GREATER SAGE-GROUSE/GRAZING ECONOMIC ANALYSIS

Prepared for

Sublette County Commission, Wyoming Wyoming Stock Growers Association

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Ecosystem Research Group 121 Hickory Street Missoula, MT 59801 (406) 721-9420 www.ecosystemrg.com

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1. INTRODUCTION

On September 28, 2011 the U.S. District Court of the District of Idaho in *Western Watersheds Project vs. Salazar, No.08cv516* ruled in favor of Western Watersheds Project (WWP) claim that the Bureau of Land Management (BLM) violated the National Environmental Policy Act and the Federal Land Policy and Management Act in approving the 2008 Pinedale Resource Management Plan. While the BLM is correcting the identified flaws, WWP has asked for interim grazing requirements to be implemented that could have significant impacts on the economy of Sublette County and Lincoln County.

The interim management requirements proposed by the WWP for grazing are:

- A1 Exclude livestock grazing in Sage-grouse nesting and brood-rearing habitats from March 1 until after June 20, and remove livestock by August 1 of each year, with a mandatory goal of leaving at least 70% of the herbaceous production each year to form residual cover to benefit sage-grouse nesting the following spring.
- A2 Prohibit twice-over grazing systems in Sage-grouse habitats, where livestock pass through an area twice in a grazing season (including trailing).
- A3 In Sage-grouse habitats, prohibit constructing new fences, order removal of unnecessary fences; and visually mark remaining fences to reduce Sage-grouse collisions with fences.
- A4 Prohibit vegetation treatments of so-called "decadent" sagebrush.
- A5 Prohibit new livestock water developments and any new rights-of-way for water developments or conveyances in Sage-grouse habitats (Western Watersheds Project v. Ken Salazar 2012).

The first two measurements would have the largest impact on the cattle ranching industry by minimizing the number of days allowed for grazing and prohibiting twice-over grazing. The grazing periods currently allow for over fifteen thousand grazing days in the Planning Area. If all of the allotments in the Planning Area are impacted, the date restrictions would reduce that by 70% to just over four and half thousand days. This reduction has the potential to significantly impact individual cattle ranching operations and the economic, cultural, and social character of the communities within the Planning Area.

In addition, some of the ranchers in the Pinedale Field Office (PFO) Planning Area use their BLM allotments in the spring and/or early summer, then use Forest Service allotments for the remaining portion of the summer and early fall (Booth pers. comm.; Thrift pers. comm.). The cattle are then transported back across the BLM lands using trailing permits. If they were not allowed to pass through twice the Forest Service allotments would be unusable. Based on communications with local ranchers, trucking the cattle back to the home ranch would not be an option in most cases (Bousman pers. comm.). Therefore, the use of these allotments would no longer be possible, increasing the impact of the proposed interim grazing requirements.

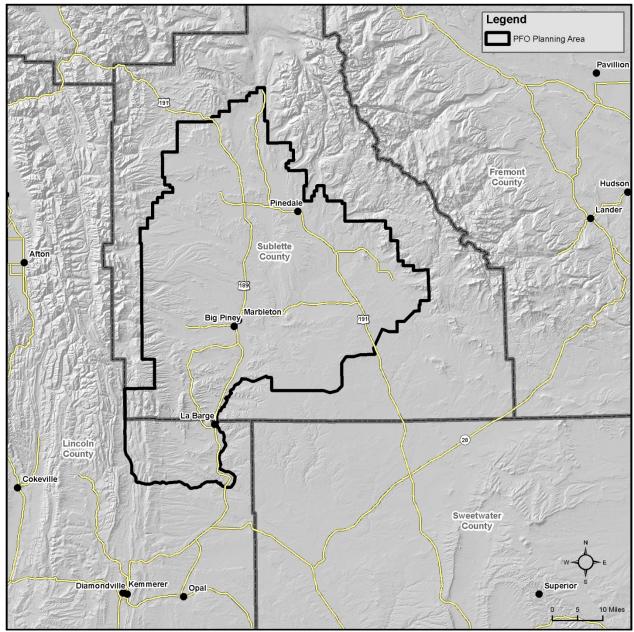
In order to understand the magnitude of these impacts, geographic information systems (GIS) and economic modeling were used to determine which allotments in the Planning Area would be impacted and the potential reduction in AUMs associated with these allotments. A complete description of the

methodology and assumptions used in the analysis can be found in Appendix B – Methodology and Assumptions.

The sections below provide a brief description of the counties of the Planning Area, the scenarios used in the analysis, the potential yearly impacts to the local communities, and the impacts of the proposed interim grazing requirements on the communities over time.

2. AFFECTED ENVIRONMENT

The Pinedale Field Office encompasses most of Sublette County and a portion of Lincoln County. Map 1 contains an outline of the PFO Planning Area and shows the cities and counties.



Map 1 Pinedale Field Office with Counties and Cities

Both counties and most of the cities within them have experienced high levels of growth over the past 10 and 20 years. As shown in Table 1, Sublette County has more than doubled in population over the last 20 years, and most of that growth has occurred in the last 10 years. Lincoln County has had lower growth, 43% in the last 20 years. Table 1 also shows that the population increases have not been concentrated in the largest population centers. In Lincoln County, where the population increased 43% over the last 20 years, the population of Kemmerer, its largest city, has decreased by 12%. In Sublette County, the population of the largest city has increased, but the pace is slightly slower than the county as a whole.

Table 1: County and Largest City Population Changes 1990-2010

	1990	2000	2010	Percent Change 1990-2000	Percent Change 2000-2010	Percent Change 1990-2010
Lincoln County	12,625	14,573	18,106	15.43%	24.24%	43.41%
Kemmerer	3,020	2,651	2,656	-12.22%	0.19%	-12.05%
Sublette County	4,843	5,920	10,247	22.24%	73.09%	111.58%
Pinedale	1,181	1,412	2,030	19.56%	43.77%	71.89%

Source: US Census 2011

Table 2 shows the population changes for the cities within the two counties. La Barge is the only Lincoln County city within the PFO Planning Area and it has the largest growth of the cities within the county. La Barge grew by almost 28% over the last 10 years. With the exception of Bondurant, all of the cities within Sublette County have experienced significant growth over the last 10 years. The city of Boulder has grown from 20 people in 2000 to 170 people in 2010. While most of the growth is the result of oil and gas drilling and production within the county, the number of farm proprietors in the county has also increased slightly.

Table 2: Population Changes of Cities, 2000-2010

Area	2000	2010	Percent Change 2000- 2010
Kemmerer	2,651	2,656	0.19%
Afton	1,818	1,911	5.12%
La Barge	431	551	27.84%
Lincoln County	14,573	18,106	24.24%
Cora	76	142	86.84%
Daniel	89	150	68.54%
Bondurant	155	93	-40.00%
Boulder	30	170	466.67%
Pinedale	1,412	2,030	43.77%
Marbleton	720	1,094	51.94%

Area	2000	2010	Percent Change 2000- 2010
Big Piney	408	552	35.29%
Sublette County	5,920	10,247	73.09%

Source: US Census 2011

Figure 1 shows the increase in farm proprietors in Sublette County from 2000-2010. Farm proprietorship has increased from 235 in 2000 to 288 in 2009 (BEA 2010). While this may also be an indication that ranches are becoming smaller, it does show that it is an important component of attracting new people to the area.

