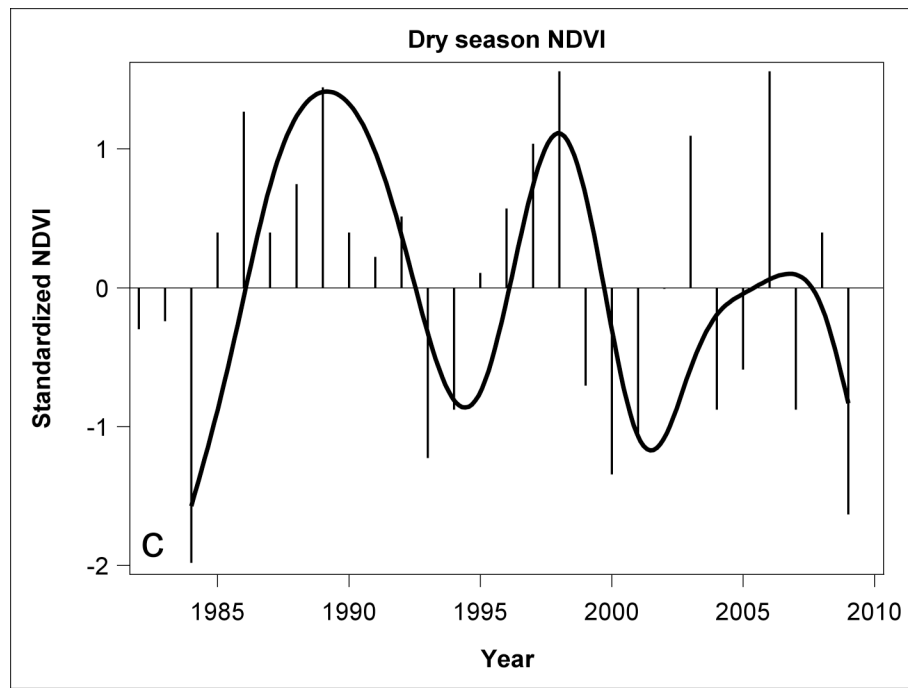
Region	Year	Month	Date	Strip Width (m)	Sampling Fraction (%)	Area (km ²)	Species	Population Size	Standard Error
West Kajiado	1987	March	01/03/87	282	5.66	11388.5	Wilbebeest	3693	1450
West Kajiado	1990	May	01/05/90	304	6.07	11388.5	Wilbebeest	6231	2507
West Kajiado	1991	March	01/03/91	304	5.85	11388.5	Wilbebeest	5090	2252
West Kajiado	1991	October	01/10/91	282	5.98	11388.5	Wilbebeest	9569	4320
West Kajiado	1992	November	01/11/92	282	5.02	11388.5	Wilbebeest	4500	1822
West Kajiado	1994	April	01/04/94	282	5.85	11388.5	Wilbebeest	3399	1358
West Kajiado	1998	March	01/03/98	282	5.81	11388.5	Wilbebeest	1515	654
West Kajiado	2000	November	01/11/00	282	5.6	11388.5	Wilbebeest	2393	1084
West Kajiado	2006	March	01/03/06	282	5.46	11388.5	Wilbebeest	2763	1553
West Kajiado	2007	December	01/12/07	282	5.69	11388.5	Wilbebeest	844	432
West Kajiado	2011	November	01/11/11	282	5.65	11388.5	Wilbebeest	8358	2402
West Kajiado	1977	January	01/02/77	224	2.35	11388.5	Zebra	3609	1522
West Kajiado	1978	March	01/03/78	224	4.7	11388.5	Zebra	3360	1288
West Kajiado	1980	October	01/10/80	250	4.99	11388.5	Zebra	601	330
West Kajiado	1981	September	01/09/81	490	10.07	11388.5	Zebra	705	218
West Kajiado	1982	April	01/03/82	415	8.37	11388.5	Zebra	1552	832
West Kajiado	1986	April	01/04/86	304	5.77	11388.5	Zebra	4158	956
West Kajiado	1987	March	01/03/87	282	5.66	11388.5	Zebra	2598	804
West Kajiado	1990	May	01/05/90	304	6.07	11388.5	Zebra	7385	2957
West Kajiado	1991	March	01/03/91	304	5.85	11388.5	Zebra	4014	1993
West Kajiado	1991	October	01/10/91	282	5.98	11388.5	Zebra	4333	1569
West Kajiado	1992	November	01/11/92	282	5.02	11388.5	Zebra	7678	2259
West Kajiado	1994	April	01/04/94	282	5.85	11388.5	Zebra	7978	2377
West Kajiado	1998	March	01/03/98	282	5.81	11388.5	Zebra	5321	1287
West Kajiado	2000	November	01/11/00	282	5.6	11388.5	Zebra	5429	1329
West Kajiado	2006	March	01/03/06	282	5.46	11388.5	Zebra	7102	3145
West Kajiado	2007	December	01/12/07	282	5.69	11388.5	Zebra	4537	1473
West Kajiado	2011	November	01/11/11	282	5.65	11388.5	Zebra	743	542



A



B



C

Fig. (S1). Vegetation production and greenness retention assessed using the AVHRR Normalized Difference Vegetation Index (NDVI) data from NOAA covering the entire Kajiado County and downloaded for Jan 1982-Dec 2009 at a spatial resolution of 8 km × 8 km from the website of the African Data Dissemination Service (<http://earlywarning.usgs.gov/adds/>). Monthly NDVI records were used to compute the annual, wet and dry season averages as well as annual moving averages spanning 1 to 5 years before the aerial surveys. All the calculated NDVI components were standardized to zero mean and unit variance. The temporal pattern in mean (A) monthly, (B) wet season and (C) dry season Normalized Difference Vegetation Index (NDVI) in Kajiado County during 1982-2009. Solid lines are the penalized spline smoothed monthly (A) or 3-year moving averages (B and C) of NDVI components. Needles are the normalized NDVI values. The long term trend component of the monthly NDVI time series in (A) was extracted by decomposing the series into its constituent long-term trend, cyclical, seasonal and irregular components using the TIMESERIES procedure of the SAS system (SAS Institute 2013).

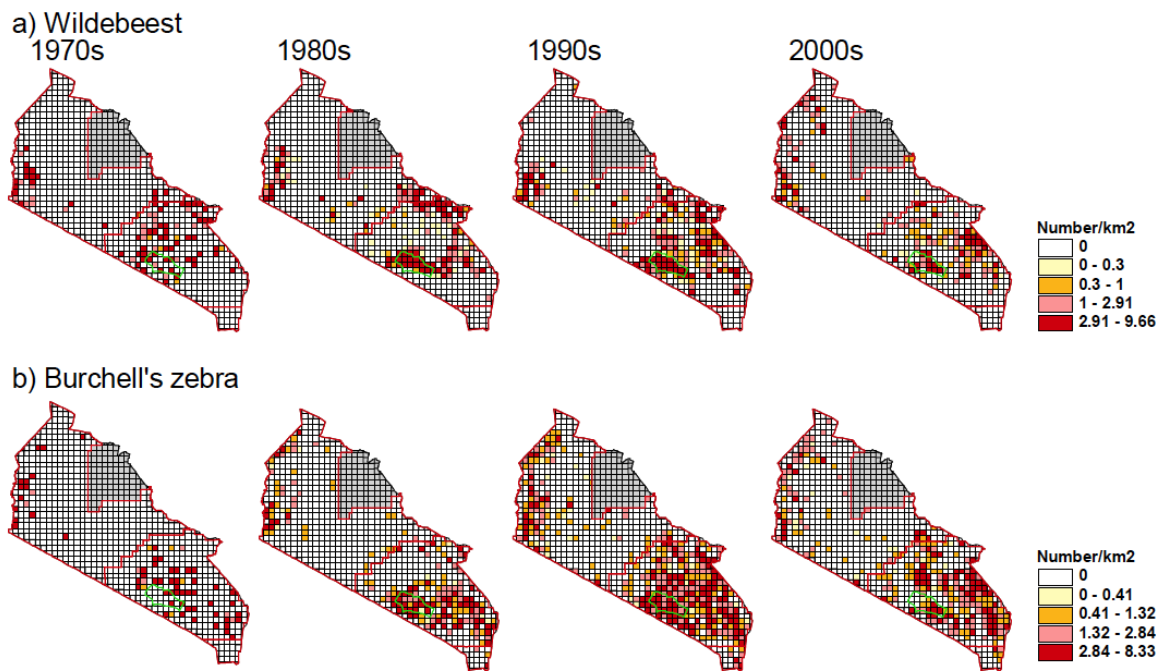
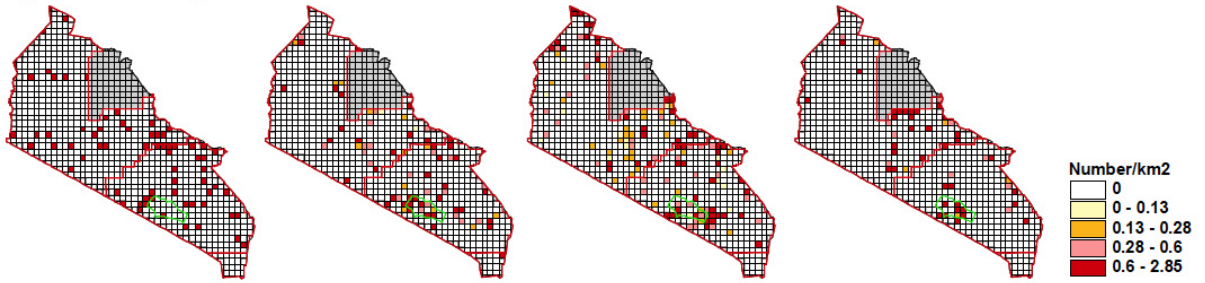
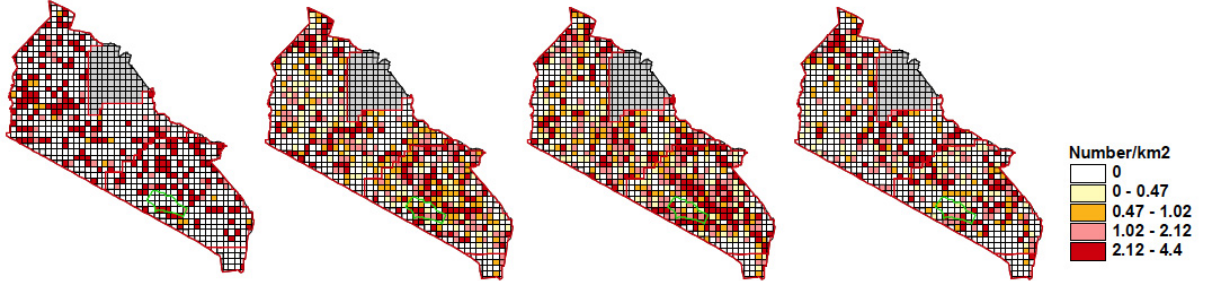


