



IN-SERVICE NOTE
2008 AERIAL ELK SURVEY
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Introduction – An annual aerial elk survey was initiated in 1991 to gain more information on the status and distribution of Arkansas' elk herd. Survey objectives were to: 1) obtain reliable information on elk distribution; 2) obtain data on bull/cow and calf/cow ratios; and 3) obtain a minimum population estimate. The survey was again conducted in early 2008.

Methods – A Bell Jet Ranger (205) helicopter was used for the survey instead of a Hughes 269B that has been used in previous years. Changes in procedures for 2008

include: 1) Two sections were surveyed daily (for sections 1-4) instead of one as in previous years; and 2) all surveys were conducted in early to mid February.

Results (all elk survey areas) – A total of 345 elk were observed which is the second largest number of elk counted in a late winter survey since aerial elk surveys were initiated in 1991. Antlered bulls totaled 59 (16 spikes, 43 branched) with antlerless elk totaling 286 (224 cows and 62 calves). The bull/cow ratio was 26 bulls per 100 cows and the calf/cow ratio was 28 calves per 100 cows. The largest elk group observed included 56 animals and the average group size for 21 elk groups observed was 16.4. Survey data suggests that the elk herd along the Buffalo River corridor may be increasing slightly as late winter counts have been higher the last five years; however, the increased counts may in part be due to observers ability to locate more elk due to the use of radio telemetry equipment. Data indicates a very low number of elk on private land in elk hunt zone A with no elk observed in zone A during the 2008 aerial survey. The minimum count in 2007 was 15. Some elk (9) were observed in elk zone B but numbers appear to be low in the zone as radio telemetry data indicates that elk movement between elk zone B and the Boxley Valley area along the Buffalo River is quite common.

Results (original BNR corridor) – The original BNR corridor survey (includes the Gene Rush Wildlife Management Area (GRWMA)) was initiated on February 7 and completed on February 19. A total of 336 elk was observed including 115 (34%) in section one (Boxley Valley to Pruitt), 128 (38%) in section two (Pruitt to mouth of Richland Creek) and 93 (28%) in section 3 (mouth of Richland Creek to the Hwy 65 bridge). Three hundred and thirty-five elk were observed during the BNR corridor flight with one elk spotted during National Park Service (NPS) and AGFC property boundary flights (on private land). Thirty-eight elk were spotted during boundary flights in 2007.

Antlered bulls totaled 50 (16 spikes, 34 branched) with antlerless elk totaling 286 (224 cows, 62 calves). This compares to 84 antlered and 247 antlerless in 2007. Branch antlered bulls totaled 34 which is 26 less than the number (60) observed in 2007 and twelve less than the number observed in 2006 (46). Spike bulls observed decreased by 8 (33%) compared to the number observed in 2007 (24). Total bulls observed in 2008 decreased by 34 (40%) from the number observed in 2007 (84). Antlerless elk observed increased by 16% (39) from the 2007 level. The numbers of cows observed increased by 37 (20%) and the number of calves observed increased by 2 (3%). The bull/cow ratio was 22 bulls per 100 cows, which is much lower than the ratio observed since 2000 with the exception of 2003 (14:100). The calf/cow ratio was 28 calves per 100 cows, which is lower than ratios observed since 2000 with the exception of 2001 (24:100) and 2005 (28:100). The 2008 bull/cow and calf/cow ratios were lower than the minimum target ratio of 40 bulls/100 cows and 40 calves/100 cows established in the current elk management plan.

A total of 18 elk groups were observed which ranged in size from one to 56. The average elk group size was 18.7, which is higher than the average in all years since 2000 with the exception of 2002 (18.8). Most elk were observed in open habitat (hay fields, pastures, old fields); however, a few were observed in wooded areas. Eighty-four (84) elk were observed on the GRWMA which is a decrease of 20 (19%) from the number (104) observed in 2007. Only twelve elk were observed on the area in 1999. Elk use and elk numbers have increased on the GRWMA due to continued habitat improvements.