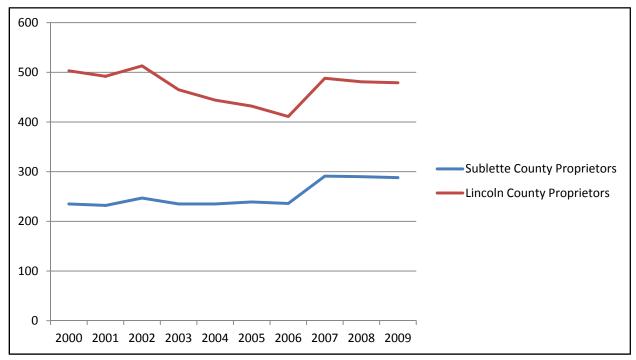


Figure 1: Number of Farm Proprietors in Sublette County and Lincoln County from 2000-2010

While the number of farm proprietors has increased over the last 10 years, the cash receipts from livestock and products has decreased as a portion of total farm receipts.

Table 3 shows the cash receipts from farming from 2005-2009. IMPLAN's 2010 dataset shows in Sublette County, livestock sales have consistently accounted for approximately 90% of total farm sales. While this amount accounts for less the 2% of the total output of \$1.4 billion in Sublette County, it is an integral part of the local communities (MIG 1999). The agricultural base of the communities has remained constant during the last century and will hopefully remain after the oil and gas exploration and drilling have vacated the region.

Table 3: Farm Sales in Lincoln and Sublette County from 2005-2009 (current dollars)

Description	2005	2006	2007	2008	2009
Lincoln County					
Cash receipts from marketing	\$28,241,000	\$28,515,000	\$26,872,000	\$25,610,000	\$26,427,000
Cash receipts: livestock and products	\$23,768,000	\$23,047,000	\$21,420,000	\$18,379,000	\$19,030,000
Cash receipts: crops	\$4,473,000	\$5,468,000	\$5,452,000	\$7,231,000	\$7,397,000
% of Receipts from Livestock and Products	84.16%	80.82%	79.71%	71.76%	72.01%
Sublette County					
Cash receipts from marketing	\$33,385,000	\$35,039,000	\$32,242,000	\$24,391,000	\$26,714,000
Cash receipts: livestock and products	\$30,964,000	\$32,347,000	\$29,781,000	\$21,778,000	\$23,933,000
Cash receipts: crops	\$2,421,000	\$2,692,000	\$2,461,000	\$2,613,000	\$2,781,000
% of Receipts from Livestock and Products	92.75%	92.32%	92.37%	89.29%	89.59%

Source: BAE 2011 CA45 Farm Income and Expenses

3. SCENARIOS ANALYZED

Three scenarios were analyzed based on geographic definitions of Sage-grouse habitat:

Scenario A – Governors Sage-grouse core habitat (Version 3)

Scenario B – Current Sage-grouse distribution

Scenario C – Habitat from the Pinedale RMP ROD

Each of these scenarios was analyzed with the interim management measures in place for 1 year, 5 years, 10 years, and the life of the plan. The number of allotments impacted under each alternative based on GIS data is detailed in Table 4. Also in Table 4 is a comparison of the potential yearly impacts under each alternative, assuming that the requirements will remain in effect for at least 5 years and BLM AUMs are necessary for ranching to remain viable. These numbers can also be found in Table 7. A complete description, map, and impact analysis of each scenario can be found in Appendix A.

Table 4: Summary of Scenarios

	Scenario A	Scenario B	Scenario C
Impacts	Core Area (ver. 3)	Current Distribution	Habitat from ROD
Number of allotments impacted	149	212	133
Number of permits impacted	214	296	204
Number of BLM AUMs lost	57,046	81,471	63,148
Number of total AUMs lost in the Planning Area	70,014	102,585	75,882
Number of unusable Forest Service AUMs	43,904	43,904	43,904
Potential Total AUMs lost	113,918	146,489	119,786
Yearly direct output lost per AUM	\$103.78	\$103.78	\$103.78
Potential yearly direct output lost in cattle output	\$11,822,407	\$15,202,644	\$12,431,368
Yearly total output lost per AUM	\$183.41	\$183.41	\$183.41
Yearly total output lost (including indirect and induced impacts)	\$20,893,695	\$26,867,575	\$21,969,910
Yearly total employment lost per AUM	0.002026	0.002026	0.002026
Yearly total employment lost	231	297	243

Variance between Table 4 and Table 7 Due to Rounding

4. IMPACTS

If approved, the interim grazing requirements would measurably impact the economies of the region during the 1st year and for subsequent years if the requirements remain in place. The impact to cattle ranching output and employment would depend on how long the perceived policies would be in place. The impacts should be considered over the following time periods: 1 year, 5 years, 10 years, and 20 years. The 1 year time period provides a basis for the impacts to the local communities. The 5 year period is the probable interim requirement period. The 10 year period coincides with the allotment management plan review period. And the 20 year period covers the life of the RMP.

If the restrictions were viewed as being for only 1 year then the majority of the ranchers would find a way to compensate for that year. However, if ranchers believe the restrictions are for multiple years, or indefinitely, many may choose to cease operations, even in the 1st year. In 2008 two researchers, Brunson and Huntsinger (Brunson and Huntsinger 2008), completed two case studies of ranchers in California and, "one-third to one-half stated that they would have to sell their ranches if they lost their public allotments, because the operation would no longer be viable." Once the ranches are sold, they most likely would be subdivided as they are worth more as residential developments than they are as agricultural land. There are several studies that show the current trend of fragmentation of ranch lands into smaller ranchettes or residential developments. Either of these two scenarios results in decreased wildlife habitat, including Sage-grouse habitat. For a review of the research in this area see Appendix C – Literature Review.

5. POTENTIAL YEARLY ECONOMIC IMPACTS

Table 5 shows the range of potential impacts to output and employment in Sublette County and Lincoln County if the interim grazing requirements were in place for a year and then lifted. The region would potentially lose over \$6 million in cattle ranching output and over \$10 million in total output. Employment would potentially be reduced by 68 cattle ranching and 120 total full-time equivalent positions.