Fig. (S2). Contd...

c) Thomson's gazelle



d) Grant's gazelle

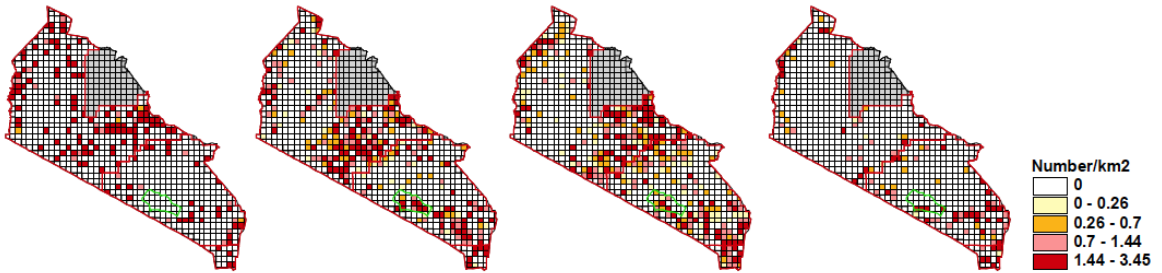


e) Impala
1970s

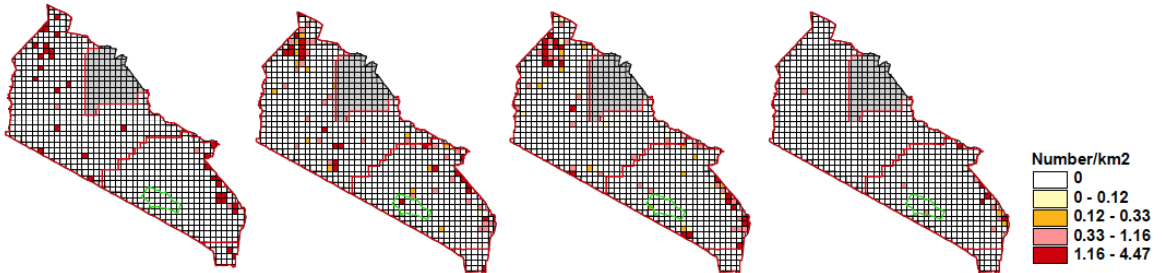
1980s

1990s

2000s



f) Hartebeest



g) Eland

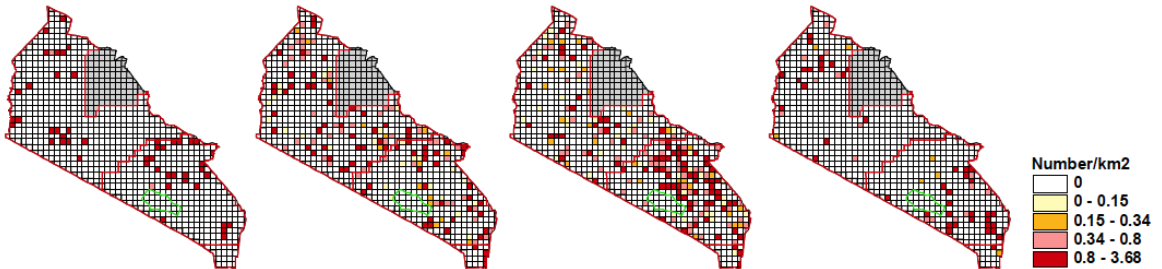


Fig. (S2). Contd...

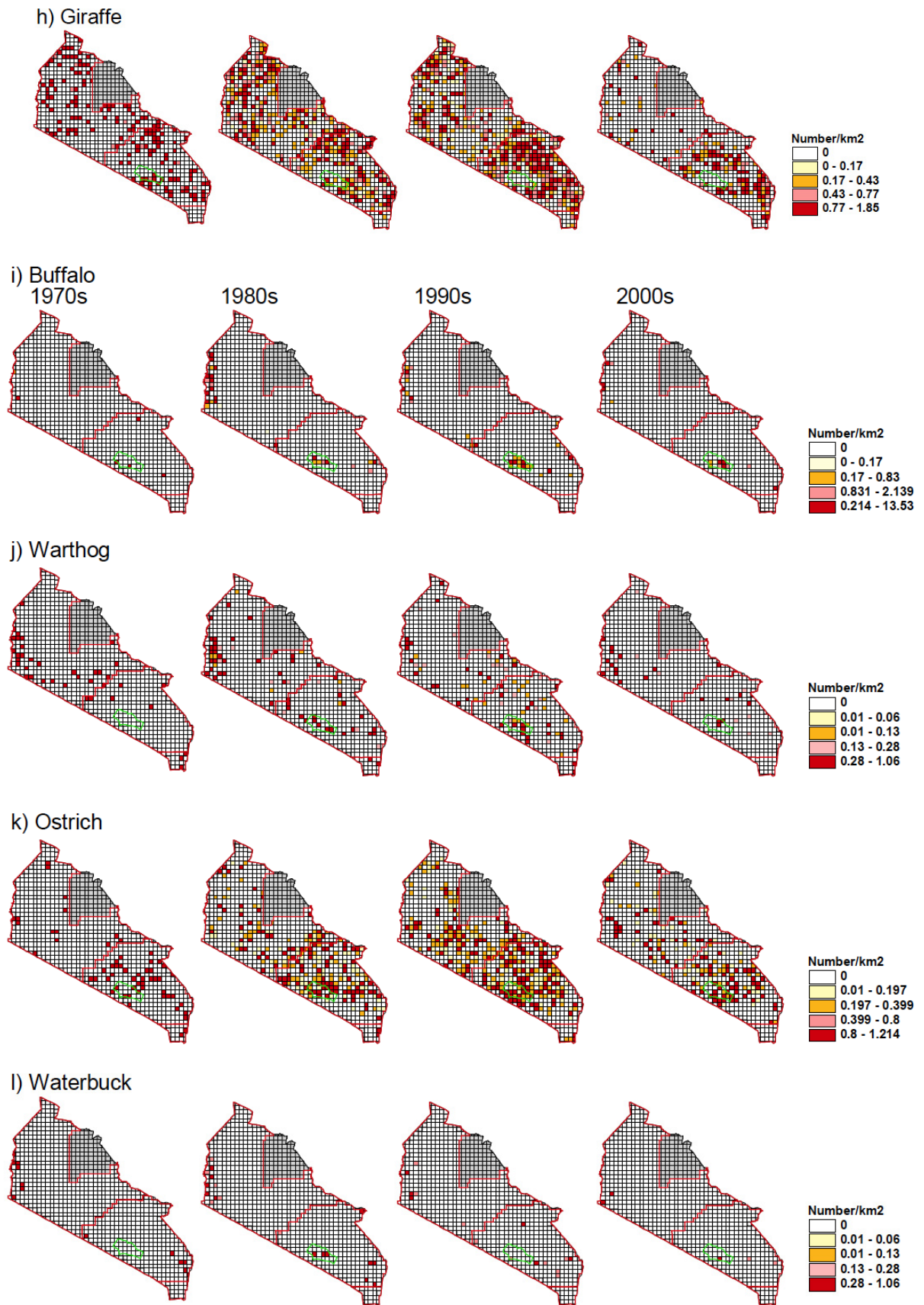


Fig. (S2). Contd...

