

## **CHRONIC WASTING DISEASE IN COLORADO, 2002–2004**

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Chronic wasting disease (CWD), a naturally-occurring prion disease of North American cervids (species of the “deer” family), has emerged recently as an important wildlife health issue. CWD has been endemic in free-ranging cervid populations in northcentral Colorado and southeastern Wyoming since at least the early 1980s, and has been detected in a number of other states and provinces over the last 5 years.

Surveys conducted during the “biological years” 2002–2004 (June 2002–June 2005) revealed that CWD was much more well-established and widely distributed in Colorado than previously believed. At least one case of CWD had been detected in 16 of 55 deer Data Analysis Units (DAUs) and 9 of 46 elk DAUs through the end of the 2004–2005 sampling season. Within DAUs where CWD was detected, estimates of prevalence ranged from less than 1% up to 7.6% among mule deer and from less than 1% to 2.1% among elk (see Table).

Much of the change in the known distribution of CWD in Colorado since 2002 is attributable to improved surveillance efforts rather than true geographic spread. There appear to be at least two epicenters of CWD in northern Colorado. The largest of these is the longstanding northcentral focus that extends from the Laramie Mountains in Wyoming southward along the foothills of the Front Range to somewhere south of Pueblo. CWD likely has spread from this focus both eastward into the South Platte River bottom and adjacent tableland DAUs and southward and westward into North Park and Middle Park DAUs. A smaller and likely more recent northwestern focus shows a spatial pattern most consistent with an epicenter in the Williams Fork River drainage southeast of Craig and subsequent spread along migratory routes used by deer and elk in the surrounding DAUs. The small cluster of cases on the Grand Mesa may represent a third focus or southern spread of the Williams Fork focus. Although understanding about the true distribution of CWD in Colorado has improved substantially in Colorado since 2002, surveillance data from many DAUs in the southern part of the state presently are insufficient (fewer than 300 samples per DAU) to assure the likely absence of additional foci in those areas (see Table).

CWD prevalence estimates, by Data analysis Unit (DAU), for adult elk, mule deer, and white-tailed deer; data represent “rolling” three-year total (2002–2004) of harvest survey samples. Shaded DAUs have yielded at least one case of CWD.

Species	DAU	Number tested	Prevalence	95% confidence interval	
				Lower	Upper
Elk	E-1	177	0.000	.	.
	E-2	5060	0.001	0.000	0.002
	E-3	1000	0.003	0.000	0.006
	E-4	1578	0.008	0.003	0.012
	E-6	7282	0.002	0.001	0.003
	E-7	652	0.000	.	.
	E-8	960	0.017	0.009	0.025
	E-9	1296	0.021	0.013	0.029
	E-10	626	0.000	.	.
	E-11	59	0.000	.	.
	E-12	420	0.000	.	.
	E-13	1102	0.001	0.000	0.003
	E-14	1182	0.000	.	.
	E-15	314	0.000	.	.
	E-16	619	0.000	.	.
	E-17	168	0.000	.	.
	E-18	287	0.000	.	.
	E-19	114	0.000	.	.
	E-20	477	0.000	.	.
	E-21	264	0.004	0.000	0.011
	E-22	223	0.000	.	.
	E-23	133	0.000	.	.
	E-24	243	0.000	.	.
	E-25	394	0.000	.	.
	E-26	162	0.000	.	.
	E-27	42	0.000	.	.
	E-28	38	0.000	.	.
	E-30	156	0.000	.	.
	E-31	443	0.000	.	.
	E-32	316	0.000	.	.
	E-33	205	0.000	.	.
	E-34	261	0.000	.	.
	E-35	270	0.000	.	.
	E-38	315	0.000	.	.
	E-39	539	0.002	0.000	0.006
	E-40	10	0.000	.	.
	E-41	121	0.000	.	.
	E-43	377	0.000	.	.
	E-45	1	0.000	.	.
	E-46	1	0.000	.	.
	E-47	10	0.000	.	.

E-51	285	0.000	.	.	
E-52	154	0.000	.	.	
E-53	5	0.000	.	.	
E-54	3	0.000	.	.	
E-99	18	0.000	.	.	
<b>Mule deer</b>	D-1	126	0.000	.	.
	D-2	2707	0.004	0.002	0.007
	D-3	363	0.011	0.000	0.022
	D-4	2929	0.058	0.050	0.067
	D-5	735	0.054	0.038	0.071
	D-6	136	0.022	0.000	0.047
	D-7	3157	0.010	0.007	0.014
	D-8	1198	0.003	0.000	0.007
	D-9	1857	0.005	0.002	0.009
	D-10	1483	0.076	0.063	0.090
	D-11	207	0.000	.	.
	D-12	781	0.003	0.000	0.006
	D-13	328	0.000	.	.
	D-14	59	0.000	.	.
	D-15	75	0.000	.	.
	D-16	167	0.006	0.000	0.018
	D-17	691	0.017	0.008	0.027
	D-18	145	0.000	.	.
	D-19	338	0.000	.	.
	D-20	65	0.000	.	.
	D-21	77	0.000	.	.
	D-22	111	0.000	.	.
	D-23	14	0.000	.	.
	D-24	122	0.000	.	.
	D-25	114	0.000	.	.
	D-26	57	0.000	.	.
	D-27	958	0.012	0.005	0.018
	D-28	24	0.000	.	.
	D-29	51	0.000	.	.
	D-30	191	0.000	.	.
	D-31	81	0.000	.	.
	D-32	32	0.000	.	.
	D-33	5	0.000	.	.
	D-34	74	0.000	.	.
	D-35	55	0.000	.	.
	D-36	54	0.000	.	.
	D-37	18	0.000	.	.
	D-38	81	0.000	.	.
	D-39	67	0.000	.	.
	D-40	136	0.000	.	.
	D-41	222	0.000	.	.
	D-42	158	0.000	.	.
	D-43	373	0.000	.	.
	D-44	271	0.033	0.012	0.055
	D-45	6	0.000	.	.

D-46	57	0.000	.	.
D-47	27	0.000	.	.
D-48	22	0.000	.	.
D-49	152	0.000	.	.
D-50	85	0.000	.	.
D-51	220	0.005	0.000	0.014
D-52	105	0.000	.	.
D-53	73	0.000	.	.
D-54	365	0.000	.	.
D-55	59	0.000	.	.
<b>White-tailed deer</b>	D-2	2	0.000	.
	D-4	27	0.000	.
	D-5	61	0.049	0.000 0.105
	D-7	3	0.000	.
	D-8	3	0.000	.
	D-9	6	0.000	.
	D-10	17	0.059	0.000 0.184
	D-17	4	0.000	.
	D-20	2	0.000	.
	D-27	3	0.000	.
	D-28	10	0.000	.
	D-33	1	0.000	.
	D-39	1	0.000	.
	D-43	1	0.000	.
	D-44	570	0.026	0.013 0.040
	D-45	1	0.000	.
	D-46	8	0.000	.
	D-47	26	0.000	.
	D-48	5	0.000	.
	D-49	5	0.000	.
	D-50	2	0.000	.
	D-52	2	0.000	.
	D-54	40	0.000	.
	D-55	27	0.000	.