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**An Inexpensive Opportunity to Reduce the
Hazard to Greater Sage Grouse and Lesser Prairie Chickens
From Fencing**

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Sometime during its first year in office, the Obama Administration will have to decide whether to propose to add the greater sage grouse – a prairie bird that ranges across eleven Western states – to the nation’s list of endangered species. The Bush administration decided against protecting the bird a few years back, but a court found that its decision was tainted by political interference and ordered that it be reconsidered. More or less simultaneously, the new Administration may also decide whether to extend similar protection to a close cousin of the grouse, the lesser prairie chicken, which lives in five states of the southern plains. The listing of either bird could have far-reaching consequences and stir up a cauldron of controversy in the very region of the country where the Democratic Party has just made significant electoral gains. The irony is that at least one significant threat to both of these birds could be dramatically reduced at very little cost and with immediate benefit.

Long-time *Idaho Statesman* environmental reporter Rocky Barker has called the upcoming sage grouse decision the “first test” for Interior Secretary-designee Ken Salazar, noting without much exaggeration that “if the sage grouse is listed it could have the same kind of impact on public land ranching that the listing of the spotted owl had on logging in the Pacific Northwest’s old-growth forests in the late 1980s. It also could limit the development of wind, geothermal and solar energy across the western deserts and affect utility transmission line connections to these inherently widespread alternative energy developments.”¹ He could have added oil and gas development to that list as well. Many of those economic interests strongly opposed listing the grouse when that possibility was considered a few years ago, and will likely do so again.

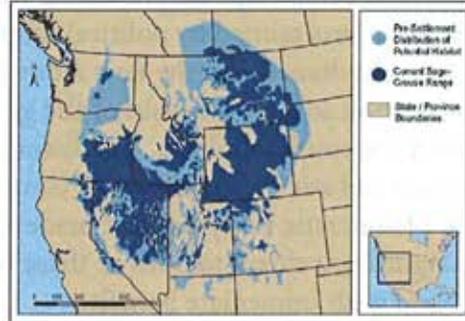
So too did some of the region’s Democratic governors, like Dave Freudenthal of Wyoming, a state that at the same time has some of the best remaining grouse

¹ Rocky Barker, Sage Grouse Will be Salazar's First Test, *Idaho Statesman*, December 19, 2008, at http://voices.idahostatesman.com/2008/12/19/rockybarker/sage_grouse_will_be_salazars_first_test.

populations and some of the most rapidly expanding threats in the form of both traditional and renewable energy development. The economic, environmental and political stakes are sufficiently high that Barker concluded that “Salazar will earn his keep finding solutions and keeping western rural voters from bolting to the Republican Party.” When Salazar takes office, he will inherit a May 2009 deadline for deciding whether the grouse warrants protection. While that deadline may slip a bit, it will not be put off long.

The stakes with respect to the lesser prairie chicken, a close cousin of the sage grouse, are similarly high, as incoming Interior Secretary almost certainly knows. His home state of Colorado has the unique distinction of being the only state where both the greater sage grouse and the lesser prairie chicken live. Ten other states are included within the range of the sage grouse, which sweeps from the western Dakotas to eastern California. The lesser prairie chicken, in addition to Colorado, makes its home in Texas, Oklahoma, Kansas, and New Mexico.

Facts about the Greater Sage Grouse



Source: U.S. Fish and Wildlife Service

Source: Western Association of Fish and Wildlife Agencies, Conservation Assessment of Greater Sage-grouse and Sagebrush Habitats (2004)

Range: The Sagebrush steppe region of the western plains, including parts of eleven states and two Canadian provinces

Habitat: Closely associated with large woody sagebrushes of western North America

Mating System: Males gather in the spring at “leks” where they compete for females with elaborate “dances” and vocalizations.

Vulnerability to Fences: Fence collisions accounted for 18% of deaths in one Utah study.

Pace of Fence Construction: NRCS averages roughly 750 miles of new fence construction annually in counties with sage grouse populations. BLM has built nearly 2,700 miles of fencing in states with sage grouse populations since the species was petitioned for federal protection.

