

Final Accomplishment Report
September 21, 2011 – September 20, 2012

Cooperative Agreement between the
Washington Department of Fish and Wildlife (WDFW)
and the
United States Department of Agriculture (USDA)
Animal and Plant Health Inspection Service
Veterinary Services

11-9753-1507-CA (CWD)

Chronic Wasting Disease Surveillance and Management

Background

Fall of 2011 represented the beginning of the eleventh consecutive year of intensive chronic wasting disease (CWD) surveillance in Washington. From 2001-2010, the Washington Department of Fish and Wildlife (WDFW) collected over 6300 samples from deer, elk and moose, with 5,898 of those being suitable for testing (Table 1). None has tested positive for CWD.

Of the six Elements of the CWD National Plan (Communications, Scientific and Technical Information Dissemination, Diagnostics, Disease Management, Research, and Surveillance), Washington focused mainly on Surveillance. This report describes CWD surveillance activities and expenditures in Washington from September 21, 2011 – September 20, 2012.

Methods

The emphasis this year was to continue collecting samples from areas of the state considered to be at a relatively higher risk of containing CWD-positive animals due to their proximity to captive cervid facilities. These areas include our eastern counties near or bordering Idaho, which has a very active elk ranching industry, and the counties surrounding two known captive elk facilities within Washington: one “grand-fathered in” legal facility, and one illegal facility.

Most samples were collected from hunter-harvested deer and elk during established hunting seasons, including through hunter check stations and taxidermist acquisitions. Samples were also collected opportunistically from road kills, illegally poached and confiscated animals, and from animals submitted for necropsy (including those animals demonstrating signs compatible with CWD; “target animals”). Lymph nodes were collected from deer and elk, and brainstems were collected from a few elk and moose. Only animals 16 months of age or older were sampled.

Training sessions were held to teach Department employees, tribal biologists, and volunteers how to collect brainstems and retropharyngeal lymph nodes. Brainstems and lymph nodes were frozen until submitted to the Washington Animal Disease Diagnostic Laboratory at Washington State University (WSU) in Pullman for testing via immunohistochemistry (obex of brainstems) or enzyme-linked immunoassay (lymph nodes). Data and test results were entered into a Microsoft Access database.

Results

During the 2011-2012 contract year, 241 samples from deer, elk and moose were collected for testing. Certain samples were not suitable for testing due to either the wrong tissue having been collected, the tissue being too decomposed, or the lymph nodes having been severely abscessed (Table 1). The remaining 235 samples that were suitable for testing were negative for chronic wasting disease.

Approximately 80% of the samples submitted were obtained through hunter-killed animals brought to WDFW, taxidermists and meat lockers. The remaining samples were obtained through road killed animals, poached animals, targeted animals and a couple predation events (Figure 1). White-tailed deer accounted for 67% of the animals sampled, with Spokane and Stevens counties providing the majority of samples (Figure 2). Utilizing the assistance of taxidermists greatly improved our ability to sample the southern counties.

Conclusions

During the 2011-2012 contract period, all 235 suitable samples submitted for testing were negative for chronic wasting disease. Combining this year's results with those from 2001-2010, a total of 6,596 samples have been collected for CWD testing in Washington, with no positive results to date.

In order to be 95% confident that we would have detected CWD if it was present in this population at a prevalence of 1% or greater (Cameron and Baldock 1998), we would have had to test 332 deer. We were not able to meet our quota this year due to Washington not having mandatory hunter check stations and overall low hunter turn-out at the volunteer check stations.

References

Cameron, A. R. and F. C. Baldock. 1998. A new probability formula for surveys to substantiate freedom from disease. *Preventive Veterinary Medicine* 34:1-17.

Table 1. Washington Department of Fish and Wildlife chronic wasting disease surveillance results by species and year (2011-2012).

Species	Result	Year											Total Samples
		2001	2002	2003	2004	2005	2006	2007	2008	2009	2010	2011	
Black-tailed Deer	Negative	375	293	144	643	19	26	11	0	0	0	0	1511
	Indeterminate ^a	-72	-30	-4	-49	-1	0	-2	0	0	0	0	-158
	Positive	0	0	0	0	0	0	0	0	0	0	0	0
White-tailed Deer	Negative	67	189	221	313	272	282	226	177	156	206	158	2267
	Indeterminate	-21	-34	-11	-13	0	-2	-5	-3	-6	-3	-3	-101
	Positive	0	0	0	0	0	0	0	0	0	0	0	0
Mule Deer	Negative	111	296	197	597	140	85	43	54	47	82	46	1698
	Indeterminate	-17	-32	-9	-49	-6	-2	-1	-1	-4	-2	0	-123
	Positive	0	0	0	0	0	0	0	0	0	0	0	0
Elk	Negative	104	119	72	52	13	5	31	11	12	36	23	478
	Indeterminate	-17	-21	-8	-8	0	-1	-6	0	-2	-1	-3	-67
	Positive	0	0	0	0	0	0	0	0	0	0	0	0
Unknown Deer	Negative	4	11	17	28	7	20	16	3	22	38	7	173
	Indeterminate	0	-3	-2	-2	-2	0	-5	0	0	0	0	-14
	Positive	0	0	0	0	0	0	0	0	0	0	0	0
Moose	Negative							0	0	4	0	1	5
	Indeterminate							-1	0	0	0	0	-1
	Positive							0	0	0	0	0	0
Totals	Negative	661	908	651	1633	451	418	328	245	241	362	235	6133
	Indeterminate	-127	-120	-34	-121	-9	-5	-19	-4	-12	-6	-6	-463
	Positive	0	0	0	0	0	0	0	0	0	0	0	0
	Collected	788	1028	685	1754	460	423	347 ^b	249 ^c	253 ^d	368	241	6596

^a Indeterminate results were usually obtained when the submitted tissue was not suitable for testing.

