Chronic Wasting Disease Surveillance
Jackson Elk Herd Unit
2015

Report prepared for the National Elk Refuge, U.S. Fish & Wildlife Service
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The National Elk Refuge (NER) provided funds to the Wyoming Game and Fish Department (WGFD) to support Chronic Wasting Disease (CWD) surveillance in the Jackson elk herd and adjacent elk, deer, and moose herds during the 2015 hunting seasons. The funding was used to hire two temporary CWD technicians, one employed with the WGFD, and one employed by the National Elk Refuge from mid-September through December 2015. The WGFD technician logged 800 hours and 10,000 miles, mostly while conducting field contacts with hunters and pulling samples (medial retropharyngeal lymph nodes) from carcasses. Having two technicians allowed field presence nearly every day of open hunting seasons in the Jackson area, and helped maximize the number of samples collected from all species throughout the Jackson WGFD Region.

The highest yielding method of collecting elk samples for subsequent CWD testing in the Jackson region comes from hunter contacts in the field, especially those within Grand Teton National Park (GTNP) and the NER. Hunter contacts are made throughout the fall in an effort to increase sample size and participation, and to educate hunters on CWD. NER parking areas and highly used locations in GTNP, such as the Kelly Hayfields and Blacktail Butte, are reliable places to make hunter contacts and collect samples. Frequent communication among NER law enforcement, elk retrieval operators and other WGFD personnel is essential for locating successful hunters soon after they've harvested their elk.

Successful hunters whose animals are not sampled in the field are requested to deposit heads with attached harvest information in bear-proof containers placed at Moose and Moran Junctions within GTNP in the same locations as the tooth and permit drops. Another container is stationed at Kelly Warm Springs, mostly for use by hunters returning from the Gros Ventre drainage, and more head-drop containers are placed at three of the hunter parking areas on the NER. An additional collection barrel was located at the WGFD office in Jackson,

Many samples are obtained though the cooperation of the local game meat processor (Matts Meats – Jackson and Hog Island Meats in both Jackson and Pinedale). Processor employees save heads along with harvest date, location, and hunter contact information, which are retrieved by CWD technicians daily. CWD samples are also collected from road-killed and "targeted" (euthanized due to illness) animals throughout the year. In addition, GTNP personnel make a concerted effort to sample from road-killed animals within the Park.

Personnel at the WGFD Wildlife Disease Laboratory use the IDEXX enzyme-linked immunosorbent assay (ELISA) to analyze lymph node samples for CWD. Any IDEXX-positive samples would then be confirmed with the Bio-Rad ELISA. Samples positive on both ELISAs would be confirmed by immunohistochemistry. Results are reported to hunters typically within three weeks of sample submission. Hunters can obtain results by accessing the Department's web site, and hunters that submit a positive sample are personally notified via phone and letter. The WGFD also notifies other state wildlife agencies if a hunter from their state harvests a CWD test-positive animal in Wyoming.

The WGFD collected and tested a total of 376 lymph nodes from 320 elk, 48 deer, and 8 moose for CWD within the Department's Jackson region in 2015 (specific hunt areas (HA) are listed in Tables 2-4). No positive samples were detected. Detailed sampling efforts from specific geographic areas follow.

Table 1. CWD samples collected from elk within the Jackson elk herd by year, with corresponding population and harvest estimates.

Year	Sample Size	Population Estimate	% of Est. Pop Sampled	# Harvested	% of Harvest Sampled
1997	243	16463	1.48%	3290	7.39%
1998	317	17641	1.80%	3159	10.03%
2000	197	16385	1.20%	2350	8.38%
2002	234	13457	1.74%	2253	10.39%
2004	187	12610	1.48%	1818	10.29%
2005	189	12855	1.47%	1776	10.64%
2006	184	12904	1.43%	1678	10.97%
2007	116	12795	0.91%	1689	6.87%
2008	301	12935	2.33%	1316	22.87%
2009	434	13349	3.25%	1486	29.21%
2010	414	11976	3.46%	1414	29.28%
2011	275	11962	2.30%	1146	24.00%
2012	241	11051	2.18%	1037	23.24%
2013	300	11423	2.63%	1437	20.88%
2014	247	11000	2.25%	1768	13.97%
2015	301	11200	2.69%	1183	25.44%

Jackson elk herd, North Jackson deer

During calendar year 2015, we collected 301 lymph nodes from elk sampled within the Jackson elk herd (HAs 70-83; Tables 1-2, Figure 2). HAs 75 and 77 comprised the majority of samples, and the most effective means of sample collection was through field contacts (i.e., approaching hunters with downed animals and removing lymph nodes in the field; Figure 1). The high proportion of samples obtained via field contacts emphasizes the importance of having trained personnel in the field every day. Head-drop barrels were only moderately successful in gathering samples; many hunters make use of the barrels only if they have been contacted previously in the field by a CWD technician. An additional 9 samples from the Jackson herd were taken from targeted elk; the bulk of which were elk euthanized on the NER during feeding operations January-March 2015.