The lesser prairie chicken has been a formal “candidate” for possible listing as an endangered or threatened species since 1998. During the subsequent decade, the Interior Department’s U.S. Fish and Wildlife Service refrained from listing it, because the bird’s status had generally stabilized after a long decline in both its numbers and its habitat.

However, on December 10, 2008, the Service acknowledged that the prairie-chicken's status now appears much more precarious. As part of its annual reassessment of all candidate species, the Service moved the prairie chicken from the eighth to the second tier on the Service's 12-tier hierarchy of listing priorities. The second tier is actually the highest tier that the prairie-chicken can occupy, since the top tier can only be occupied by species that are the sole members of their genus. Unlike for the sage grouse, there is no deadline forcing the Secretary's hand with respect to the prairie chicken, at least not yet.

Facts about the Lesser Prairie Chicken



Source: © Jacob S. Spindelov, Tringa.org

Source: U.S. Fish and Wildlife Service, 2008 Candidate Assessment – Lesser Prairie Chicken (2008)

Range: The Southern High Plains of the United States, including parts of Texas, Oklahoma, Kansas, Colorado, and New Mexico

Habitat: Prefers mixed sand sagebrush or shinnery oak-grasslands

Mating System: Males gather in the spring at “leks” where they compete for females with elaborate “dances” and vocalizations.

Vulnerability to Fences: Fence collisions accounted for 39.8% of deaths in one Oklahoma and 26.5% of deaths in New Mexico, according to one study.

Pace of Fence Construction: NRCS averages nearly 300 miles of new fence construction annually in counties with lesser prairie chicken populations. BLM has built over 450 miles of fencing in states with lesser prairie chicken populations since the species became a candidate for federal protection.

Few decisions under the Endangered Species Act are likely to be as consequential for the West as the sage grouse and lesser prairie chicken listing decisions. The listing of either bird as a threatened or endangered species will affect livestock grazing, oil and gas development, and wind energy throughout the region. The irony is that at least two agencies of the federal government are unwittingly – and unnecessarily – contributing to the loss of both the sage grouse and the lesser prairie chicken. Relatively simple and inexpensive policy changes could eliminate this needless loss and render less urgent the need to invoke the Endangered Species Act. While visibility enhancements will not eliminate all the potential problems for wildlife caused by fences, they will reduce one serious problem for these two birds.

One of the threats to these birds is wire fencing. Because they have trouble seeing the thin wire strands of a fence, the birds are prone to colliding with them, with often fatal results. A study in Utah determined that over 18 percent of the roughly one hundred dead grouse encountered in that study died as a result of fence collisions, one of the highest sources of grouse mortality.² A similar study in Oklahoma concerning the lesser prairie chicken found that fence collisions caused an astonishing 39.8 percent of known mortalities.³ That latter study also collected data at a site in New Mexico, where fence collisions accounted for 26.5 percent of known mortalities. That study was conducted by the Sutton Avian Research Center, a respected research organization affiliated with the University of Oklahoma. Since 1999, the Center has studied the movements, habits, and fates of prairie chickens by capturing and radio-tagging nearly 900 birds in Oklahoma and New Mexico. By the end of 2004, they had recovered the carcasses of 322 of these, and were able to determine the cause of death for 260. Altogether, a third of these were determined to have died as a result of collisions with fences.

Despite the threat that fences pose to both of these declining birds, and the possibility that both may be headed for the endangered species list, two federal agencies have built, or helped pay for the building, of extensive new fencing in areas where these birds live. Since fiscal year 2002, the year in which the Interior Department was first petitioned to protect the greater sage grouse under the Endangered Species Act, the Bureau of Land Management (BLM) has built nearly 2,700 miles of fencing in the states where the sage grouse lives. Although the lesser prairie chicken (which was petitioned for protection in 1995) occurs primarily in three states without significant BLM land, in the two states of Colorado and New Mexico, BLM has built over 450 miles of fencing since fiscal year 2000. A state-by-state breakdown is shown in Table 1.⁴ Those numbers do not include fences built in 2008, for which data is not yet available. Nor is it possible to determine how much of that fencing poses a threat to sage grouse or lesser prairie chickens, since the BLM data identifies neither the locations within a state where the fencing was built nor the type of fencing built.