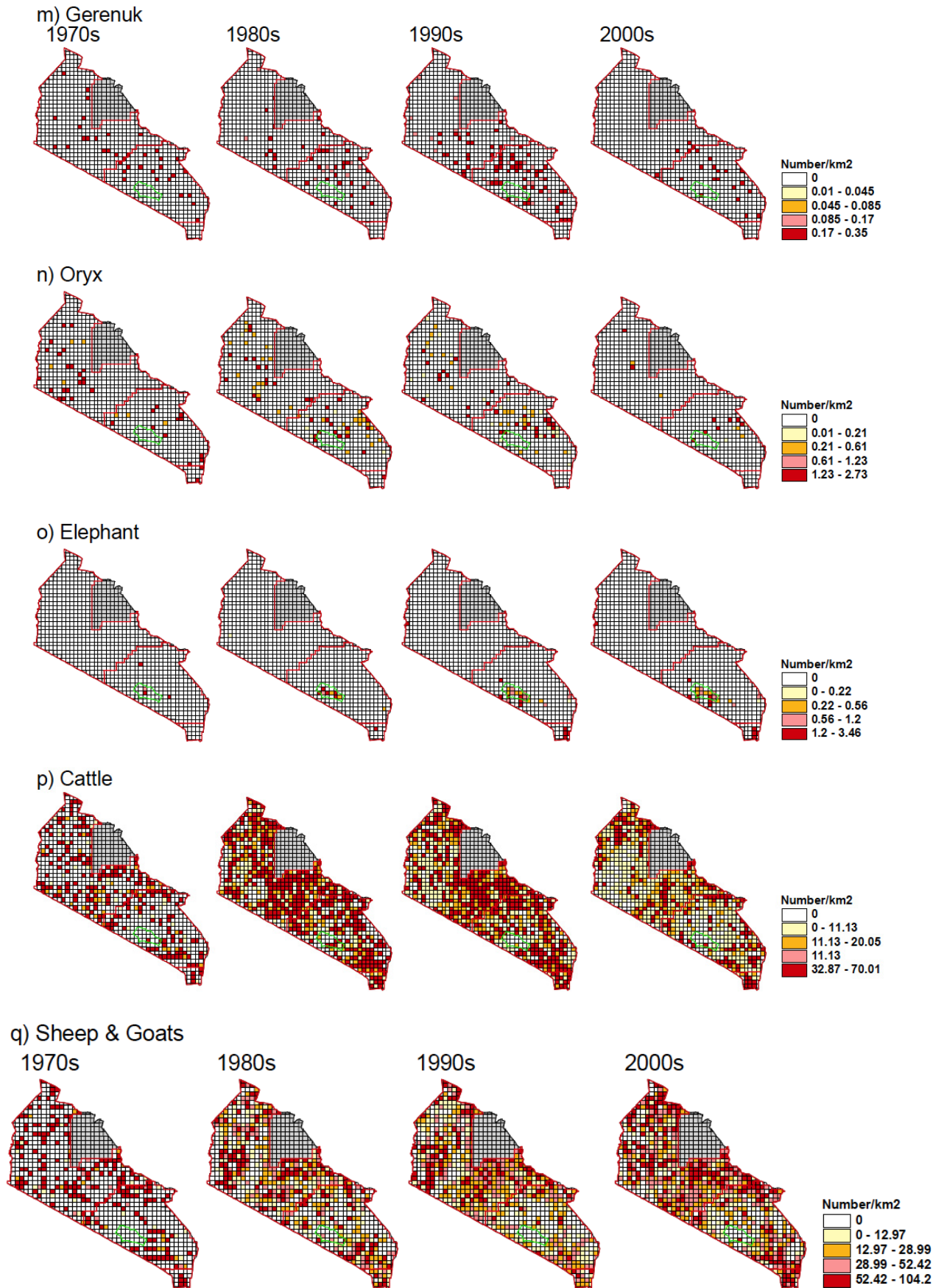


Fig. (S2). Contd...

r) Donkey

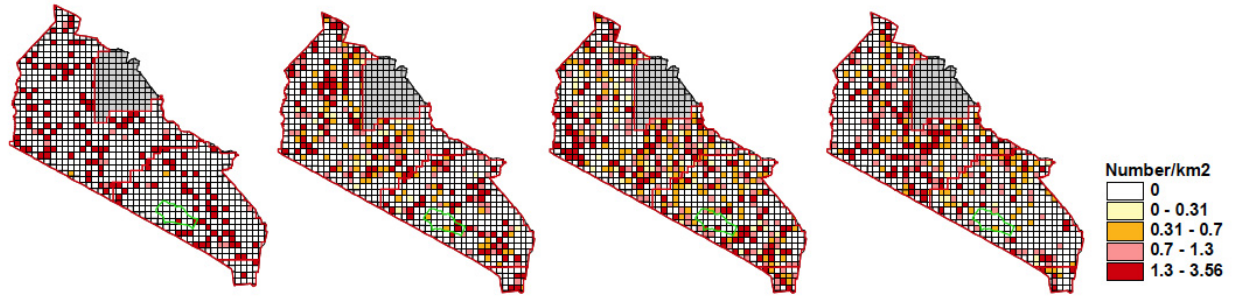
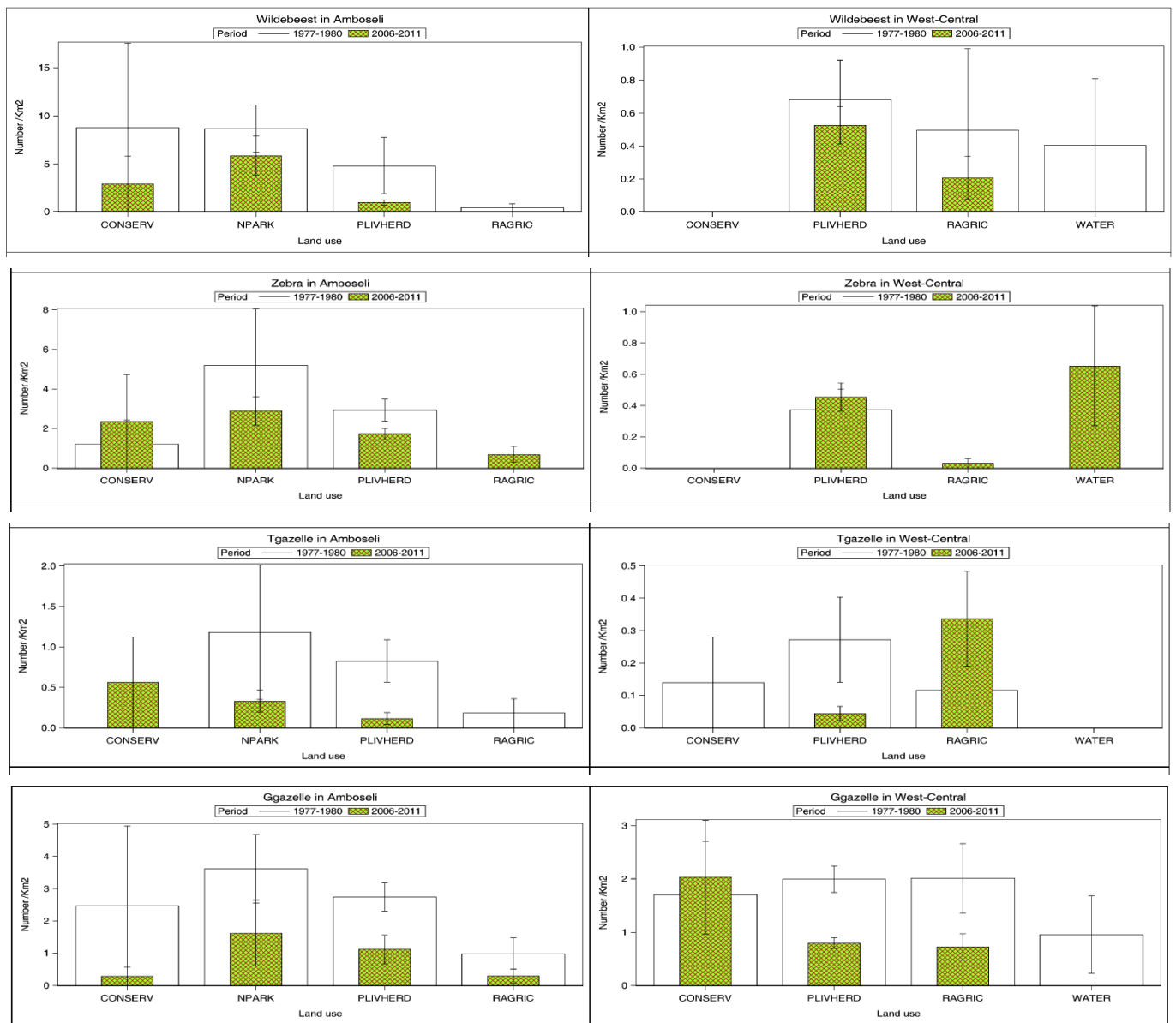


Fig. (S2). Temporal patterns in the distribution of the density (number per km²) of individuals of each wildlife and livestock species in Kajiado County during 1977-2011.



