



IN-SERVICE NOTE
2005 AERIAL ELK SURVEY
By
Michael E. Cartwright
Elk Program Coordinator

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 2005.

Methods – A Hughes 269B helicopter was used for the survey. Changes in procedures for 2005 include: 1) use of same procedures used in the 2004 survey with the exception that survey sections 1, 2 and 3 were only surveyed once; and 2) the surveys of the upper Richland Creek area and the BNR from highway 65 to highway 14 were not completed. Poor weather conditions for flying and mechanical problems with the helicopter were the primary reasons that scheduled surveys could not be completed.

Results (all elk survey areas) – A total of 312 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 81 (20 spikes, 61 branched) with antlerless elk totaling 231 (178 cows and 53 calves). The bull/cow ratio was 46 bulls per 100 cows and the calf/cow ratio was 30 calves per 100 cows. The largest elk group observed included 60 animals and the average group size for 30 elk groups observed was 10.4. 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 two 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 continued decline in elk on private land in elk hunt zone A with the 2005 annual count of 13 being the lowest number recorded since 1995.

Results (original BNR corridor) – The original BNR corridor survey (includes the Gene Rush Wildlife Management Area (GRWMA)) was initiated on March 2 and completed on March 17. A total of 299 elk was observed including 106 (35%) in section one (Boxley Valley to Pruitt), 128 (43%) in section two (Pruitt to mouth of Richland Creek) and 65 (22%) in section 3 (mouth of Richland Creek to the Hwy 65 bridge). Two hundred and sixty-seven elk were observed during the BNR corridor flight with 32 elk spotted during National Park Service (NPS) property boundary flights (all on private land). Nine elk were spotted during boundary flights in 2004.

Antlered bulls totaled 80 (19 spikes, 61 branched) with antlerless elk totaling 219 (171 cows, 48 calves). This compares to 70 antlered and 180 antlerless in 2004. Branch antlered bulls totaled 61 which is 12 more than the number (49) observed in 2004 and 49 more than the number observed in 2003 (12). Spike bulls observed decreased by 2 (10%) compared to the number observed in 2004 (21). Total bulls observed in 2005 increased by 10 (14%) from the number observed in 2004 (70). Antlerless elk observed increased by 22% (39) from the 2004 level. The increase occurred in numbers of cows (29%) observed. Calves observed increased by 1 (2%). The bull/cow ratio was 47 bulls per 100 cows, which is slightly lower than the ratio observed in 2004 (53:100) but higher than ratios observed in 2003 (14:100), 2002 (34:100), 2001 (26:100) and 2000 (34:100). The calf/cow ratio was 28 calves per 100 cows, which was lower than 2004 (35:100), 2003 (31:100), 2002 (36:100), and 2000 (33:100). It did exceed 2001 (24:100) ratio. The 2005 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 29 elk groups were observed which ranged in size from one to 60. The average elk group size was 10.3, which is higher than the average in 2004 (9.6) but lower than the average group size in 2003 (13.6), 2002 (18.8), 2001 (15.2), and 2000 (10.6). Most elk were observed in open habitat (hay fields, pastures, old fields). Forty-one (41) elk were observed on the GRWMA which is a decrease of 12 (23%) from the number (53) observed in 2004. A number of elk were observed on NPS land and private land bordering the GRWMA. 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 33 (41%) of 80 bulls and six (4%) of 171 cows observed carried radio collars. Sixteen (26%) of 61 branch antlered bulls were classed as mature breeding bulls (6X6 or better, dark heavy antlers, large body size). In 2004, 16 (33%) of 49 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 49 from 2004 and by 95 from 2003. Comparable numbers of elk were observed in elk hunt zones two, three and four. Eighty-six elk were counted in Boxley Valley (viewing area closed to hunting) and only 20 in elk

hunt zone one. The highest number of elk seen by individual elk hunt zone was observed in elk hunt zone three. A survey of the BNR corridor between Gilbert and highway 14 was not completed. The public and NPS staff in this section of the BNR corridor report occasional elk sightings; however, numbers of elk appear to be very low.

No dead elk were observed but three elk (one bull and two cows) that were observed appeared sick or injured. A higher elk count observed in 2004 and 2005 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 survey.

Results (additional elk surveys) An additional aerial survey of private land in southwest Boone and southeast Carroll Counties resulted in an observation of one elk group totaling 13 elk (one bull, seven cows and five calves). The total is three less than the number of elk observed in 2004 (16 elk in three groups), 2003 (16 elk in two groups) and 2002 (16 elk in three groups). 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 258 deer and 167 turkeys were observed during the original BNR corridor survey. This compares to 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. Two coyotes and one bobcat were also observed. An additional 180 deer and 29 turkeys were observed on private land in southwest Boone and southeast Carroll Counties. This compares to 210 deer and 26 turkeys seen 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 (1991-2005)

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