² Danvir, Sage Grouse Ecology and Management in Northern Utah Sagebrush Steppe at <ftp://ftp-fc.sc.egov.usda.gov/WY/Sage%20Grouse/Ecology%20of%20Northern%20Utah%20sage%20grouse.pdf>.

³ See Michael A. Patten, Donald H. Wolfe, Eyal Shochat, and Steve Sherrod, Habitat Fragmentation, Rapid Evolutions and Population Persistence, *Evolutionary Ecology Research* 7:235-249 (2005) (updated information provided in Donald Wolfe, Don't Fence Them In, *Grouse Partnership News* 2006:20, at <http://www.grousepartners.org/images2/grousenews/2006/DontFenceThemIn.pdf>.

⁴ Data on BLM fence construction is taken from BLM's annual report, *Public Land Statistics, Table 2-3: Resource Conservation & Improvement Accomplishments by Year*

However, BLM's counterpart agency in the Agriculture Department, the Natural Resources Conservation Service (NRCS), provides more detailed county-level data. That information shows extensive fence building where the sage grouse and lesser prairie chicken live. NRCS has paid for the construction of over 3,000 miles of new fences since 2005 (including 2008 data) just in the counties with known sage grouse populations and nearly 1,200 miles of fencing in the counties with known lesser prairie chicken populations.⁵ A state-by-state breakdown of NRCS's fence building is provided in Table 2 and more detailed county-by-county breakdowns for each state are included in Tables 3 and 4.

For very little extra cost, BLM and NRCS could have equipped these new fences with simple reflectors, flagging, or other devices to make them more visible to these low-flying birds. Research done by the Sutton Avian Research Center on the lesser prairie chicken has shown that increasing the visibility of wire strands dramatically lowers mortality. In that research, small reflective markers made from vinyl siding were attached to the top two strands of wire fences. The Center estimates the cost of materials at about \$200 per mile of fencing,⁶ which adds roughly five percent or so to the cost of installing a wire strand fence. The Montana Fish, Wildlife and Parks Department last year published a "Landowner's Guide to Wildlife Friendly Fences" that recommends that approach as one of several relatively inexpensive alternatives to enhance the visibility of wire fences.⁷ But to date neither BLM nor NRCS routinely incorporates bird friendly features in the fences they build or fund, even in the most sensitive areas for sage grouse and lesser prairie chickens. If they did so, they would reduce one of the important threats propelling both of these birds toward the endangered species list.

Fortunately, it's never too late for a good idea. The new leaders of both BLM and NRCS ought to make clear that, in the future, any new fencing they install or pay for near grouse or lesser prairie chicken habitat must be designed to increase its visibility to those birds. NRCS could incorporate such designs in its fencing technical standards, which prescribe the requirements that fences must meet to qualify for financial assistance under various federal Farm Bill programs. In addition, because there is already a lot of fencing in areas where sage grouse and lesser prairie chickens live, both agencies should initiate new programs to retrofit existing fencing in particularly sensitive areas with reflectors or other visibility-enhancing devices. The BLM in New Mexico has signaled its

⁵ Data on NRCS fence construction is taken from USDA's Performance Results System reports at <http://ias.sc.gov.usda.gov/prsreport2008/>

⁶ For detailed information on the Center's recommended method of marking fences, cost estimates, and related information, see the Center's website at http://www.suttoncenter.org/fence_marking.html.

⁷ A copy of the guide can be accessed at <http://fwp.mt.gov/content/getItem.aspx?id=34461>.

desire to do so, an encouraging development that the agency should hold out as a model. Similarly, NRCS in Montana is considering an initiative to retrofit existing fencing in sensitive areas with markers to make them more visible to grouse. More broadly, the two federal agencies ought to be taking a hard look at possible alternatives to fences, because of the problems fences create for wildlife beyond bird mortalities from collisions.