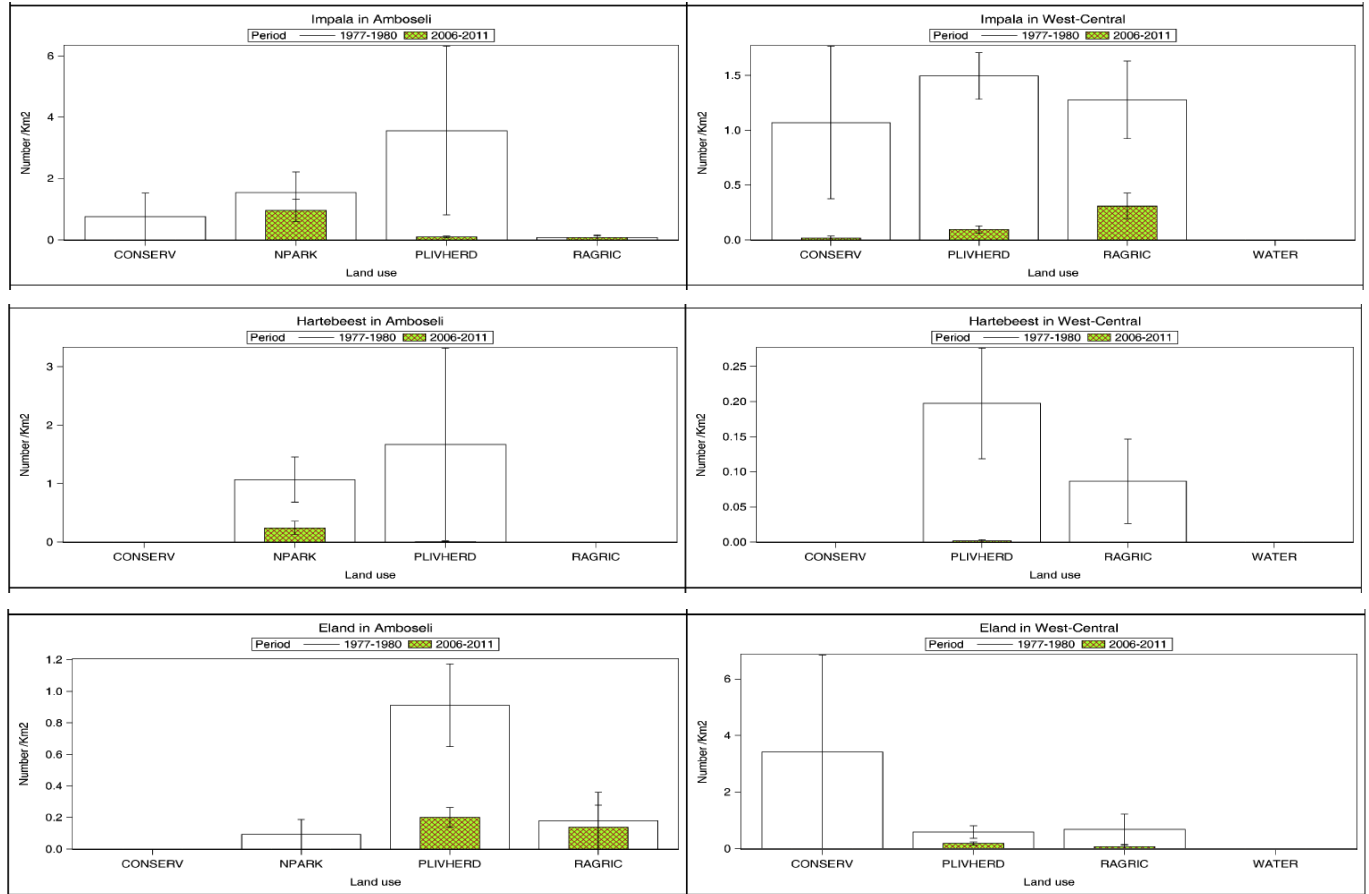


Fig. (S3). The distribution of wildebeest, zebra, Thomson’s gazelle, Grant’s gazelle, impala, hartebeest and eland densities during 1977-1980 and 2006-2011 across the major land use types in Eastern (Amboseli) and Western Kajiado. CONSERV= Conservancies, NPARK=National Parks, PLIVHERD=Pastoral Livestock Herding, RAGRIC= Rainfed Agriculture.

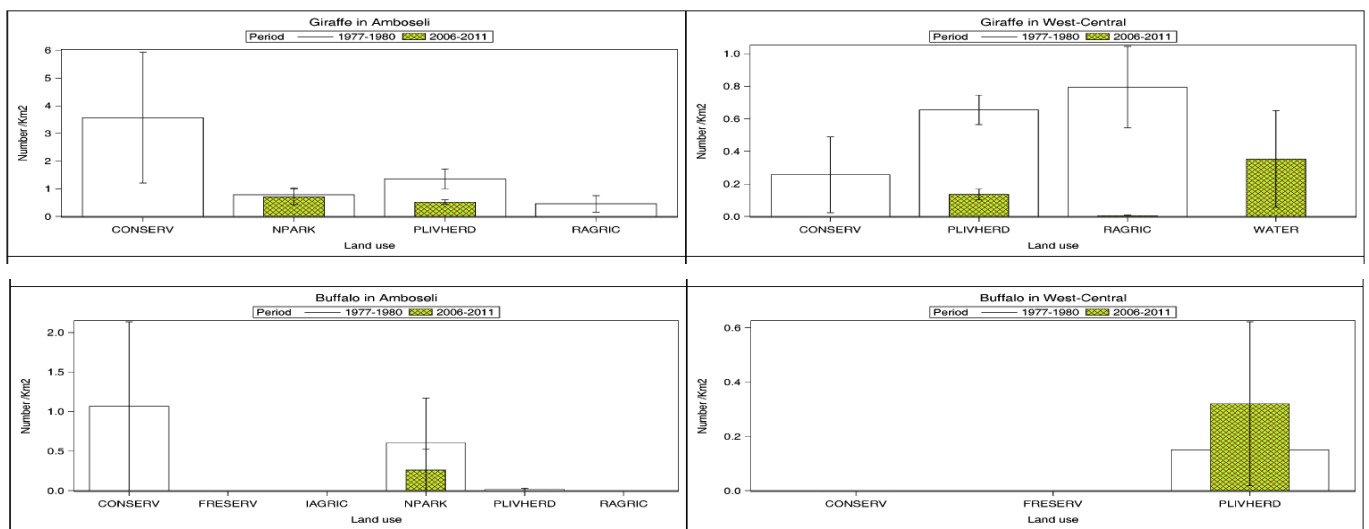


Fig. (S4). Contd...