Seventeen (50%) of 34 branch antlered bulls were classed as mature breeding bulls (6X6 or better, dark heavy antlers, large body size). In 2006 and 2007, 21 (45%) of 47 and 20 (33%) of 60 branch antlered bulls were classed as mature breeding bulls, respectively. The aerial elk count in the Buffalo River corridor was the highest on record since initiation in 1991. The number of elk observed increased by 5 from 2007 and by 30 from 2006. The majority of the elk were observed in Boxley Valley (105), elk hunt zone 4 (93) and elk hunt zone 3 (84). Forty-four (44) elk were counted in elk hunt zone 2 and only 10 elk were seen in elk hunt zone 1. The survey of the BNR corridor between Gilbert and highway 14 was completed and no elk were observed.

No sick elk or shed bulls were observed in the survey period. Conducting the survey in early to mid-February is likely the reason that shed bulls were not observed. In past years a few shed bulls have been seen during some of the late February and March survey periods. A higher number of bulls and total elk observed from 2004 through 2006 are partially attributed to survey personnel's ability to locate radio-collared elk (total of 61 elk, primarily bulls, collared in 2003 and 2004). Often these animals were in wooded areas

and other un-collared elk often accompanied them. A number of radio-collared animals are lost each year due to various mortality factors and by early 2008 over 50% of the elk collared in 2003 and 2004 were no longer in the population. Bulls (especially older animals) have large ranges and are difficult to locate during the aerial survey without the aid of radio-telemetry equipment. A reduced number of radio-collared elk in the population in early 2008 may have contributed to the lower number of bulls observed during the survey.

Results (additional elk surveys) An additional aerial survey of private land (elk hunt zone A and B) in southwest Boone southeast Carroll, southeast Madison and southwest Newton Counties resulted in an observation of three elk groups totaling 9 elk (9 bulls). All three groups were located in elk hunt zone B (one elk observed in elk zone B in 2007). No elk were found in elk zone A. Fifteen (15) elk were observed in elk zone A in 2007 and fifteen (15) were found in the zone in 2006. Nuisance elk complaints have decreased in elk zone A since limited hunting was initiated in 1998. Data indicates a substantial decrease in the elk population in zone A with elk numbers persisting at very low levels.

Results (deer and turkey sightings) During the survey, sightings of deer, turkey and other wildlife are recorded. A total of 224 deer and 239 turkeys were observed during the original BNR corridor survey. This compares to 70 deer and 170 turkeys in 2007, 116 deer and 103 turkeys in 2006, 258 deer and 167 turkeys in 2005, and 225 deer and 181 turkeys in 2004. Two bald eagles and two great blue heron rookeries (Richland valley and mouth of Calf Creek) were also observed. An additional 172 deer, 38 turkeys and 6 bald eagles were observed on private land (elk hunt zones A and B) in southwest Boone, southeast Carroll, southeast Madison and southwest Newton Counties.

HELICOPTER ELK COUNT (1991-2008)														
Buffalo River Corridor							Private Land							
Year	Antlered Bulls	Cows	Calves	Total	Bull/Cow Ratio	Calf/Cow Ratio	Zone	Antlered Bulls	Cows	Calves	Total	Bull/Cow Ratio	Calf/Cow Ratio	Grand Total
1991	18	41	17	76	44	42	A	No survey						76
1992	35	78	31	144	45	40	A	No survey						144
1993	35	63	32	130	56	51	A	3	7	2	12	43	29	142
1994	30	78	32	140	39	41	A	0	0	0	0	--	--	140
1995	49	82	28	159	60	34	A	1	1	0	2	--	--	161
1996	46	90	45	181	51	50	A	3	14	6	23	21	43	204
1997	41	99	39	179	41	39	A	6	10	6	22	60	60	201
1998	46	100	39	185	46	39	A	7	21	12	40	33	57	225
1999	63	113	53	229	56	47	A	7	22	11	40	32	50	269
2000	49	146	48	243	34	33	A	7	25	10	42	28	40	285
2001	34	131	32	197	26	24	A	5	20	4	29	25	20	226
2002	45	133	48	226	34	36	A	0	14	2	16	--	14	242
2003	20	141	43	204	14	31	A	3	10	3	16	30	30	220
2004	70	133	47	250	53	35	A	2	10	4	16	20	40	266
2005	80	171	48	299	47	28	A	1	7	5	13	14	71	312
2006	74	176	56	306	42	32	A	3	9	3	15	33	33	321
2007	84	187	60	331	45	32	A	5	5	5	15	100	100	346
2008	50	224	62	336	22	28	A	0	0	0	0	--	--	345
							B	9	0	0	9	--	--	