A total of 12 samples were collected from deer within the area of the Jackson elk herd (Table 3). Contributions to the overall deer sample size came primarily from hunter harvested mule deer. The majority of deer harvested in this area are typically bucks killed in backcountry areas. Whole carcasses and intact heads are rarely encountered during field checks, limiting opportunities for collecting testable lymph nodes.

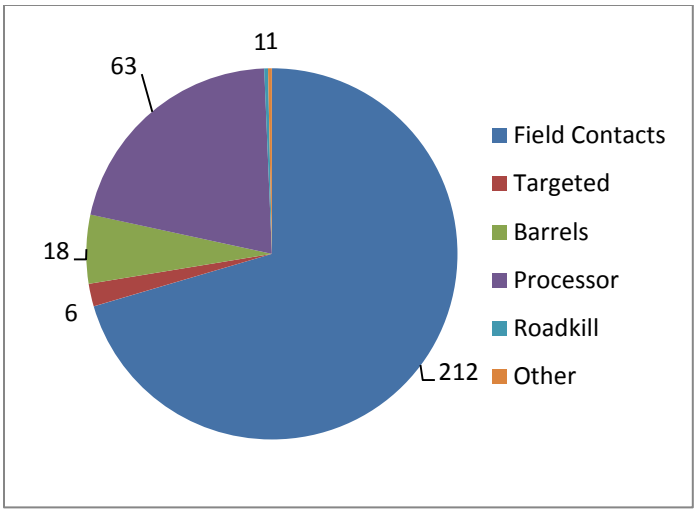


Figure 1. Collection method of 301 total elk CWD samples obtained in the Jackson elk herd, 2015.

Fall Creek elk herd, South Jackson deer

Elk HAs 84 and 85, covering the Snake River Range and much of the lower Hoback River basin, make up the Fall Creek elk herd (Figure 2, Table 2). Samples were collected from 11 elk in this herd, the majority of which came from hunter-killed animals. Deer HAs 151 and 152 correspond to the area covered by the Fall Creek elk herd (Figure 3, Table 3). In 2015, we collected 14 total CWD samples from deer in these areas. A significant proportion of samples came from opportunistically sampling road-killed animals.

Afton elk herd, Salt and Greys Rivers deer

Elk HAs 88, 89, 90, and 91 comprise the Afton elk herd (Figure 2, Table 2). A total of 5 samples were collected this year, primarily from hunter-killed animals. Jackson wild game processors, taxidermists and field checks all contributed in attaining these samples. Deer HAs 144 and 145 correspond to the area covered by the Afton elk herd (Figure 3, Table 3). The majority of samples obtained from these areas were pulled from carcasses that came through the hunter check station set up at the mouth of the Greys River road in Alpine. The check station was attended by WGFD personnel during 12 days of anticipated heavy hunter-traffic. A total of 22 samples were collected in deer HAs 144 and 145 in 2015.

Jackson region moose

A total of 8 moose were sampled in the Jackson Region during 2015 (Figure 4, Table 4). Three moose from HA 23, considered "CWD endemic" because of a single positive moose euthanized there in 2008, were sampled in 2015; all were negative. Nearly half of all moose samples this year were obtained from road-killed animals, 3 of them collected within GTNP. Three moose from the Jackson/Sublette herds were hunter-harvested, reflective of the reduced number of tags issued in these herds due to declining populations. Two moose were removed by WGFD personnel due to injury/illness during 2015.

Table 2. Elk samples tested for CWD collected in the Jackson region, 2015.