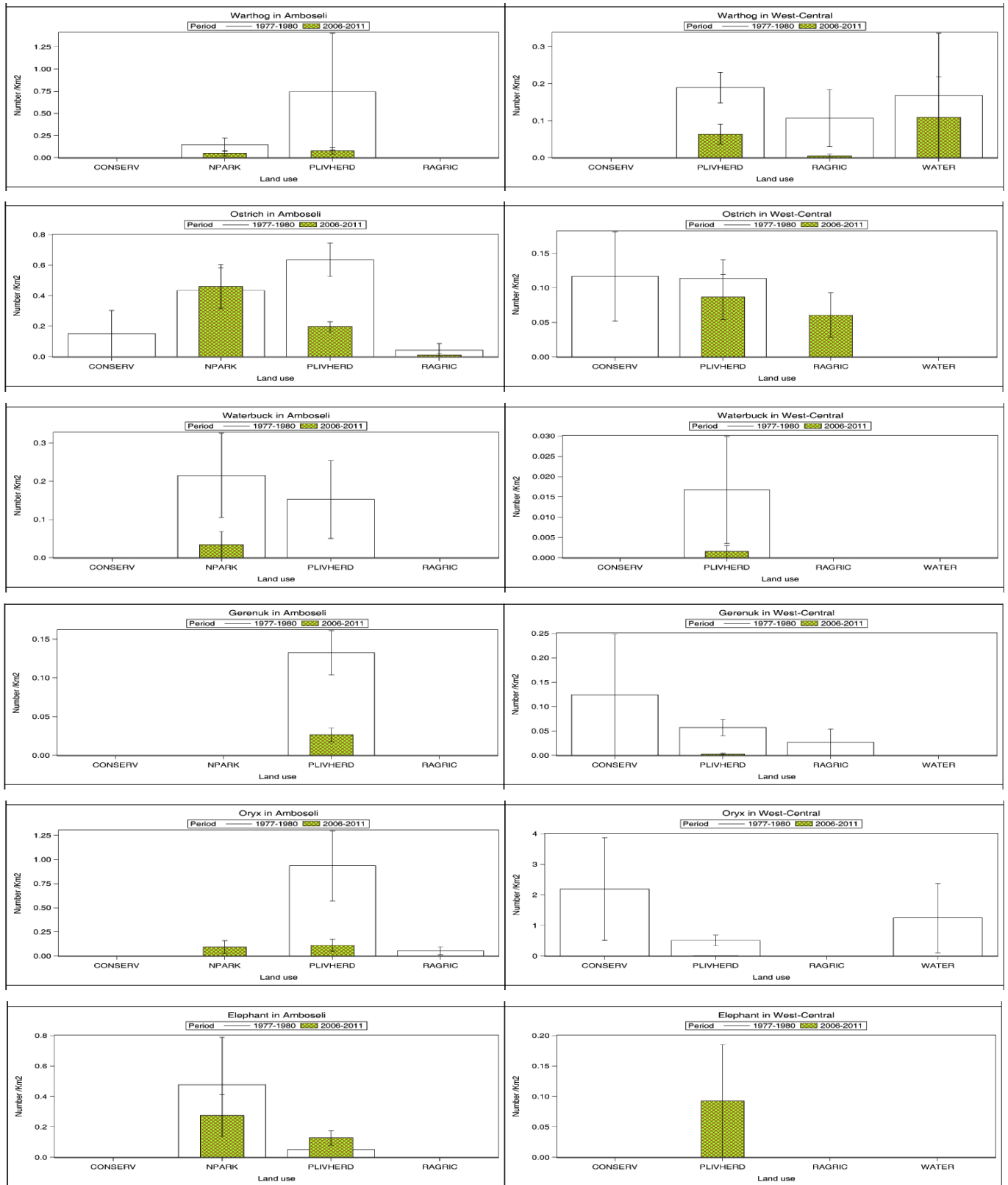


Fig. (S4). The distribution of giraffe, buffalo, warthog, ostrich, waterbuck, gerenuk, oryx and elephant densities during 1977-1980 and 2006-2011 across the major land use types in Eastern (Amboseli) and Western Kajiado. CONSERV= Conservancies, NPARK=National Parks, PLIVHERD=Pastoral Livestock Herding, RAGRIC= Rainfed Agriculture.

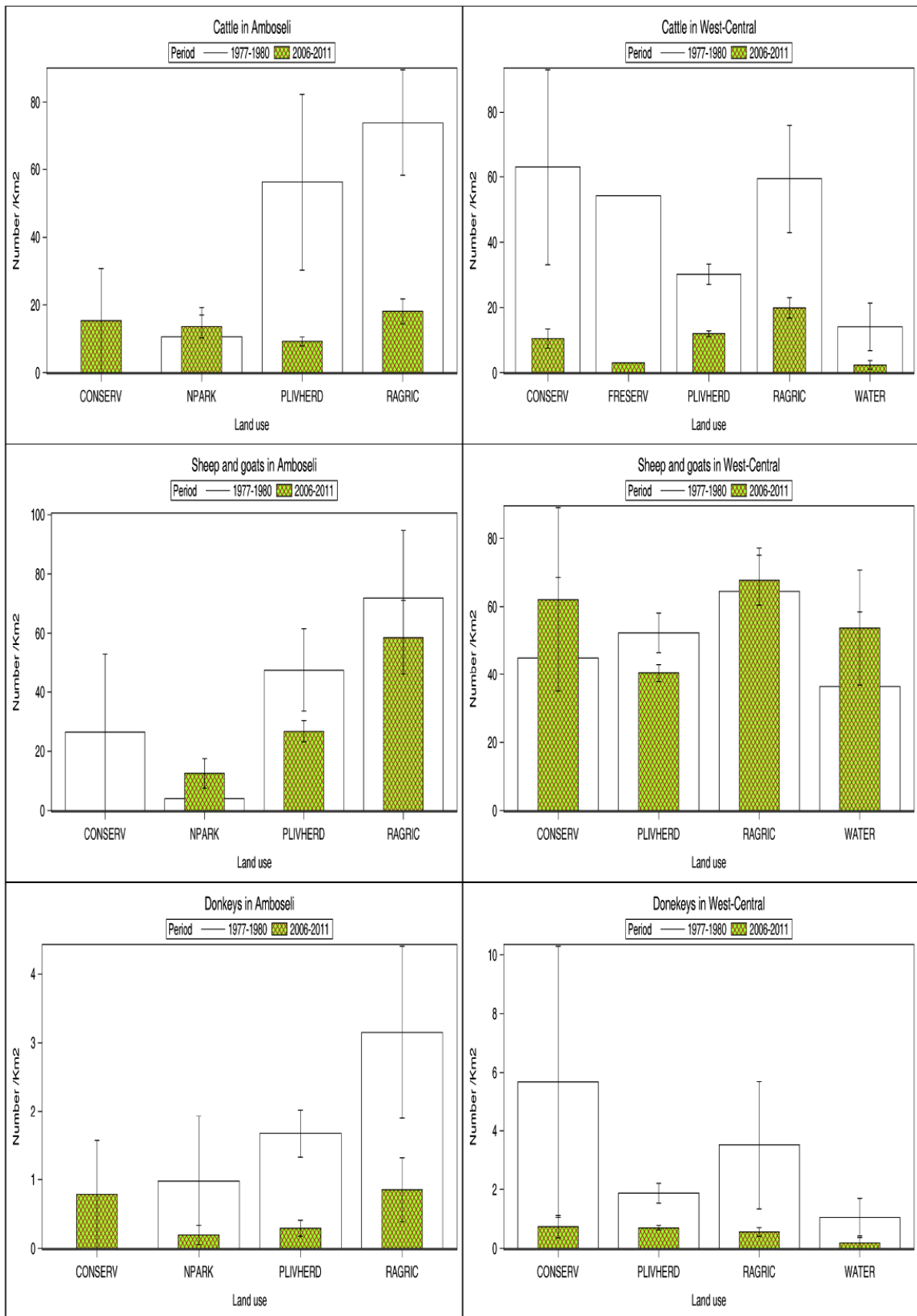


Fig. (S5). The distribution of cattle, sheep and goats and donkey densities during 1977-1980 and 2006-2011 across the major land use types in Eastern (Amboseli) and Western Kajiado in 2010. CONSERV= Conservancies, NPARK=National Parks, PLIVHERD=Pastoral Livestock Herding, RAGRIC= Rainfed Agriculture.