Table 5: Potential 1 Year Impact to Output and Employment by Scenario (2010 \$s)

	Scenario A	Scenario B	Scenario C	
Impact	Core Area (ver. 3)	Current Distribution	Habitat from ROD	
Output				
Direct	\$4,811,896	\$6,187,695	\$5,059,761	
Indirect	\$2,538,256	\$3,263,985	\$2,669,003	
Induced	\$1,153,777	<u>\$1,483,661</u>	<u>\$1,213,209</u>	
Total	\$8,503,930	\$10,935,341	\$8,941,973	
Employment				
Direct	53.03	68.19	55.76	
Indirect	29.83	38.36	31.37	
Induced	<u>11.07</u>	<u>14.23</u>	<u>11.64</u>	
Total	93.93	120.78	98.77	

If the ranchers assumed that the interim requirements would be in place for up to 5 years the potential impacts for each alternative are shown in Table 6. In this case, the potential yearly loss would be close to \$9 million in cattle output and over \$15 million in total output. Employment would be reduced by almost 100 cattle ranching and 175 total full-time equivalent jobs.

Table 6: Potential Yearly Impacts if Ranchers Assume Restrictions will be in place for 2-5 years (2010 \$s)

	Scenario A	Scenario B	Scenario C	
Impact	Core Area (ver. 3)	Current Distribution	Habitat from ROD	
Output				
Direct	\$6,871,534	\$8,891,718	\$7,225,492	

	Scenario A	Scenario B	Scenario C
Impact	Core Area (ver. 3)	Current Distribution	Habitat from ROD
Indirect	\$3,647,474	\$4,690,346	\$3,835,358
Induced	<u>\$1,657,978</u>	<u>\$2,132,021</u>	\$1,743,382
Total	\$12,176,986	\$15,714,085	\$12,804,231
Employment			
Direct	76.20	97.99	80.13
Indirect	42.87	55.13	45.08
Induced	<u>15.90</u>	<u>20.45</u>	<u>16.72</u>
Total	134.97	173.57	141.93

If the reductions were implemented for longer than 5 years, the ranchers that viewed them as vital to their operation would most likely discontinue operations. With some ranches ceasing to operate the yearly impacts in Table 7 would mostly likely become permanent reductions in cattle output. The reduction in direct cattle output from the loss of AUMs would be over \$15 million dollars and the total reduction in output close to \$27 million dollars. In addition, more than 150 jobs in cattle ranching would be lost and almost 300 total jobs would be lost.

Table 7: Potential Yearly Impacts if Ranchers Believe Reductions Would Last for More Than 5 Years (2010 \$s)

	Scenario A	Scenario B	Scenario C
Impacts	Core Area (ver. 3)	Current Distribution	Habitat from ROD
<u>Output</u>			
Direct	\$11,822,829	\$15,203,167	\$12,431,832
Indirect	\$6,236,495	\$8,019,610	\$6,557,742
Induced	\$2,834,831	\$3,645,355	\$2,980,855
Total	\$20,894,155	\$26,868,132	\$21,970,428
Employment			
Direct	130.29	167.54	137
Indirect	73.3	94.26	77.08
Induced	<u>27.19</u>	34.97	<u>28.59</u>

	Scenario A	Scenario B	Scenario C
Impacts	Core Area (ver. 3)	Current Distribution	Habitat from ROD
Total	230.78	296.77	242.67

Variance between Table 4 and Table 7 Due to Rounding

In 2009 the total livestock sales were \$23,933,000 in Sublette County and \$19,030,000 in Lincoln County. Approximately 75% of the AUMs lost are attributable to Sublette County; therefore the potential loss in cattle output per year would be \$11,402,375 for Sublette County, which would equate to half of the cattle output in the county.

6. IMPACTS OVER TIME

Cattle ranching and public land grazing are an integral part of the communities of the PFO Planning Area and the Rocky Mountain West. The proposed reductions to public land grazing will not allow adequate time for the home ranches to grow hay to support their herds during the time public lands grazing is not available. While adjustments may be possible for one or several years, the majority of ranches would not be able to survive given their current size and hay requirements. Many ranchers, already operating at a loss and supplementing ranch income with outside wages would opt to sell the ranch. Ranch land is often worth more as development lands and once sold for development is lost to ranching (Synder 2006). This would prohibit ranching from ever returning to the same level. The loss of ranches will also mean the loss of businesses that exist to support the ranches. If there are not enough ranches these businesses will be forced to close creating a ripple effect throughout the communities. Most likely ranch land would be divided into smaller sections which is detrimental to wildlife habitat as well as the ranching customs of Sublette County.

Unlike oil and gas development ranching is not a boom and bust industry. Ranching and agriculture has contributed to the stability and economics of the area for over 100 years. To undermine this culture by placing the interim grazing restriction on lessees would change the traditions and culture of the area forever.

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APPENDIX A

Detail of Scenarios

Based on Greater Sage-grouse habitat and geographic information systems (GIS) datasets, three possible scenarios were developed for the implementation of the interim management requirements. This appendix contains detailed GIS and economic data for each of the three alternatives. Each section contains a brief description of the scenario, a map showing the impacted areas, tables detailing the potential economic impacts, and a table listing the specific allotments impacted by the alternative.

The potential economic impacts are broken into three tables. The first table in each section contains the economic impact of the loss of the Bureau of Land Management (BLM) animal unit months (AUMs) within the impacted allotments. The second table includes the state and private AUMs that are contained within the allotments which would be unusable due to access issues. The interim management requirements prohibit grazing a second time, including trailing. This requirement would make forest service AUMs unusable for many permittees, therefore the third table includes forest service AUMs that have common owners.

Within each table of economic impacts there are three columns. The first column contains the value of output and employment lost using the average value of BLM AUMs. This is the impact of a BLM AUM if the loss of the AUM did not impact the production of the ranch. The second column contains the potential output and employment lost if the ranch is dependent on the BLM AUMs for production, meaning, if the ranch has to change its production structure (such as decreasing herd size), the value of each BLM AUM lost is greater than the average value. The last column contains the potential output and employment lost if the rancher is forced to quit ranching with the loss of the AUMs. (For a more detailed description see Appendix B: Methodology and Assumptions).

Table 1 below contains a summary of the allotments and AUMs impacted under each alternative and the potential yearly impacts to output and employment in the region.

Table 1: Comparison of Alternatives

	Scenario A	Scenario B	Scenario C
Impacts	Core Area (ver. 3)	Current Distribution	Habitat from ROD
Number of allotments impacted	149	212	133
Number of permits impacted	214	296	204
Number of BLM AUMs lost	57,046	81,471	63,148
Number of total AUMs lost in the Planning Area	70,014	102,585	75,882
Number of unusable Forest Service AUMs	43,904	43,904	43,904
Potential Total AUMs lost	113,918	146,489	119,786
Yearly direct output lost per AUM	\$103.78	\$103.78	\$103.78
Potential yearly direct output lost	\$11,822,407	\$15,202,644	\$12,431,368
Yearly total output lost per AUM	\$183.41	\$183.41	\$183.41
Yearly total output lost	\$20,893,695	\$26,867,575	\$21,969,910
Yearly total employment lost per AUM	0.002026	0.002026	0.002026