ELK					
	Hunt Area	**Hunter-Killed**	**Targeted**	**Roadkilled**	**Total**
Jackson Elk Herd	70	0			0
	71	0			0
	72	0			0
	73	0			0
	74	0			0
	75	92			92
	77	173	4		177
	78	20	1	2	23
	79	2			2
	80	3	2		5
	81	1			1
	82	1			1
	83	0			0
	GTNP				0
	Total	**292**	**7**	**2**	**301**
	Hunt Area	**Hunter-Killed**	**Targeted**	**Roadkilled**	**Total**
Fall Creek Elk Herd	84	3	1	3	7
	85	4			4
	Total	**7**	**1**	**3**	**11**
	Hunt Area	**Hunter-Killed**	**Targeted**	**Roadkilled**	**Total**
Hoback Elk Herd	86	0			0
	87	3			3
	Total	**3**	**0**	**0**	**3**
	Hunt Area	**Hunter-Killed**	**Targeted**	**Roadkilled**	**Total**
Afton Elk Herd	88	1			1
	89		1		1
	90				0
	91	3			3
	Total	**4**	**1**	**0**	**5**

Table 3. Deer samples (mule and white-tail) tested for CWD in the Jackson Region, 2015.

DEER					
	Hunt Area	**Hunter-Killed**	**Targeted**	**Roadkilled**	**Total**
North Jackson	148	2			2
	150	3	1	1	5
	155	3			3
	156	2			2
	Total	**10**	**1**	**1**	**12**
	Hunt Area	**Hunter-Killed**	**Targeted**	**Roadkilled**	**Total**
South Jackson	151	2		2	4
	152	6	2	2	10
	Total	**8**	**2**	**4**	**14**
	Hunt Area	**Hunter-Killed**	**Targeted**	**Roadkilled**	**Total**
Salt and Greys River	144	19			19
	145		2	1	3
	Total	**19**	**0**	**1**	**22**

Table 4. Moose samples tested for CWD in the Jackson Region, 2015.

MOOSE					
	Hunt Area	**Hunter-Killed**	**Targeted**	**Roadkilled**	**Total**
Jackson Moose	17				0
	19		1		1
	GTNP			3	3
	Total	**0**	**0**	**4**	**4**
	Hunt Area	**Hunter-Killed**	**Targeted**	**Roadkilled**	**Total**
Sublette Moose	20	0	0	0	0
	21	1	0	0	1
	23	2	1	0	3
	Total	**3**	**1**	**0**	**4**