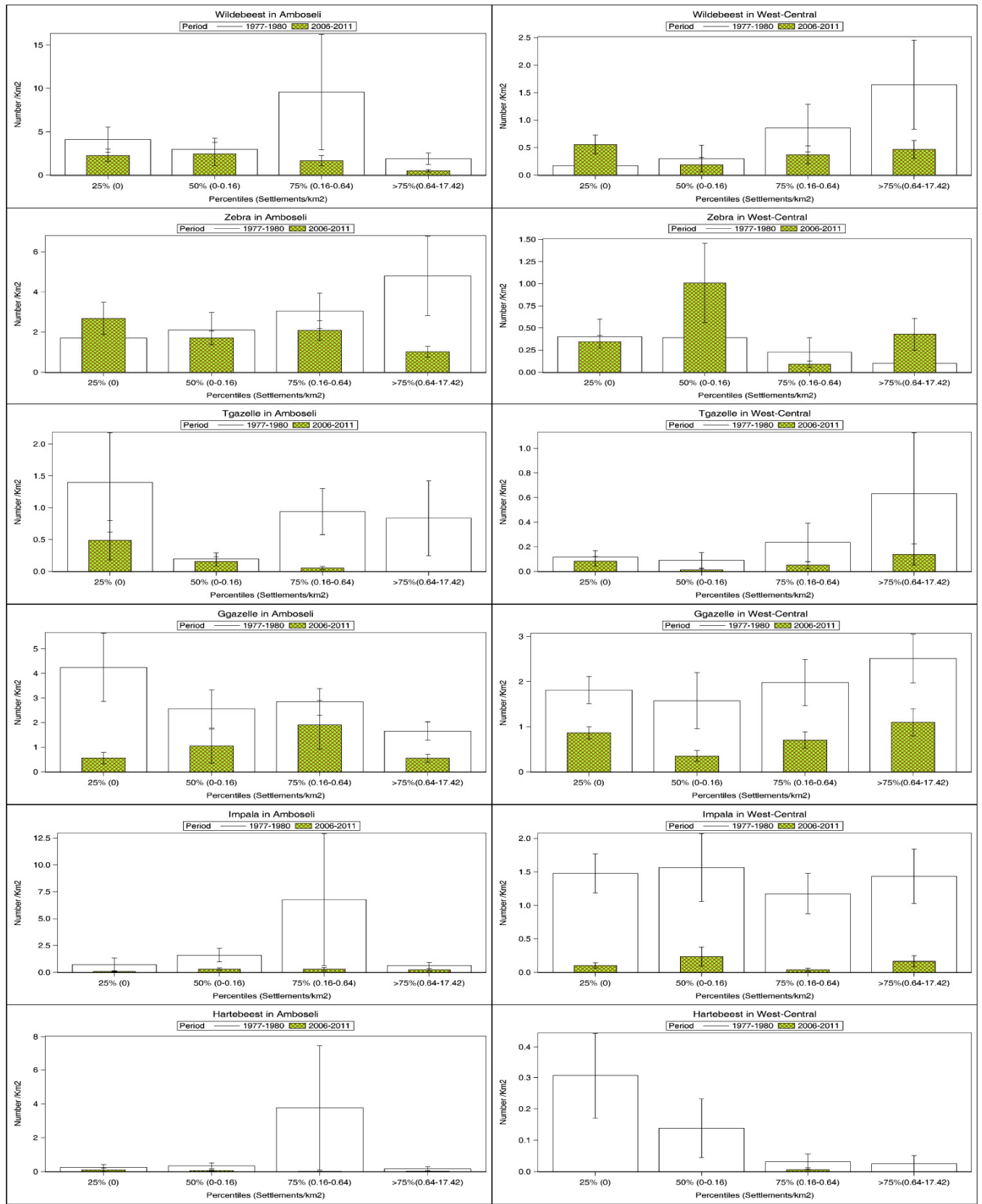


Fig. (S6). Contd...

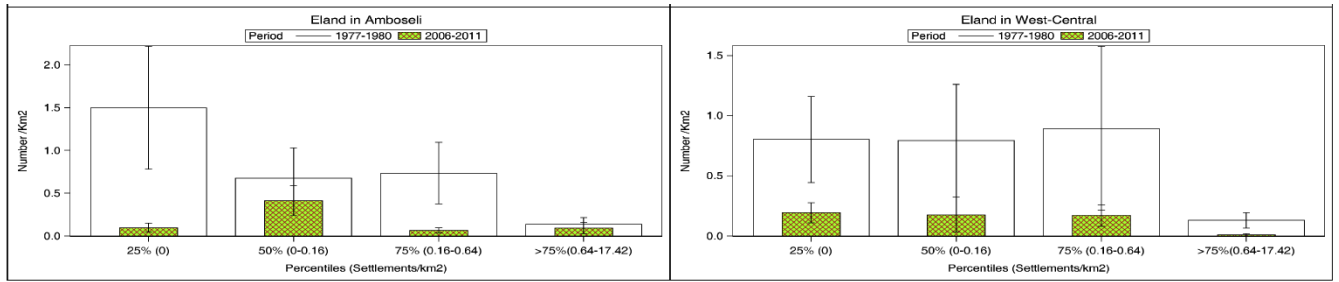


Fig. (S6). The distribution of wildebeest, zebra, Thomson’s gazelle, Grant’s gazelle, impala, hartebeest and eland densities in 1977-1980 and 2006-2011 against percentiles (densities) of settlements mapped in both Eastern (Amboseli) and Western Kajiado in 2010.

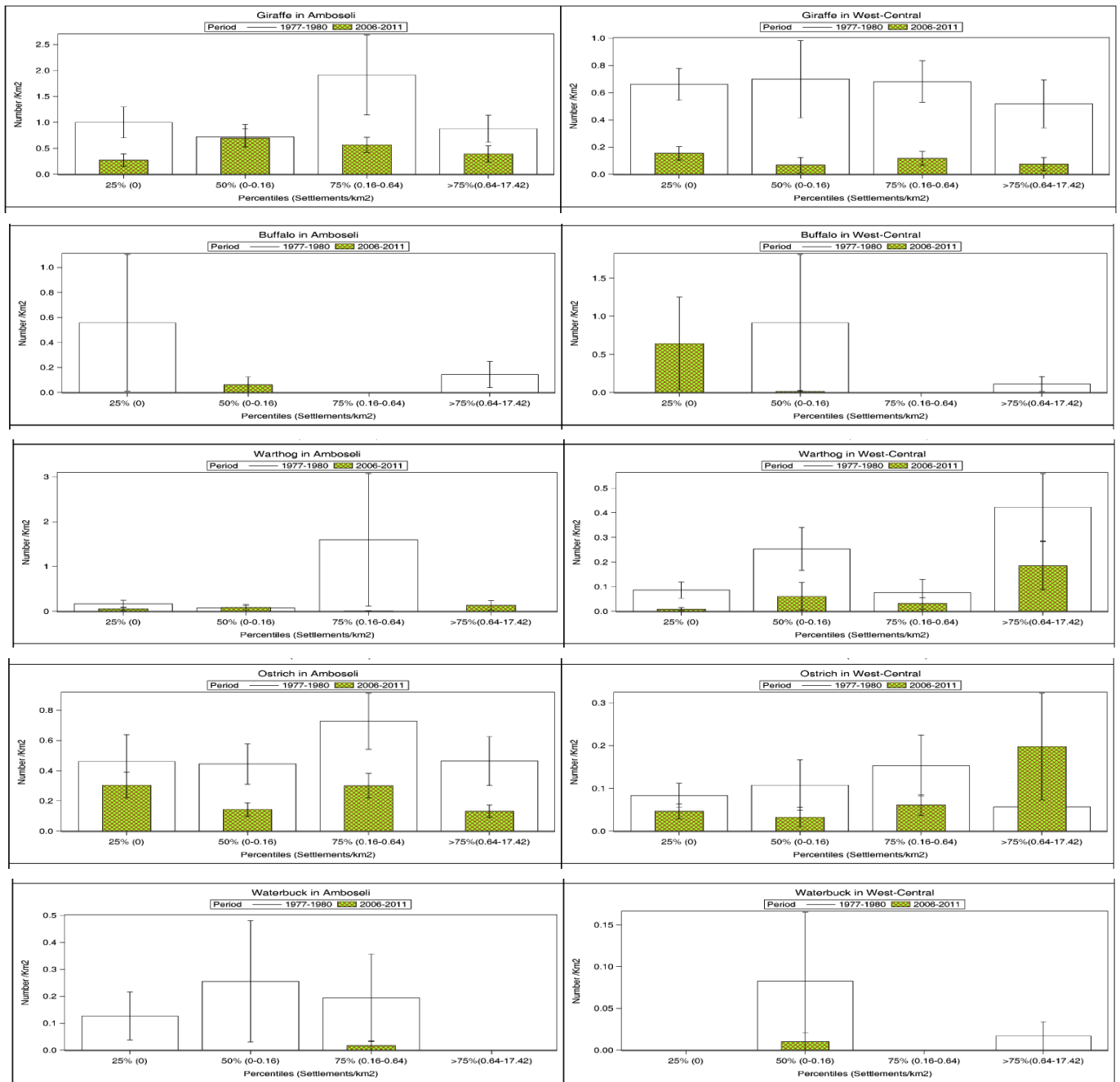


Fig. (S7). Contd...

