



**IN-SERVICE NOTE**  
**2007 AERIAL ELK SURVEY**  
**By**  
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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 2007.

**Methods** – A Hughes 269B helicopter was used for the survey. Changes in procedures for 2007 include: 1) use of same procedures as in the 2006 survey

with the exception that survey sections 1, 2 and 3 were surveyed twice whereas section 4 was only surveyed once. The section from the highway 65 bridge to the highway 14 bridge was not surveyed (section 5). The primary reason that scheduled surveys could not be completed was poor weather conditions for flying.

**Results (all elk survey areas)** – A total of 346 elk were observed which is the largest number of elk counted in a late winter survey since aerial elk surveys were initiated in 1991. Antlered bulls totaled 89 (27 spikes, 62 branched) with antlerless elk totaling 257 (192 cows and 65 calves). The bull/cow ratio was 46 bulls per 100 cows and the calf/cow ratio was 34 calves per 100 cows. The largest elk group observed included 40 animals and the average group size for 32 elk groups observed was 10.8. 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 four 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 the 2007 annual minimum count of 15. The minimum count in 2006 was also 15.

**Results (original BNR corridor)** – The original BNR corridor survey (includes the Gene Rush Wildlife Management Area (GRWMA)) was initiated on February 22 and completed on March 17. A total of 331 elk was observed including 112 (34%) in section one (Boxley Valley to Pruitt), 158 (48%) in section two (Pruitt to mouth of Richland Creek) and 61 (18%) in section 3 (mouth of Richland Creek to the Hwy 65 bridge). Two hundred and ninety-three elk were observed during the BNR corridor flight with 38 elk spotted during National Park Service (NPS) and AGFC property boundary flights (all on private land). Fifty-four elk were spotted during boundary flights in 2006.

Antlered bulls totaled 84 (24 spikes, 60 branched) with antlerless elk totaling 247 (187 cows, 60 calves). This compares to 74 antlered and 232 antlerless in 2006. Branch antlered bulls totaled 60 which is 14 more than the number (46) observed in 2006 and one less than the number observed in 2005 (61). Spike bulls observed decreased by 4 (14%) compared to the number observed in 2006 (28). Total bulls observed in 2007 increased by 10 (14%) from the number observed in 2006 (74). Antlerless elk observed increased by 7% (15) from the 2006 level. The numbers of cows observed increased by 11 (6%) and the number of calves observed increased by 4 (7%). The bull/cow ratio was 45 bulls per 100 cows, which is slightly lower than the ratio observed in 2005 (47:100) and 2004 (53:100) but higher than ratios observed in 2006 (42:100), 2003 (14:100), 2002 (34:100), 2001 (26:100) and 2000 (34:100). The calf/cow ratio was 32 calves per 100 cows, which equaled 2006 (32:100) and was slightly higher than 2005 (28:100), 2001 (24:100) and 2003 (31:100); but lower than 2004 (35:100), 2002 (36:100), and 2000 (33:100). The 2007 bull/cow ratio was higher and the calf/cow ratio 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 30 elk groups were observed which ranged in size from one to 40. The average elk group size was 11, which is higher than the average in 2005 (10.3), 2004 (9.6) and 2000 (10.6) but lower than the average group size in 2006 (12.8), 2003 (13.6), 2002 (18.8), and 2001 (15.2). Most elk were observed in open habitat (hay fields, pastures, old fields); however several were observed in wooded areas. One hundred four (104) elk were observed on the GRWMA which is an increase of 16 (18%) from the number (88) observed in 2006. Only twelve elk were observed on the area in 1999. Elk use and elk numbers have increased steadily on GRWMA due to continued habitat improvements.

Observers noted that 12 (14%) of 84 bulls and 5 (3%) of 187 cows observed carried radio collars. Twenty (33%) of 60 branch antlered bulls were classed as mature breeding bulls (6X6 or better, dark heavy antlers, large body size). In 2006, 21 (45%) of 47 branch antlered bulls were classed as mature breeding bulls. 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 25 from 2006 and by 32 from 2005. The majority of the elk were observed in Boxley Valley, elk hunt zone 3 and elk hunt zone 4. Ninety-nine elk were counted in Boxley Valley (viewing area closed to hunting) and only 12 in elk hunt zone 1. One elk was

observed in southeastern Madison County west of Boxley Valley. The highest number of elk seen by individual elk hunt zone was observed in elk hunt zone 3 (117). The survey of the BNR corridor between Gilbert and highway 14 were not completed.

Three sick elk were observed, all on the Gene Rush WMA. Several shed bulls were observed in the survey period. A higher elk count observed from 2004 through 2007 is partially attributed to survey personnel's ability to locate radio-collared elk. Often these animals were in wooded areas and other un-collared elk often accompanied them. Without radio-collars on a large number of bulls and a few cows, it is likely that a number of these elk would not have been observed during the surveys.

**Results (additional elk surveys)** An additional aerial survey of private land (elk hunt zone A) in southwest Boone and southeast Carroll Counties resulted in an observation of two elk groups totaling 15 elk (5 bulls, 5 cows and 5 calves). The total is equal to the number observed in 2006 and two more than the number of elk observed in 2005 (13 elk in one group) No sick elk were observed. Nuisance elk complaints have decreased in the area since limited hunting was initiated in 1998. Data indicates a substantial decrease in the population 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 70 deer and 170 turkeys were observed during the original BNR corridor survey. This compares to 116 deer and 103 turkeys in 2006, 258 deer and 167 turkeys in 2005, 225 deer and 181 turkeys in 2004, 172 deer and 69 turkeys in 2003, 227 deer and 350 turkeys in 2002, 40 deer and 168 turkeys in 2001, and 58 deer and 98 turkeys in 2000. Four bald eagles and two great blue heron rookeries (Richland valley and mouth of Calf Creek) were also observed. An additional 28 deer and 51 turkeys were observed on private land in southwest Boone and southeast Carroll Counties. This compares to 117 deer and 62 turkeys in 2006, 180 deer and 29 turkeys in 2005, 210 deer and 26 turkeys in 2004, 70 deer and three turkeys in 2003, 128 deer and 99 turkeys in 2002, 30 deer and 24 turkeys in 2001 and 35 deer and 18 turkeys in 2000.

**HELICOPTER ELK COUNT (1991-2007)**

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