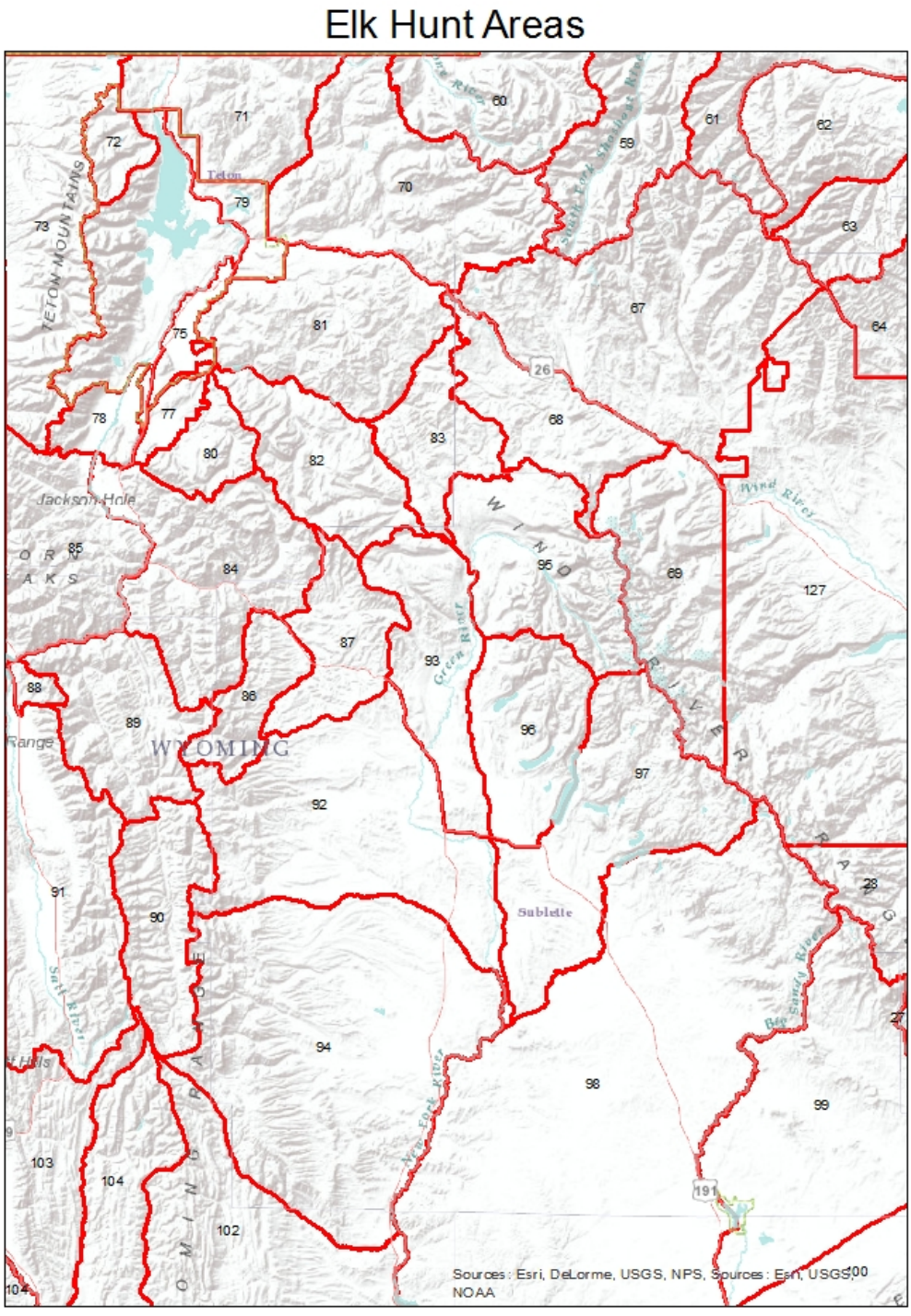
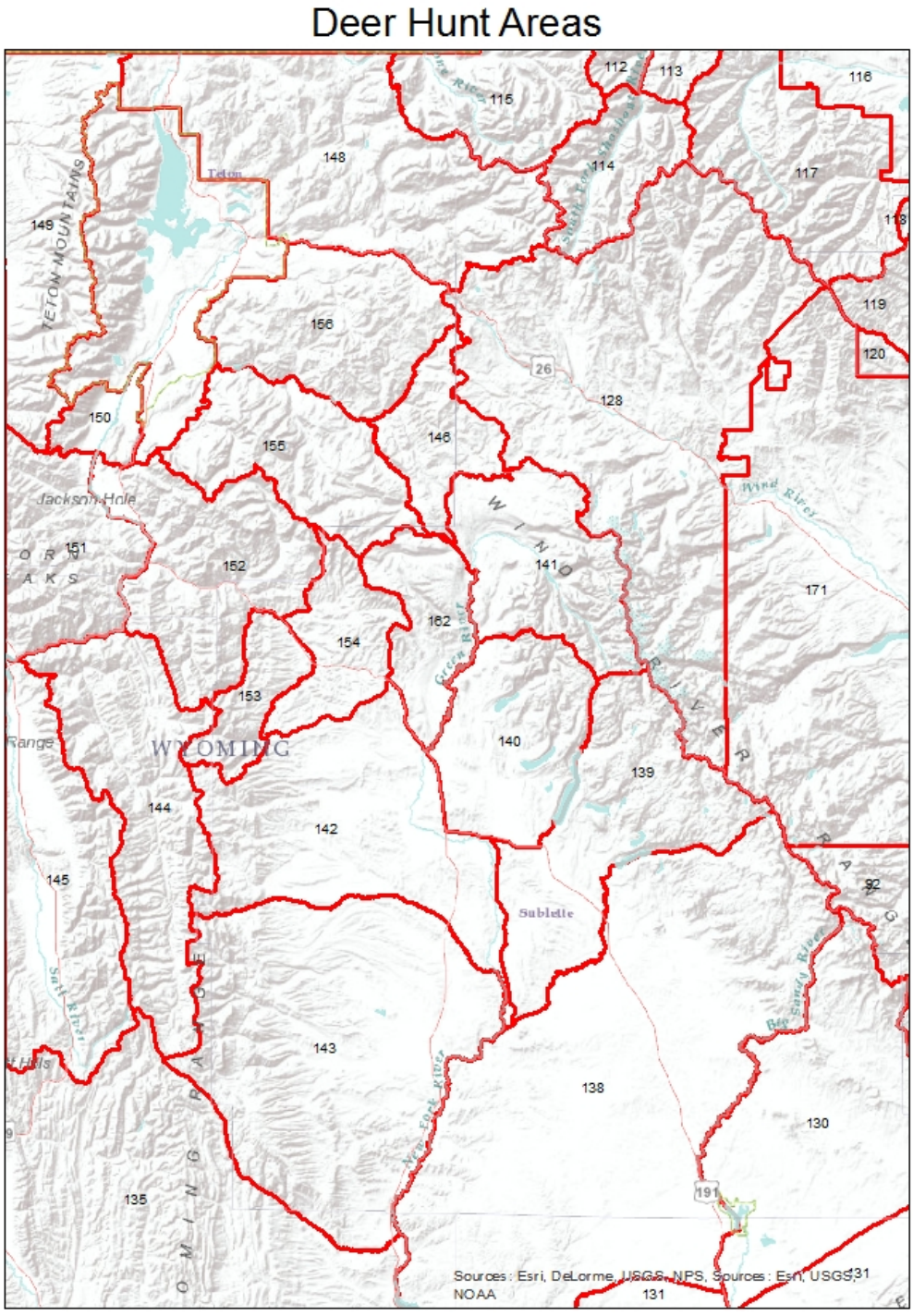


Figure 2. Elk hunt areas of western Wyoming.