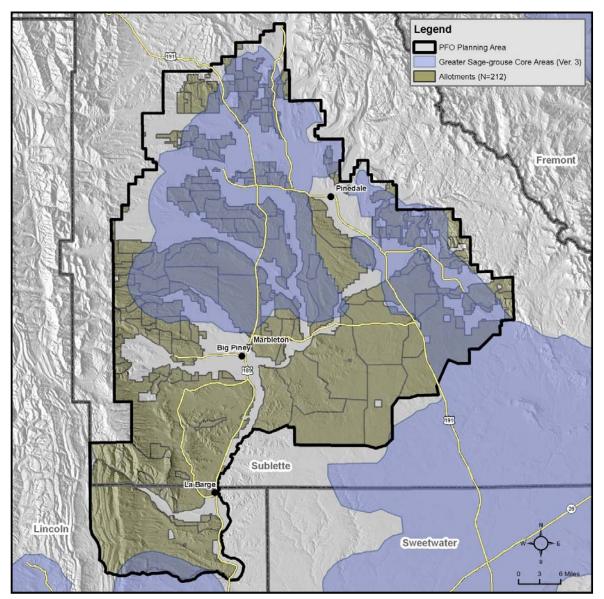
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	Scenario A	Scenario B	Scenario C
Impacts	Core Area (ver. 3)	Current Distribution	Habitat from ROD
Yearly total employment lost	231	297	243

Scenario A – Core Area (ver.3)

Description and Map of Scenario A

Scenario A uses the Wyoming Governor's Greater Sage-grouse Core Areas Version 3. GIS was utilized to overlay the grazing allotments with the Greater Sage-grouse Core Areas. Map 1 below presents the overlap between the Greater Sage-grouse Core Areas and the 212 allotments in the Pinedale Field Office (PFO).



Map 1 Scenario A

Economic Impacts

Table 2: Potential yearly loss in output and employment from 57,046 BLM AUMs Lost

	Average BLM AUM	Ranch Production BLM AUM(1)	Ranch Viability BLM AUM(1)
Output			
Direct	\$2,409,623	\$3,441,015	\$5,920,444
Indirect	\$1,271,067	\$1,826,523	\$3,123,010
Induced	\$577,770	\$830,255	<u>\$1,419,580</u>
Total	\$4,258,459	\$6,097,792	\$10,463,035
Employment			
Direct	26.55	38.16	65.24
Indirect	14.94	21.47	36.71
Induced	<u>5.54</u>	<u>7.96</u>	<u>13.62</u>
Total	47.04	67.59	115.57

Table 3: Potential yearly loss in output and employment from 70,014 AUMs lost in the Planning Area

	Average BLM AUM	Ranch Production BLM AUM(1)	Ranch Viability BLM AUM(1)
Output			
Direct	\$2,957,391	\$4,223,244	\$7,266,311
Indirect	\$1,560,012	\$2,241,737	\$3,832,950
Induced	\$709,111	<u>\$1,018,993</u>	<u>\$1,742,287</u>
Total	\$5,226,515	\$7,483,975	\$12,841,547
Employment			
Direct	32.59	46.83	80.07
Indirect	18.34	26.35	45.05
Induced	<u>6.80</u>	<u>9.77</u>	<u>16.71</u>
Total	57.73	82.96	141.84

Table 4: Potential yearly loss in output and employment from 113,918 AUMs lost in the Region

	Average BLM AUM	Ranch Production BLM AUM(1)	Ranch Viability BLM AUM(1)
<u>Output</u>			
Direct	\$4,811,896	\$6,871,534	\$11,822,829
Indirect	\$2,538,256	\$3,647,474	\$6,236,495
Induced	\$1,153,777	<u>\$1,657,978</u>	<u>\$2,834,831</u>
Total	\$8,503,930	\$12,176,986	\$20,894,155
Employment			
Direct	53.03	76.20	130.29
Indirect	29.83	42.87	73.30
Induced	<u>11.07</u>	<u>15.90</u>	<u>27.19</u>
Total	93.93	134.97	230.78