Reducing the frequency of collisions with fences is not likely to be sufficient by itself to guarantee the security of these two iconic Western birds, but it is an action that will have quick results. Restoring degraded habitat in the semi-arid West will take years to produce results, but reducing the hazard from fencing can produce immediate benefits for sage grouse and lesser prairie chicken conservation. Few conservation actions can produce conservation benefits as quickly, and few conservation actions could demonstrate any more clearly that the time has come to move from talking about reducing threats to these birds to actually doing it.

Table 1: Miles of BLM Fencing Constructed by State and Year (Public Lands Statistics)

State	2000	2001	2002	2003	2004	2005	2006	2007
California	45	42	15	9	17	17	25	25
Colorado	44	51	21	26	7	18	24	23
Idaho	34	83	37	53	9	32	220	217
Montana	79	58	67	86	113	43	71	74
Nevada	169	286	132	84	46	17	66	121
New Mexico	49	26	0	21	44	38	20	40
Oregon	137	85	173	68	56	31	66	79
Utah	36	39	11	6	6	30	24	27
Wyoming	85	183	151	46	34	46	63	66
TOTAL (mi)	678	853	607	399	332	272	579	672

Table 2: Miles of USDA-Funded Fencing During 2005-2008 In Counties Where Sage Grouse or Lesser Prairie Chicken Live

Sage Grouse		Lesser Prairie Chicken	
State	Miles	State	Miles
California	77.86	Colorado	244.11
Colorado	178.75	Kansas	156.62
Idaho	238.28	New Mexico	401.74
Montana	1,357.44	Oklahoma	57.87
Nevada	102.08	Texas	306.97
North Dakota	108.84	TOTAL (mi)	1,167.31
Oregon	163.55		
South Dakota	184.55		
Utah	259.22		
Washington	81.04		
Wyoming	369.25		
TOTAL (mi)	3,120.86		

Table 3: USDA Fencing Data – County and Year Breakdown for the Sage Grouse

State	County	2005	2006	2007	2008
California	Inyo	0.01	-	-	-
	Lassen	21.33	12.98	5.63	8.15
	Modoc	5.21	10.96	0.19	3.43
	Mono	1.00	0.25	2.00	-
	Sierra	0.59	-	0.47	5.66
	TOTAL	28.14	24.19	8.29	17.24
Colorado	Alamosa	1.89	2.20	4.12	4.49
	Archuleta	3.52	3.45	0.89	0.23
	Chaffee	-	-	-	0.60
	Costilla	2.73	2.52	0.75	1.28
	Delta	0.91	0.33	4.19	0.56
	Dolores	1.03	3.01	2.32	2.96
	Eagle	-	-	0.21	0.05
	Garfield	-	-	2.09	1.35
	Grand	3.96	-	-	3.32
	Jackson	-	0.25	0.62	4.29
	La Plata	5.25	3.47	0.85	1.52
	Lake	-	-	-	-
	Larimer	0.88	4.21	0.90	2.46
	Mesa	0.21	2.20	-	-
	Moffat	2.73	3.58	7.64	5.32
	Montezuma	-	3.57	1.65	2.12
	Montrose	-	2.35	2.30	0.50
	Park	-	-	1.14	0.38
	Pitkin	-	-	-	-
	Rio Blanco	1.39	3.64	0.57	0.25
Rio Grande	0.06	3.46	5.60	4.55	
Routt	1.39	9.50	2.28	5.72	
Saguache	3.45	3.55	10.04	6.34	
San Miguel	-	-	-	1.61	
Summit	-	-	-	-	
TOTAL	29.40	51.29	48.16	49.90	
Idaho	Adams	0.89	1.86	0.70	1.37
	Bear Lake	0.52	5.74	1.45	4.94
	Bingham	4.52	1.91	3.97	1.31
	Blaine	-	-	-	-
	Bonneville	6.03	5.88	4.81	3.32
	Butte	1.65	4.70	5.55	0.69
	Camas	0.09	1.26	0.54	-
	Caribou	12.05	5.29	3.71	1.58
	Cassia	9.26	9.91	6.91	1.86
	Clark	3.33	9.18	2.85	6.91
	Custer	3.56	4.19	0.84	5.88
	Elmore	1.40	5.66	2.19	2.95
	Fremont	0.28	0.76	-	6.50
Gooding	2.01	0.14	1.43	1.54	