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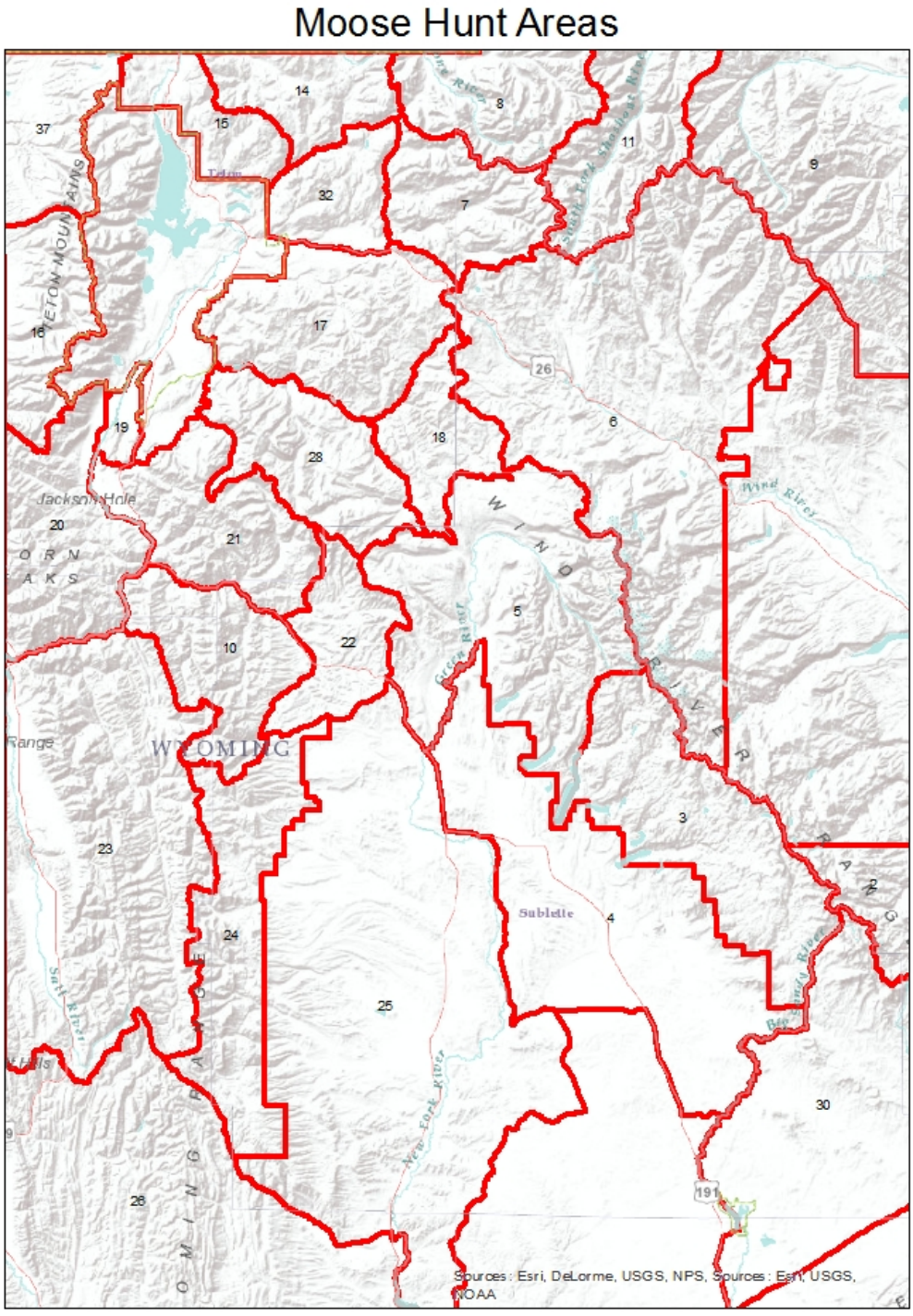

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