Table 5 Allotments Impacted Under Scenario A

	nts Impacted Under Scenario A							Total													
Allotment ID	Allotment Name	# of Permittees	# of Permittees Impacted	Permitted BLM AUMs	Permitted BLM AUMs Impacted	State	Total Permitted AUMs	Permitted AUMs	Grazing - Start Date	Grazing - End Date	# of Days	New Grazing Start Date	New Grazing End Date	# of New Days	% Days Lost	AUMs Lost	Adjusted # of New Days (1)	Adj % Days Lost	Adj AUMs Lost	Total AUMs lost in the Planning Area	County
2061	Eubank South LaBarge Individual	1	. 0	80	0	21	128	Impacted	10/16	11/14	28									0	Lincoln
	LaBarge Creek Ranch Individual	1	. 0	42	0		42	(9/16	10/15	29									0	Lincoln
	Bondurant Individual	1		10			10		10/15	11/14	29									0	Lincoln
	Yose Individual	1		150			150		8/26	9/30	34				100.00-	1000		100.000	1200	0	Lincoln
	North LaBarge Bridger Teton Forest Service North LaBarge Common	1		1200 14500		1621	1200 19398		8/1 5/16	10/5 10/15	64 149			0	100.00%	1200	C	100.00%	1200	1200	Lincoln Lincoln
	Fox LaBarge Individual	1		14300		1021	19398		5/10	10/15	164									0	Lincoln
12201	Upper North LaBarge Individual	1		1985		96	2109		5/15	9/30	135									0	Lincoln
	Viola Individual	1		81	0		226		5/15	9/14	119									0	Lincoln
	South LaBarge Common	7	7	10107		1205	12124		5/1	10/31	180	6/20	7/31	41		7805	41		7805	9362	Lincoln
	Fontenelle Meadow Individual	1	1	56			56			11/30	209	6/20	7/31	41		45			45	45	
	Cottonwood Meadows Circle 9 Individual	1	. I	236		13	1036 89			2/28 6/10	193			0	100.00% 100.00%	236 63		100.00%	236 63	1036	Sublette Sublette
	Gilligan Individual	1	1	107		13	257			10/27	42.			0	100.00%	107	0	100.00%	107	257	Sublette
	Clark-Bloom Common	1	1	239			264			6/20	34			0	100.00%	239	C	100.00%	239	264	
2057	Dack Individual	1	. 1	90	90		90	90	8/1	8/31	30			0	100.00%	90	C	100.00%	90	90	Sublette
	Ryegrass Isolated	1	1	18		83	143			6/8	13			0	100.00%	18	C	100.00%	18	143	Sublette
	School Section Individual	1	1	158		40	210			10/15	14			0	100.00%	158	C	100.00%	158	210	
	South Piney Ranch Individual Johnson Place Meadows	1	C	92	0		92 45		9/1 9/16	10/15 10/15	29									0	Sublette Sublette
	South Piney Place Meadows	1		30	0		39		9/16	10/15	29									0	Sublette
	East Fork River Trail	1	. 1	. 3	3		3	3	5/1	5/31	30			0	100.00%	.3	C	100.00%	3	3	Sublette
	South Ridge Soaphole Common	2	. 2	97	97	0	154	154		6/15	40			0	100.00%	97	C	100.00%	97	154	
	Lower Red Canyon Individual	2	2	101			183			9/30	17			0	100.00%	101	C	100.00%	101	183	Sublette
	Piney Individual	1		80			80		9/1	9/30	29				100			100.77		0	Sublette
	Lower Horse Creek Individual	1	1	255			255			6/8	16			0	100.00%	255	0	100.00%	255	255	
	Upper Horse Creek Individual Home Individual	1	. I	109 138			179 146			5/31 5/30	29			0	100.00% 100.00%	109 138		100.00%	109 138	179 146	Sublette Sublette
	Daniel "Y" Individual	1	1	107			154			6/15	29			0	100.00%	107		100.00%	107	154	Sublette
	Miller Daniel Ridge	1	1	50			50			6/8	28			0	100.00%	50	0	100.00%	50	50	
	Miller Piney Individual	1	1	42	42		42		6/1	6/10	9			0	100.00%	42	C	100.00%	42	42	
	Silver Creek Individual	1	. 1	65			445			9/15	44			0	100.00%	65	C	100.00%	65		
	Piney Bridge Individual	1	1	131		55	200			6/4	29			0	100.00%	131	C	100.00%	131	200	
	Noble Cora Peak Common	2	2 2	300			390 90			6/19	29			0	100.00%	300	C	100.00%	300	390	Sublette
	O'Neil Individual West Cora Peak Individual	1		273			524		5/16 5/16	6/15 6/9	29			0	100.00%	273	C	100.00%	273	524	Sublette Sublette
	Q5 Soaphole	1	1	566			785			6/20	34			0	100.00%	566		100.00%	566	785	
	Spence Place Individual	1		8	0		8	(5/1	5/31	30			Ů	100.0070	200		100.0070	200	0	Sublette
	Horse Creek Bluff Individual	1	. 1	12	12		12	12	5/16	6/15	29			0	100.00%	12	C	100.00%	12	12	Sublette
	Butte Individual	0	0	7	7		7	7	5/1	5/15	14			0	100.00%	7	C	100.00%	7	7	Sublette
	Horse Creek Road Individual	1		43	-		43		10/1	12/15	74						_			0	Sublette
	Cora Y Common	1	1	120			125			6/14	19			0	100.00%	120	C	100.00%	120	125	
	New Fork Individual Boulter Pasture	1		302	2		361	2	5/10 11/1	6/20 11/30	40 29			0	100.00%	2	C	100.00%	2	2	Sublette Sublette
	Hay Gulch	1	1	75	75		75	75	5/16	5/29	13			0	100.00%	75	0	100.00%	75	75	Sublette
	Section 18 Individual	1	C	26	0		200	(10/1	11/30	59				2000070	7.0		20010070	, ,	0	Sublette
	Marincic Mesa Individual	1	. 1	350	350		355			6/15	35			0	100.00%	350	C	100.00%	350	355	
	Bird Individual	1		14	•	27	52	,	5,20	6/19	29									0	Sublette
	Cottonwood Gap Individual	1	1	90			155			5/30	29			0	100.00%	90		100.00%	90		Sublette
	Cora Road Individual 40 Rod Common	1	. 1	542			87 542			6/15 6/8	14 20			0	100.00% 100.00%	42 542		100.00%	42 542	87 542	Sublette Sublette
	Fayette Individual	1	1	270			276			6/15	29			0	100.00%	270		100.00%	270		Sublette
	CB Holding Pen	1	1	9	9		9	2/0	7/3	7/3	1	7/3	7/3	1	0.00%	0	C	100.00%	9	9	Sublette
2156	Sand Draw Allotment	3	3	2324	2324		2324	2324	5/1	6/21	50	6/20	6/21	1	98.00%	2278		100.00%	2324	2324	Sublette
	5-Acre Pasture Individual	1		12			12		5/22	6/21	29									0	Sublette
	Blue Rim Desert	4	4	2826			2826			6/21	50	6/20	6/21	1	98.00%	2769	C	100.00%	2826		Sublette
	Blue Rim Individual Mount Airy Common	1	. 1	3258		199	3645			6/23	43	6/20	6/23	3	93.02%	3031	0	100.00%	3258		Sublette
	Mount Airy Common Muddy Creek Individual	4	4	757	757		758 124		5/16 5/11	6/25 6/25	39	6/20	6/25	5	87.18%	660	C	100.00%	757	758	Sublette Sublette
	Jory Individual	1		50			61		7/1	7/6	5									0	Sublette
	Webb Draw Pasture	1	1	417			708			6/25	35	6/20	6/25	5	85.71%	357	C	100.00%	417	708	
2158	Canyon Ditch Individual	1		125		40	165	165	6/9	6/25	16	6/20	6/25	5	68.75%	86	C	100.00%	125	165	
12107	J&K Daniel Ridge	1	. 1	47	47		61	61		6/25	29	6/20	6/25	5	82.76%	39		100.00%	47	61	
	Beaver Creek Meadow Individual	1		20			20		6/15	6/28	13									0	Sublette
	Dan Budd Deer Hill Individual	1		293			305		5/16	6/30	44									0	Sublette
	Adjacent to Ranch Individual	1		26	-	10	144		5/16	6/30	44		6/20	10	77 270	520	10	77.070	520	0	Sublette
	Deer Hills Individual Dead Indian Dome Individual	1	. I	698		10	708 461			6/30 6/30	44	6/20 6/20	6/30 6/30	10 10	77.27% 75.00%	539 308	10	77.27%	539 308	547 346	
	Bench Corral Individual	1	1	3170	3170	73	3284			6/30	40	6/20	6/30	10	79.59%	2523	10	73.00%	2523	2614	
	Horse Creek Pasture #2	1	1	350		5	300			6/30	59		6/30	10		291	0	100.00%	350	300	
	Fox-Yose Common	2	2 0	661		62	773		5/16	6/30	44									0	Sublette
	Hittle Individual	1	1	95	95		95	95	5/1	6/30	59	6/20	6/30	10	83.05%	79	10	83.05%	79	79	Sublette
2098	McKinsey Individual	1	1	50	50		68	68		8/20	29	7/21	7/31	10	65.52%	33	10	65.52%	33	45	Sublette
	Jewett Rye Grass Individual			440	440		440	440	5/22	6/30	38	6/20	6/30	10	73.68%	324	10	73.68%	324	22.1	Sublette