^b A total of 347 samples were submitted during the 2007 fiscal year, but only 287 of these were collected with certainty during the contract period.

^c A total of 257 samples were submitted during the 2008 fiscal year, but 8 were collected prior to the contract period. The former report had incorrect numbers listed and pending samples were not possible to test.

Figure 1. Washington Department of Fish and Wildlife CWD samples submitted by species and source during year 2011-2012.

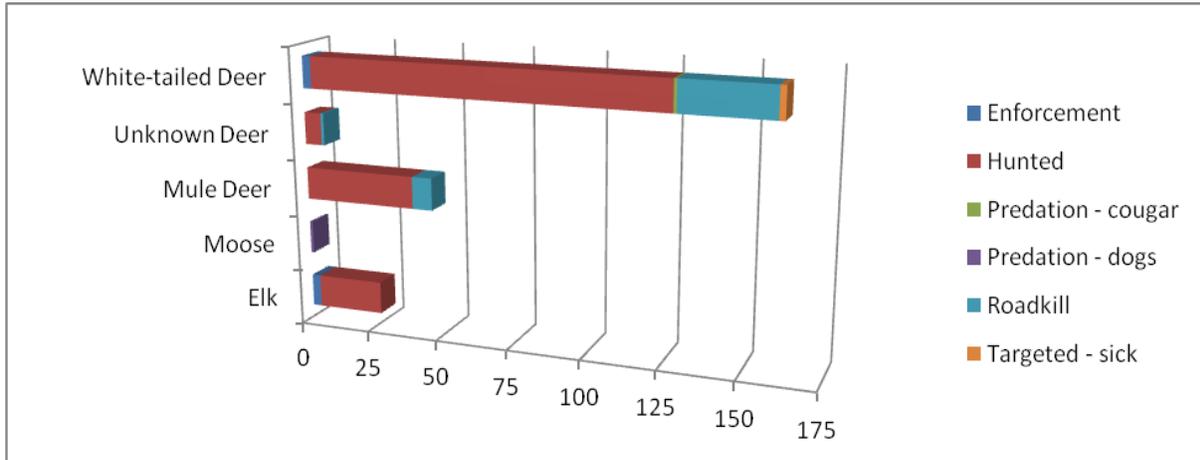
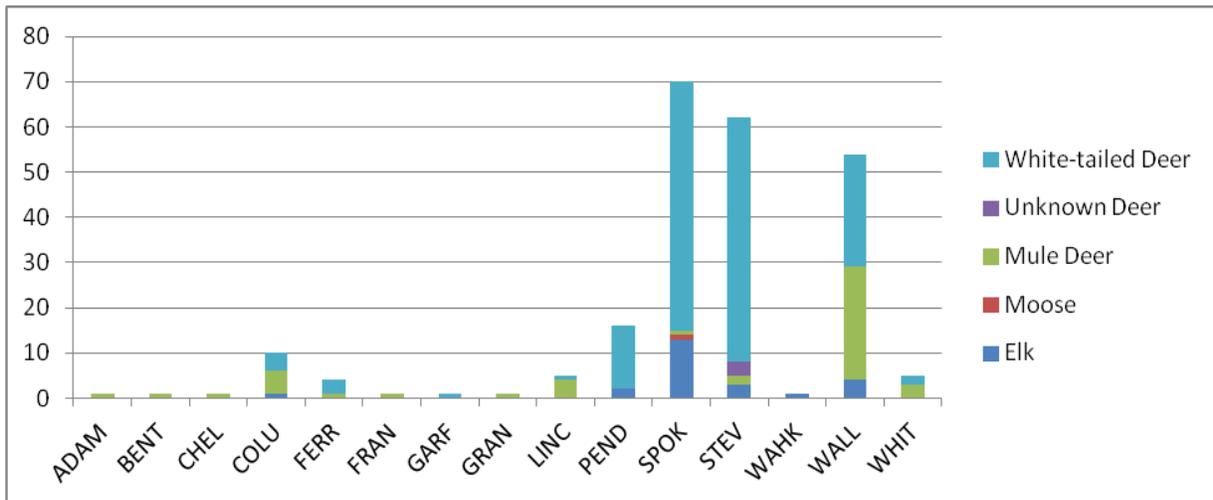


Figure 2. Washington Department of Fish and Wildlife CWD samples submitted by species and county during year 2011-2012. Eight samples did not have a county listed and are not included.



Report compiled by Ella Rowan, 12/14/2012.