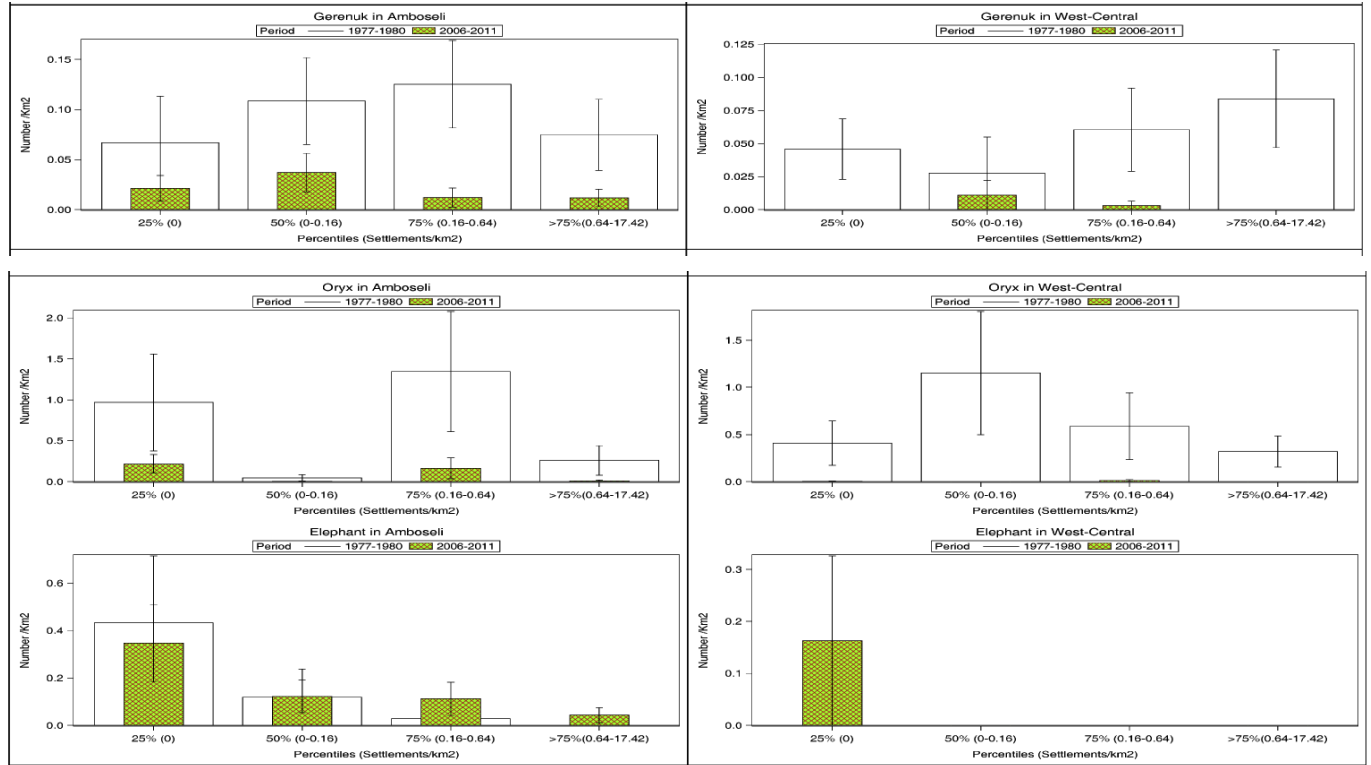


Fig. (S7). The distribution of giraffe, buffalo, warthog, ostrich, waterbuck, gerenuk, oryx and elephant densities in 1977-1980 and 2006-2011 against percentiles (densities) of settlements mapped in both Eastern (Amboseli) and Western Kajiado in 2010.

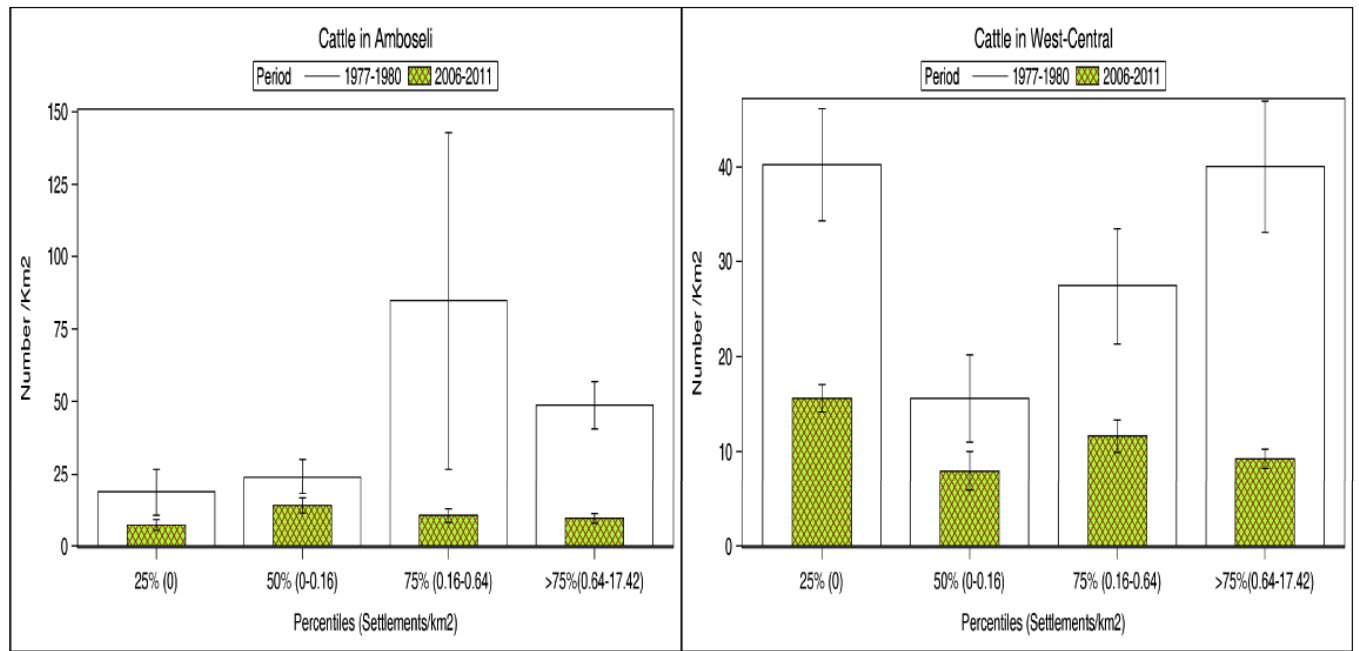


Fig. (S8). Contd...

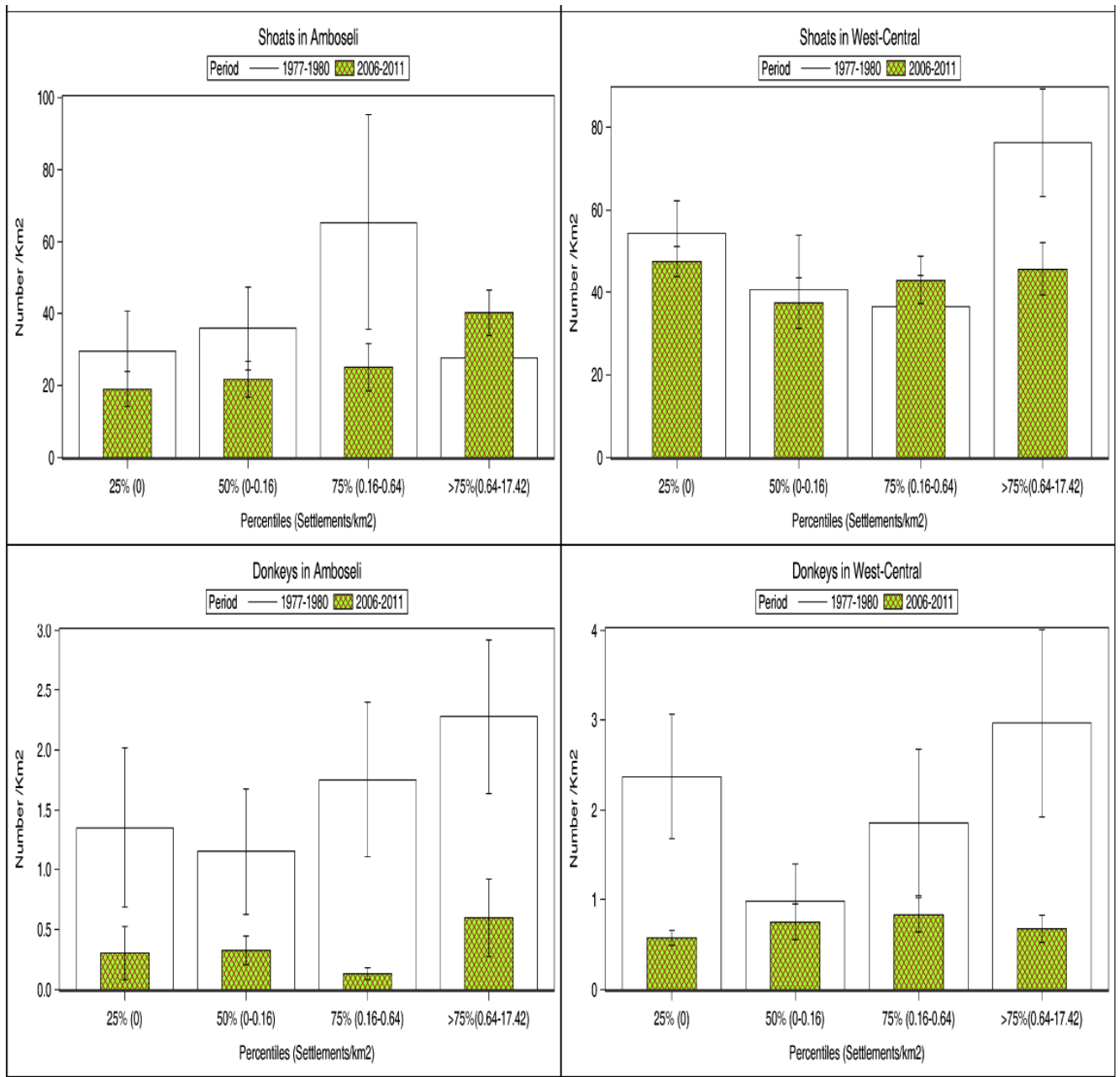


Fig. (S8). The distribution of cattle, sheep and goats and donkey densities in 1977-1980 and 2006-2011 against percentiles (densities) of settlements mapped in both Eastern (Amboseli) and Western Kajiado in 2010.