			# of Parmittees	Permitted BLM	Permitted BLM		Total	Total	Grazing -	Grazing - End	# of	New	New	# of New	% Days	AUMs	Adjusted # of	Adj % Days	Adj	Total AUMs lost in the	
Allotment ID	Allotment Name	# of Permittees	Impacted	AUMs	AUMs Impacted	State	Permitted AUMs	Permitted AUMs Impacted	Start Date	Date	Days	Grazing Start Date	Grazing End Date	Days	Lost	Lost	New Days (1)	Lost	AUMs Lost	Planning Area	County
2143	Frindstone Soaphole	1	1 1	586		73	854	1mbacted 854	5/10	6/30	50	6/20	6/30	10	80.00%	469		100.00%	586		Sublette
	seaver-Horse Creek Individual		1 1	584		1.7	800	800		6/30	29	6/20	6/30	10	00.00_70	383		65.52%	383		
	Chalk Butte Common Grodie Draw Individual		3 3	3 244		15	268 814	268 814		6/30 6/30	50 45	6/20 6/20	6/30 6/30	10	80.00% 77.78%	195 299		100.00% 77.78%	244 299		
	Merna Horse Creek Individual	1	1 1	1 65			189	189		6/30	29	6/20	6/30	10	65.52%	43		65.52%	43		Sublette
	tud Horse Common	3	3	2106		213		0	5/1	6/30	59									0	Sublette
	remont Butte Common	(6 6	5 2410		92	2568	2568		6/30	54	6/20	6/30	10	81.48%	1964		100.00%	2410	2568	
	ast Cora Road Individual ower Pasture Individual		1 1	1 14 1 284			14 288	14 288		6/30 6/30	29	6/20 6/20	6/30 6/30	10	65.52% 65.52%	186	10	65.52% 65.52%	186	189	Sublette Sublette
	Desert Land Entry (DLE) Individual		1 1	75	75		75	75		6/30	45	6/20	6/30	10	77.78%	58		77.78%	58	58	
	Jpper Bench Corral Common	3	3	3 2009	2009	44		2063		6/30	50	6/20	6/30	10	80.00%	1607	0	100.00%	2009	2063	
	Forthwest Square Top Individual	1	1 (800		14		0	5/1	6/30	59									0	Sublette
	McNinch Deer Hills Individual rice-Beecher Creek		1 1	1 252			252 195	252 195		6/30 6/30	39 29	6/20 6/20	6/30 6/30	10	74.36% 65.52%	187 33		74.36% 100.00%	187 50	187 195	
	Aspen Ridge Individual		1 1	1 1692			939	939		6/30	52		6/30	10		1367			1367		
	leifer Pasture Individual	1	1 1	1 86			86	86		6/30	29	6/20	6/30	10		56		65.52%	56		
	Soulder Lake Common	4	4 4	4 835			861	861		6/30	29	6/20	6/30	10	65.52%	547		100.00%	835		
	ander Cutoff Deer Hills Common		1 1	233		27 68	216 814	216	5/11 5/20	6/30 7/1	49	6/20	6/30	10	79.59%	185	0	100.00%	233	216	Sublette Sublette
	Iorse Creek Isolated Tract	1	1 () 35		08	35	0	7/20	11/1	101									0	Sublette
	pade Individual		1 1	688	-		1604	1604		7/2	31		7/2	12	61.29%	422	12	61.29%	422	983	
	Chapel Individual		1 1	257		55		362		7/4	49		7/4	14	71.43%	184	14	71.43%	184	259	
	Camp Creek Individual Sast of DLE Individual			715			782 277	0	7/17 5/15	9/30 7/4	73 49									0	Sublette Sublette
	quare Top Common		7	7 4470		237		4731		7/4	59	6/20	7/5	15	74.58%	3334	15	74.58%	3334	3528	
	rish Canyon Tracts Individual		1 1	1 30			30	30		7/5	59	6/20	7/5	15		22			22	22	
	remont Butte Individual	1	1 1	1 417		60		477		7/5	60	6/20	7/5	15	75.00%	313	15	75.00%	313	358	
	pringman Creek Individual	1	1 (0 150 2 792		412	155	1244	7/16	9/14	58	6/20	7/5	1.5	76,56%	606	15	76,56%	606	952	Sublette
	ast Fork Common lickelson Bray Common	4	2 2	2 792		413	1244 287	1244 287		7/5 7/5	64 24	6/20 6/20	7/5 7/5	15	37.50%	606 89		37.50%	606	952	Sublette Sublette
	Lound Valley Ryegrass Individual	1	1 1	1 1616		31		1647		7/5	50	6/20	7/5	15		1131			1131	1153	
	ish Creek Individual (FW)	1	1 (168			1687	0	6/20	7/7	17									0	Sublette
	Iorse Creek-Ryegrass		1 1	1 449		25	449	449		7/7	22		7/7	17	22.73%	102	17	22.73%	102	102	
	Muleshoe ower Bench Corral Common		2 2	2 2635		26 120	522 2774	2774	5/10 5/10	7/9 7/10	59 60		7/10	20	66.67%	1757	20	66.67%	1757	1849	Sublette Sublette
	ohnson Ridge Individual	1	1 (165		120	165	0	5/26	7/10	44		7/10	20	00.0770	1/3/	20	00.0770	1737	0	Sublette
2038 B	Buyer Horse Creek Individual	1	1 1	351			418	418		7/11	44	6/20	7/11	21	52.27%	183		52.27%	183	219	Sublette
	Cottonwood Common	1	1 1	1 345		2	371	371		7/11	25	6/20	7/11	21		55			55	59	Bublette
	Daniel Ridge Individual Jauzer Marsh Creek Individual		1 1	1 10 1 166			10 296	10 296		7/14 7/15	59 29	6/20 6/20	7/14 7/15	24 25		23			23	41	Sublette Sublette
	Silchrist DLE Individual	2	2 2	2 42	42		42	42		7/15	60	6/20	7/15	25		25			25		
	rice Horse Creek Individual	1	1 1	1 40	+0		75	75	5/16	7/15	59	6/20	7/15	25	57.63%	23	25	57.63%	23	43	Buorette
	outh Piney Individual	1	1 (141			82	0	6/1	7/15	44		5/4.5	2.5	57. 5204	50.4	25	55.500	50.4	0	Sublette
	oaphole Common Beaver Creek Individual		3 3	1014			1849 129	1849	5/16 7/1	7/15 7/28	59 27		7/15	25	57.63%	584	25	57.63%	584	1066	Sublette Sublette
	Cora Peak Individual	1	1 1	1 150			175	175		7/30	29		7/30	29	0.00%	0	29	0.00%	0	0	Sublette
	hree Island Individual	1	1 1	1 120	120		121	121		7/30	29	7/1	7/30	29	0.00%	0	29		0	0	Sublette
	Soulder Creek Tracts	1	1 1	1 28	20		28	28	77.1	7/30	29	7/1	7/30	29	0.0070	0	29	0.00%	0	0	Sublette
	uman Individual ish Creek Individual (DB)		1 1	1 600 0 150			600 150	600	5/20 7/1	7/19 8/15	59 44	6/20	7/19	29	50.85%	305	29	50.85%	305	305	Sublette Sublette
	Maki Creek Individual		1 (135			135	0	7/1	8/15	44									0	Sublette
	Jpper Muddy Individual	1	1 1	1 1874		200		2124		10/15	104	7/1	7/31	30	71.15%	1333	30	71.15%	1333	1511	
	eecher Individual		1 1	306			768	768		9/30	89		7/31	30	00.2770	203		001-770	203		
	ohnson Huhtah Individual aBarge Individual		1 1	1 136		94	444 421	444	7/1 7/1	10/14 9/30	103		7/31	30	70.87%	96	30	70.87%	96	315	Sublette Sublette
	sall Horse Creek Individual		1 1	1 87			87	87		7/31	30	7/1	7/31	30	0.00%	0	30	0.00%	0	0	Sublette Sublette
	Cranor Building Pasture	1	1 1	1 11			11	11		7/31	30	7/1	7/31	30		0	30		0	0	Sublette
	all Individual	1	1 1	1 107			668	668		9/30	89		7/31	30	00.2770	71		00.2770	71		
	outh Horse Creek Individual		1 1	1 42			162	162		9/30	89		7/31	30	66.29%	28	30	66.29%	28	107	
	outh Horse Creek Individual oda Lake Common		2 2	2 156	-		10 156	156	// 1	8/30 9/15	59 74	7/1	7/31	30	59.46%	93	30	59.46%	93	93	Sublette Sublette
	teele Individual		1 1	182			184	184	7/1	7/31	30	7/1	7/31	30		0	30	0.00%	0	0	Sublette
	ig Sandy Individual	1	1 1	1 30			30	30		11/30	149		7/31	30		24			24		
	Vinkelman ded Canyon Common		1 1	98 1075		120	246 1350	246 1350		8/31 9/30	60 89		7/31 7/31	30		713			49 713		
	Les Canyon Common Les ervoir Pasture	1	1 1	1 220		120	81	1350 81		9/30 8/16	45		7/31	30		713		33.33%	713		
	outhwest Pasture Individual		1 1	1 59			89	89		7/31	30	7/1	7/31	30		0	30		0	0	Sublette
	iney Unit Fenced		1 (19			19	0	7/1	9/22	81									0	Sublette
	tar Corral Individual			62			113		7/1	8/15	44		7/21	20	CO 0004	501	22	CO 0001	501	0	Sublette
	Ora Stock Driveway Lyegrass Individual		1 1	1 854 1 242			877 247	877 247		10/5 7/24	94 59		7/31 7/24	30	00.0770	581 103		00.0770	581 103		
	pper Billie's Individual		1 1	2214			2231	2231		9/30	94	6/26	7/31	35	62.77%	1390		62.77%	1390		
2087 U	Jpper Post Individual	1	1 1	1 123	123		123	123	6/26	9/30	94	6/26	7/31	35	02.7770	77		02:7770	77	77	Sublette
	Chain Lakes Individual		1 1	265			266	266		7/31	35	6/26	7/31	35	0.00%	0	35	0.00%	0	0	Sublette
12104 L	ong Pasture Iorse Creek Individual		1 (352			766 296		6/25 6/10	10/15 7/30	110 50									0	Sublette Sublette