Table 3 Cont'd: USDA Fencing Data – County and Year Breakdown for the Sage Grouse

State	County	2005	2006	2007	2008
Idaho (cont'd)	Jefferson	1.27	3.03	0.61	-
	Lemhi	3.02	1.74	5.04	2.03
	Lincoln	0.15	0.29	-	-
	Minidoka	1.96	-	-	-
	Oneida	4.37	-	0.29	1.67
	Owyhee	0.75	4.21	2.87	4.16
	Power	1.13	-	7.50	6.39
	Twin Falls	3.07	0.38	-	1.00
	Washington	1.14	0.97	0.96	2.42
		TOTAL	62.45	67.10	52.22
Montana	Beaverhead	4.85	2.97	5.01	2.31
	Big Horn	4.03	9.90	1.12	4.34
	Blaine	29.59	24.13	76.57	46.18
	Carbon	-	0.75	0.25	6.08
	Carter	37.83	16.86	10.24	19.23
	Chouteau	6.99	21.93	9.98	12.60
	Custer	12.64	8.64	2.66	11.46
	Daniels	-	2.39	1.69	8.49
	Dawson	8.39	8.35	13.39	9.61
	Fallon	7.04	10.85	8.54	5.73
	Fergus	13.13	9.30	14.19	19.71
	Gallatin	-	1.20	0.67	5.28
	Garfield	26.87	18.26	11.98	7.39
	Golden Valley	2.28	0.56	5.45	1.68
	Hill	41.24	28.37	11.41	5.90
	Judith Basin	12.11	7.57	13.74	4.52
	Liberty	2.32	4.46	5.54	0.76
	Madison	7.31	10.47	8.49	10.73
	McCone	1.99	2.52	19.22	12.06
	Meagher	0.57	3.80	6.77	1.14
	Musselshell	1.68	10.68	2.03	2.26
	Park	1.04	9.32	5.56	4.86
	Petroleum	-	4.71	4.30	2.66
	Phillips	18.55	18.62	10.84	13.14
	Powder River	5.89	19.56	5.42	10.41
	Prairie	4.10	10.11	3.81	1.08
	Richland	13.80	14.74	7.58	17.17
	Rosebud	1.51	12.48	2.13	5.50
	Roosevelt	3.50	8.37	4.01	3.45
	Stillwater	2.05	3.97	24.52	20.28
	Sweet Grass	2.68	3.27	12.21	23.31
	Treasure	3.42	8.54	9.08	1.16
Valley	2.35	26.88	1.63	17.46	
Wheatland	3.21	2.73	13.59	22.11	
Wilbax	4.58	9.13	1.65	4.56	
Yellowstone	11.80	12.90	2.86	6.06	

Table 3 Cont'd: USDA Fencing Data – County and Year Breakdown for the Sage Grouse