Table (S1). The eight major land use types in Kajiado County, the area covered by each type and the total number of settlements counted in each land use type in 2010.

Region	Land Use Type	Area in km ²	Number of Settlements
East	Conservancies	384.0	566
	Forest Reserve	75.2	18
	Pastoral Livestock Herding	6031.8	4777
	Irrigated Agriculture	65.1	851

Table (S1). contd....

Region	Land Use Type	Area in km ²	Number of Settlements
	National Park	812.1	468
	Rainfed Agriculture	398.7	1628
	Urban areas	1.3	53
	Water bodies	1.5	264
West-Central	Conservancies	732.0	799
	Forest Reserve	68.1	65
	Pastoral Livestock Herding	10040.6	5112
	Irrigated Agriculture	0.5	8
	Rainfed Agriculture	858.1	1284
	Urban areas	8.7	36
	Water bodies	119.6	480

Table S2. The spearman correlation (corr) between the density of each wildlife species and the density of cattle, sheep and goats, donkeys and the combined livestock biomass in each grid cell ($5 \times 5 \text{ km}^2$, $n=4055$) over the monitoring period from 1977 to 2011. The Lower (LCL) and the upper (UCL) 95% confidence limits and the Prob > |r| under the null hypothesis $H_0: \text{Rho}=0$ are also provided.

Wildlife Species	Livestock Species or Biomass	No. Units	Corr	95%LCL	95%UCL	P> T
Buffalo	Cattle	12121	-0.0587	-0.0765	-0.0410	0.0000
Eland	Cattle	12121	-0.0305	-0.0483	-0.0127	0.0008
Elephant	Cattle	12121	-0.0444	-0.0621	-0.0266	0.0000
Grant's gazelle	Cattle	12121	0.0308	0.0130	0.0485	0.0007
Thomson's gazelle	Cattle	12121	0.0271	0.0093	0.0449	0.0028
Giraffe	Cattle	12121	-0.0339	-0.0516	-0.0161	0.0002
Gerenuk	Cattle	12121	-0.0026	-0.0204	0.0152	0.7763
Impala	Cattle	12121	0.0132	-0.0046	0.0310	0.1457
Hartebeest	Cattle	12121	-0.0380	-0.0557	-0.0202	0.0000
Oryx	Cattle	12121	-0.0286	-0.0464	-0.0108	0.0016
Oryx	Cattle	12121	-0.0495	-0.0673	-0.0317	0.0000
Warthog	Cattle	12121	-0.0249	-0.0427	-0.0071	0.0062
Waterbuck	Cattle	12121	-0.0221	-0.0399	-0.0043	0.0149
Wildebeest	Cattle	12121	-0.0265	-0.0442	-0.0087	0.0036
Zebra	Cattle	12121	-0.0514	-0.0692	-0.0336	0.0000

Table (S2). contd....

Wildlife Species	Livestock Species or Biomass	No. Units	Corr	95%LCL	95%UCL	P> T
Buffalo	Sheep and goats	12121	-0.0599	-0.0776	-0.0421	0.0000
Eland	Sheep and goats	12121	-0.0777	-0.0954	-0.0600	0.0000
Elephant	Sheep and goats	12121	-0.0435	-0.0613	-0.0257	0.0000
Grant's gazelle	Sheep and goats	12121	-0.0147	-0.0325	0.0031	0.1058
Thomson's gazelle	Sheep and goats	12121	0.0109	-0.0069	0.0287	0.2305
Giraffe	Sheep and goats	12121	-0.0795	-0.0972	-0.0618	0.0000
Gerenuk	Sheep and goats	12121	-0.0266	-0.0443	-0.0088	0.0035
Impala	Sheep and goats	12121	0.0108	-0.0070	0.0286	0.2327
Hartebeest	Sheep and goats	12121	-0.0581	-0.0759	-0.0404	0.0000
Ostrich	Sheep and goats	12121	-0.0610	-0.0787	-0.0433	0.0000
Oryx	Sheep and goats	12121	-0.0830	-0.1006	-0.0652	0.0000
Warthog	Sheep and goats	12121	-0.0118	-0.0296	0.0060	0.1924
Waterbuck	Sheep and goats	12121	-0.0149	-0.0327	0.0029	0.0998
Wildebeest	Sheep and goats	12121	-0.0748	-0.0924	-0.0570	0.0000
Zebra	Sheep and goats	12121	-0.0984	-0.1160	-0.0807	0.0000
Buffalo	Donkeys	12121	-0.0231	-0.0409	-0.0053	0.0109
Eland	Donkeys	12121	-0.0276	-0.0454	-0.0098	0.0024
Elephant	Donkeys	12121	-0.0158	-0.0335	0.0021	0.0829
Grant's gazelle	Donkeys	12121	0.0323	0.0145	0.0500	0.0004
Thomson's gazelle	Donkeys	12121	0.0260	0.0082	0.0438	0.0042
Giraffe	Donkeys	12121	-0.0239	-0.0417	-0.0061	0.0085
Gerenuk	Donkeys	12121	0.0110	-0.0068	0.0288	0.2242
Impala	Donkeys	12121	0.0292	0.0114	0.0470	0.0013
Hartebeest	Donkeys	12121	-0.0298	-0.0476	-0.0120	0.0010
Ostrich	Donkeys	12121	-0.0247	-0.0425	-0.0069	0.0065
Oryx	Donkeys	12121	-0.0284	-0.0462	-0.0106	0.0017
Warthog	Donkeys	12121	-0.0050	-0.0229	0.0128	0.5783
Waterbuck	Donkeys	12121	-0.0001	-0.0179	0.0177	0.9917
Wildebeest	Donkeys	12121	-0.0154	-0.0332	0.0024	0.0908
Zebra	Donkeys	12121	-0.0256	-0.0434	-0.0078	0.0049
Buffalo	Livestock biomass	12121	-0.0716	-0.0893	-0.0539	0.0000

Table (S2). contd....

Wildlife Species	Livestock Species or Biomass	No. Units	Corr	95%LCL	95%UCL	P> T
Eland	Livestock biomass	12121	-0.0520	-0.0698	-0.0343	0.0000
Elephant	Livestock biomass	12121	-0.0531	-0.0708	-0.0353	0.0000
Grant's gazelle	Livestock biomass	12121	0.0248	0.0070	0.0426	0.0063
Thomson's gazelle	Livestock biomass	12121	0.0273	0.0095	0.0451	0.0027
Giraffe	Livestock biomass	12121	-0.0484	-0.0662	-0.0307	0.0000
Gerenuk	Livestock biomass	12121	-0.0103	-0.0281	0.0075	0.2583
Impala	Livestock biomass	12121	0.0137	-0.0041	0.0315	0.1308
Hartebeest	Livestock biomass	12121	-0.0464	-0.0641	-0.0286	0.0000
Ostrich	Livestock biomass	12121	-0.0389	-0.0567	-0.0211	0.0000
Oryx	Livestock biomass	12121	-0.0678	-0.0855	-0.0501	0.0000
Warthog	Livestock biomass	12121	-0.0243	-0.0421	-0.0065	0.0074
Waterbuck	Livestock biomass	12121	-0.0234	-0.0412	-0.0056	0.0100
Wildebeest	Livestock biomass	12121	-0.0444	-0.0622	-0.0267	0.0000
Zebra	Livestock biomass	12121	-0.0712	-0.0889	-0.0535	0.0000

Table S3. Spearman correlations between aggregate wildlife biomass and aggregate livestock biomass and between aggregate wildlife biomass and livestock biomass and 5-year moving average of annual rainfall in Kajiado County between 1977 and 2011. The Lower (LCL) and upper (UCL) 95% confidence limits, the Prob > |r| under the null hypothesis $H_0: \rho=0$ and the R^2 for a linear regression are also provided.

Region	Biomass (Kg/km ²)	With Variable	N	r _s	95% LCL	95% UCL	P	R ²
Kajiado East	All wildlife	Livestock biomass	20	0.4346	-0.0213	0.7303	0.0549	0.302
Kajiado West	All wildlife	Livestock biomass	17	0.6887	0.2915	0.8735	0.0016	0.343
Kajiado East	All livestock	5-year moving average of annual rainfall	19	-0.6075	-0.8268	-0.1955	0.0048	0.327
Kajiado East	All wildlife	5-year moving average of annual rainfall	19	-0.1908	-0.5901	0.2932	0.4398	0.031
Kajiado East	All wildlife + All livestock	5-year moving average of annual rainfall	19	-0.5319	-0.7887	-0.0878	0.0177	0.257
Kajiado West	All livestock	5-year moving average of annual rainfall	16	-0.4930	-0.7884	0.0200	0.0515	0.283
Kajiado West	All wildlife	5-year moving average of annual rainfall	16	-0.7417	-0.9002	-0.3679	0.0006	0.486
Kajiado West	All wildlife + All livestock	5-year moving average of annual rainfall	16	-0.5798	-0.8295	-0.0990	0.0170	0.369