Allotment ID	Allotment Name	# of Permittees	# of Permittees Impacted Permitte		Permitted BLM AUMs Impacted	State	Total Permitted AUMs	Total Permitted AUMs Impacted	Grazing - Start Date	Grazing - End Date	# of Days	New Grazing Start Date	New Grazing End Date	# of New Days	% Days Lost	AUMs Lost	Adjusted # of New Days (1)	Adj % Days Lost	Adj AUMs Lost	Total AUMs lost in the Planning Area County
	Willow Lake Tracts	1	0	26			26	0	6/1	7/30	59									0 Sublette
	Signal Individual	1	0	178					6/1	10/31	150									0 Sublette
	Kismet Individual	1	0	76					6/1	10/31	150	- 10.0	= /0.1	- 11				47.00	10=	0 Sublette
	Bousman Common	2	2	755		105	755		5/15	9/15	120	6/20	7/31	41	65.83%	497	41	65.83%	497	497 Sublette
	Mesa Common West Individual	21	21	4701 525		197 16	5003 1112		5/5 6/16	11/5 9/15	180	6/20	7/31	41	77.22%	3630	41	77.22%	3630	3863 Sublette 0 Sublette
	South Desert Allotment	6	0	2631		348	3098		5/1	8/23	112									0 Sublette
	Pole Creek Individual	1	1	66		84	350			9/30	119	6/20	7/31	41	65.55%	43	41	65.55%	43	229 Sublette
	Fremont Lake Individual	1	0	29			94		6/1	9/30	119	0.20	,,,,,,					33.007.0		0 Sublette
2045	Watson Draw	1	0	416	0			0	6/1	10/31	150									0 Sublette
	Fall Creek Pasture	1	1	10	10		10		6/1	10/31	150	6/20	7/31	41	72.67%	7	41	72.67%	7	7 Sublette
	Burch Individual	1	1	37			37			8/21	110	6/20	7/31	41	62.73%	23	41		23	23 Sublette
	Cowley Tract	1	1	10			10			8/27	111	6/20	7/31	41	63.06%	6	41		6	6 Sublette
	Warren Bridge Individual	1	1	48			301 296			9/15	104	6/20	7/31	41	60.58%	29	41		29	
	Horse Creek Pasture #1 Reardon Canyon Common	2	0	74 1121		120	1347		6/1 5/10	9/15 9/9	104 119	6/20	7/31	41	60.58%	45	41	60.58%	45	179 Sublette 0 Sublette
	Guio Sections Individual	1	1	417		51	1668			8/10	55	6/20	7/31	41	25.45%	106	41	25.45%	106	425 Sublette
	Hansen Tract	1	0	14		31	46		5/1	11/30	209	0/20	7/31	71	23.7370	100	т.	23.4370	100	0 Sublette
	Rief Individual	1	1	66			66			7/31	60	6/20	7/31	41	31.67%	21	41	31.67%	21	21 Sublette
2094	Hicks Pinedale Individual	1	0	10	0		397	0	6/1	10/30	149									0 Sublette
2100	Dry Piney Individual	1	0	30	0		30	0	5/15	10/14	149									0 Sublette
	Todd Pasture	1	1	11			11			11/15	164		7/31	41	75.00%	8	41		8	8 Sublette
	Rathburn Individual	1	1	208			472			10/15	134	6/20	7/31	41	69.40%	144	41	69.40%	144	
	Hoback Rim Individual	1	0	25		2.1	3619		6/1	10/31	150	6/20	7/21	41	65.550/	200	4.1	65.550/	200	0 Sublette
	Scab Creek Individual Hot Spring Pasture Individual	1	1	607 32		24	889 32			9/30 10/15	119 135	6/20	7/31 7/31	41	65.55% 69.63%	398 22	41		398 22	583 Sublette 22 Sublette
	Noble Tracts Individual	1	1	36		100	136			9/15	119	6/20 6/20	7/31	41	65.55%	24			24	22 Busience
	Norris North Piney Individual	1	1	144		100	639			9/13	119	6/20	7/31	41	65.55%	94		00.000,0	94	
	Pine Creek Individual	1	0	20	0		66		6/1	10/30	149	0/20	7731	7.2	05.5570	- /1	1.	03.3370		0 Sublette
	Green River Unit Individual	1	1	40	40		63		6/1	7/31	60	6/20	7/31	41	31.67%	13	41	31.67%	13	20 Sublette
2169	North Hoback Rim Individual	1	0	113	0		113		6/15	9/15	90									0 Sublette
	North Beaver Tracts Individual	1	1	190			190			10/16	135	6/20	7/31	41	69.63%	132			132	132 Sublette
	Q5 Antelope Flat Individual	1	1	122			122			10/15	134	6/20	7/31	41	69.40%	85			85	00 20010111
	Hay Draw Individual	1	1	77			77			10/15	134	6/20	7/31	41	69.40%	53			53	53 Sublette
	Miller Home Place Individual Sandy Fenced Individual	1	1	30	24 30		24 2946			8/31 9/30	120 119	6/20 6/20	7/31 7/31	41	65.83% 65.55%	16 20			16 20	16 Sublette 1931 Sublette
	Muddy Corral Individual	1	1	195		29	288			10/31	166	6/20	7/31	41	75.30%	147	41		147	217 Sublette
	189 Muddy Meadow Individual	1	1	36		2)	36			10/31	179	6/20	7/31	41	77.09%	28			28	
	Fall Creek	1	1	70			166			8/31	90	6/20	7/31	41	54.44%	38	41		38	90 Sublette
2194	LaBarge Unit Individual	1	0	140	0	124	274	0	5/16	9/15	119									0 Sublette
	Beaver Tract Individual	1	0	48			48		5/16	9/15	119									0 Sublette
	James Ryegrass	1	1	728	728	100	828	828		7/31	60	6/20	7/31	41	31.67%	231	41		231	262 Sublette
	Webb Home Pasture	1	1	5	5		5	5	6/1	10/31	150	6/20	7/31	41	72.67%	4	41		4	4 Sublette
	Individual Fenced Sandy Upper Muddy Individual	1	1	11 39			11		5/1	10/15	164	6/20	7/31	41	75.00% 75.00%	30	41		29	8 Sublette
	Sandy Upper Muddy Individual Sandy Individual	1	1	14			47 14			10/15 8/15	164 104	6/20 6/20	7/31 7/31	41	60.58%	29	41		29	35 Sublette 8 Sublette
	Muddy Meadows	1	1	20			20			9/30	149	6/20	7/31	41	72.48%	14			14	
	Scattered Tracts	1	1	41			41			9/7	121		7/31	41	66.12%	27			27	
	North Pasture Individual	1	1	31			41			8/28	117		7/31	41	64.96%	20			20	
	West Fremont Ridge Common	2	0	293	0		293		5/15	9/24	129									0 Sublette
	Boulder Stock Driveway	1	1	55			96			10/30	164		7/31	41	75.00%	41	41	75.00%	41	
	West of Ranch Individual	1	0	130			260		5/16	8/31	105									0 Sublette
	Ditch Individual	1	1	19	19		19	19		9/1	76	6/20	7/31	41	46.05%	9	41	46.05%	9	9 Sublette
	New Fork Tract Isolated Alkali Draw	1	0	1556	0		1556	0	5/16 5/1	9/15 10/31	119 180									0 Sublette 0 Sublette
	Homestead Individual	1	1	1556			178			9/30	149	6/20	7/31	A1	72.48%	22	41	72.48%	32	129 Sublette
	Glascow Individual	1	1	24			187			8/30	119	6/20	7/31	41	65.55%	16			16	
	East Cora Road Meadow	1	1	64			64			7/31	60	6/20	7/31	41	31.67%	20			20	
	Fish Hatchery Individual	1	1	56			56			11/30	209		7/31	41	80.38%	45			45	
	Antelope Flat Common	2	2	533			481			8/31	76	6/20	7/31	41	46.05%	245			245	222 Sublette
	Isolated Tracts Individual	1	1	83			83			10/30	179	6/20	7/31	41	77.09%	64			64	
	North Rathburn	1	1	28			42			10/17	136	6/20	7/31	41	69.85%	20	-	69.85%	20	=> ====================================
	Totals	297	214	106,520	73,143	6,686	137,923	91,483	1							55,076		1	57,046	70,014 0