State	County	2005	2006	2007	2008
Montana (cont'd)	TOTAL	299.34	369.29	338.13	350.67
Nevada	Churchill	-	0.79	0.72	0.80
	Douglas	0.34	0.17	0.36	0.12
	Elko	2.10	6.44	22.04	7.03
	Eureka	-	-	-	4.32
	Humboldt	1.88	0.97	1.21	1.92
	Lander	-	-	-	-
	Lincoln	0.59	-	2.55	0.27
	Lyon	-	1.64	1.56	0.85
	Mineral	-	-	-	-
	Nye	1.03	0.30	9.73	2.44
	Pershing	-	-	-	-
	Washoe	4.89	7.84	10.60	0.19
	White Pine	-	3.91	0.70	1.78
	TOTAL	10.83	22.06	49.47	19.72
North Dakota	Bowman	14.31	15.73	3.00	8.69
	Golden Valley	10.88	2.78	10.08	14.29
	Slope	7.98	14.43	0.43	6.23
	TOTAL	33.17	32.94	13.51	29.21
South Dakota	Butte	9.55	10.83	9.38	6.79
	Harding	4.38	7.61	16.49	6.11
	Fall River	-	5.96	7.70	3.80
	Meade	12.87	24.85	9.57	7.91
	Perkins	9.60	3.32	13.58	14.23
	TOTAL	36.40	52.57	56.72	38.84
Oregon	Baker	7.38	8.95	16.58	19.29
	Crook	0.75	9.64	5.37	7.95
	Deschutes	1.31	-	1.55	0.53
	Harney	3.20	1.73	16.46	22.77
	Lake	0.83	4.37	5.03	0.90
	Malheur	6.05	12.67	4.91	5.32
	TOTAL	19.52	37.36	49.90	56.76
Utah	Beaver	-	-	-	0.30
	Box Elder	2.18	7.71	34.12	18.52
	Cache	11.92	5.81	19.10	4.13
	Carbon	3.94	0.51	1.62	-
	Daggett	-	0.70	-	1.31
	Davis	-	0.43	-	0.31
	Duchesne	0.67	3.09	10.47	12.25
	Emery	-	-	0.18	3.00
	Garfield	1.25	0.48	-	-
	Grand	2.00	-	-	3.98
	Iron	-	0.70	4.48	1.28
	Juab	-	-	-	2.53
	Kane	-	2.24	2.88	-
	Millard	0.20	-	-	-

Table 3 Cont'd: USDA Fencing Data – County and Year Breakdown for the Sage Grouse

State	County	2005	2006	2007	2008	
Utah (cont'd)	Morgan	1.70	0.76	2.46	3.08	
	Piutte	0.54	-	0.09	2.28	
	Salt Lake	-	-	-	-	
	San Juan	-	7.45	0.62	5.56	
	Sanpete	3.91	8.13	4.46	2.15	
	Sevier	0.19	1.05	0.35	0.17	
	Summit	1.71	4.06	3.21	6.46	
	Rich	-	1.32	2.82	3.92	
	Tooele	-	-	3.11	2.36	
	Uintah	-	1.36	2.36	2.15	
	Wasatch	2.87	-	-	0.15	
	Wayne	1.12	-	0.74	1.74	
	Weber	-	4.35	3.80	0.39	
	TOTAL		34.20	50.15	96.87	78.02
	Washington	Benton	0.27	-	1.40	0.26
Douglas		-	1.88	-	0.99	
Grant		0.35	0.05	1.47	4.37	
Kittitas		3.24	-	0.95	1.29	
Okanogan		13.19	19.89	8.40	19.95	
Yakima		0.40	2.13	-	0.59	
TOTAL			17.45	23.95	12.22	27.45
Wyoming	Albany	2.50	3.03	3.86	1.50	
	Big Horn	3.85	13.97	6.63	7.97	
	Campbell	3.60	4.27	1.41	10.56	
	Carbon	0.35	7.33	1.12	3.24	
	Converse	0.49	7.92	8.37	3.93	
	Crook	15.56	3.84	4.51	4.63	
	Fremont	-	6.28	13.88	9.18	
	Hot Springs	0.19	4.32	0.25	2.10	
	Johnson	7.81	14.25	3.04	7.06	
	Laramie	-	4.45	5.74	6.22	
	Lincoln	0.99	2.22	0.35	2.93	
	Natrona	-	2.05	3.73	9.78	
	Niobrara	3.65	7.41	5.24	2.64	
	Park	15.89	17.00	2.41	0.68	
	Platte	2.86	2.54	4.49	4.88	
	Sheridan	0.07	5.64	-	0.23	
	Sublette	2.26	5.66	3.15	1.56	
	Sweetwater	-	-	6.17	-	
	Teton	0.11	-	-	-	
	Unita	2.24	2.96	0.06	-	
	Washakie	3.42	3.73	8.07	6.62	
Weston	5.13	0.82	5.87	4.58		
TOTAL		70.97	119.69	88.35	90.29	

Table 4: USDA Fencing Data – County and Year Breakdown for the Lesser Prairie Chicken

State	County	2005	2006	2007	2008
Colorado	Baca	18.73	28.92	26.58	55.13
	Cheyenne	1.02	6.5	-	2.06
	Kiowa	5.35	3.12	4.08	28.5
	Prowers	3.02	18.52	16.8	25.75
	TOTAL	28.12	57.06	47.46	111.44
Kansas	Barber	-	12.56	4.14	15.96
	Clark	1.4	5.78	5.25	-
	Comanche	0.86	3.59	-	-
	Edwards	-	-	-	-
	Ellis	-	1.59	2.61	3.59
	Finney	-	-	-	-
	Ford	0.48	0.46	6.03	0.9
	Gove	-	-	0.97	-
	Grant	-	0.5	-	-
	Gray	0.47	-	2.93	0.71
	Greeley	-	-	0.27	-
	Hamilton	-	-	0.17	1.48
	Haskell	-	0.39	7.5	1.34
	Hodgeman	-	2.27	0.78	0.16
	Kearny	-	1.23	6.68	-
	Kiowa	3.9	2.9	8.06	3.29
	Lane	-	-	0.14	0.37
	Logan	-	-	-	3.89
	Meade	-	0.4	2.54	-
	Morton	0.32	-	-	2.36
	Ness	4.14	0.81	0.35	-
	Pawnee	-	0.77	-	-
	Pratt	0.66	-	0.21	4.78
	Rush	0.21	0.85	-	1.41
	Scott	-	-	-	0.36
	Seward	0.75	-	2.64	0.17
	Stafford	-	1.04	0.31	3.12
Stanton	-	-	-	-	
Stevens	-	0.99	-	0.73	
Trego	-	4.94	0.33	1.99	
Wallace	0.62	-	-	2.87	
Wichita	0.33	-	-	-	
TOTAL	14.14	41.07	51.91	49.48	
New Mexico	Chaves	5.31	7.72	10.2	13.96
	Curry	1.8	5.4	10.5	14.89
	De Baca	7.85	10.79	10.34	3.63
	Eddy	-	8.75	3.41	7.55
	Lea	14.19	41.62	48.28	47.25
	Quay	6.74	30.84	2.23	24.22
	Roosevelt	19.01	8.44	18.89	17.93
	TOTAL	54.9	113.56	103.85	129.43

Table 4 Cont'd: USDA Fencing Data – County and Year Breakdown for the Lesser Prairie Chicken

State	County	2005	2006	2007	2008
Oklahoma	Beaver	0.91	1.67	1.74	0.72
	Cimarron	-	4.06	3.8	1.26
	Ellis	-	1.33	-	1.14
	Harper	5.5	3.36	5.78	-
	Roger Mills	1.24	1.6	1.91	2.11
	Texas	1.61	0.28	5.6	0.5
	Woods	-	1	3.2	4.18
	Woodward	1.85	0.66	0.52	0.32
	TOTAL	11.11	13.96	22.55	10.23
Texas	Andrews	-	0.35	2.04	3.06
	Bailey	-	4.36	6.06	8.87
	Carson	-	2.59	0.21	10.11
	Cochran	-	-	-	-
	Deaf Smith	3.77	8.39	8.3	2.11
	Donley	-	1.47	4.6	12.4
	Gaines	1.95	2.27	-	-
	Gray	0.95	2.52	11.8	4.49
	Hemphill	0.69	1.98	1.95	3.95
	Hockley	-	13.78	-	-
	Lamb	-	-	-	-
	Lipscomb	15.11	6.83	5.41	3.22
	Moore	5.88	6.18	2.9	2.39
	Ochil Tree	9.25	59.87	28.12	1.14
	Randall	1.04	-	1	-
	Terry	-	1	-	0.63
	Wheeler	1.16	2.5	8.58	11.74
	Yoakum	-	1.49	-	6.5
	TOTAL	39.8	115.58	80.97	70.61

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