⁽¹⁾ Adjusted based on ranchers decision that there are not enough days to graze, therefore new days is adjusted to 0.

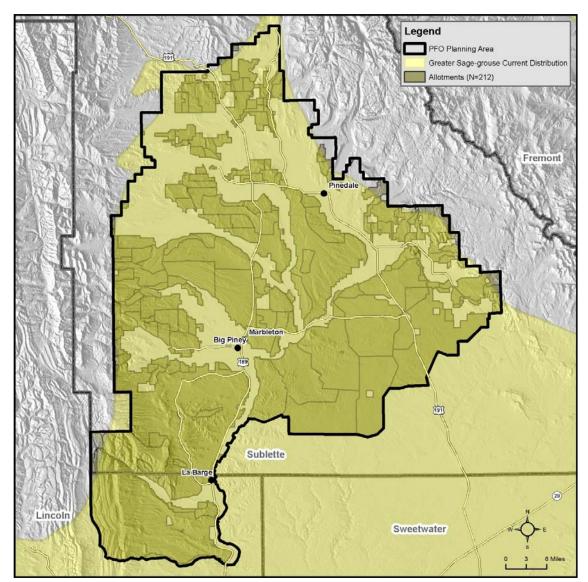
Not found on Allots_Joined but almost totals those on allots_joined that are not found on this sheet. Difference of 73.

Not impacted in this scenario

Scenario B - Current Sage-grouse Distribution

Description and Map of Scenario B

In 2004 the Western Association of Fish and Wildlife Agencies published the Conservation Assessment of Greater Sage-grouse and Sagebrush Habitats, the lead author was John Connelly. This comprehensive report on Greater Sage-grouse presented a map of the current and historic distribution. We analyzed the current distribution layer as Scenario B. Map 22 below presents the overlap between the current Sage-grouse distribution and the 212 allotments in the PFO.



Map 2 Scenario B

Economic Impacts

Table 6: Potential yearly loss in output and employment from $81,\!471$ BLM AUMs lost

	Average BLM AUM	Ranch Production BLM AUM(1)	Ranch Viability BLM AUM(1)
<u>Output</u>			
Direct	\$3,441,335	\$4,945,198	\$8,455,360

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Indirect	\$1,815,290	\$2,608,572	\$4,460,169
Induced	\$825,150	<u>\$1,185,740</u>	<u>\$2,027,392</u>
Total	\$6,081,775	\$8,739,511	\$14,942,921
Employment			
Direct	37.92	54.50	93.18
Indirect	21.34	30.66	52.42
Induced	<u>7.92</u>	<u>11.37</u>	<u>19.45</u>
Total	67.17	96.53	165.05

 $Table~7: Potential~yearly~loss~in~output~and~employment~from~102,\!585~AUMs~lost~in~the~Planning~Area$

	Average BLM AUM	Ranch Production BLM AUM(1)	Ranch Viability BLM AUM(1)
<u>Output</u>			
Direct	\$4,333,190	\$6,226,795	\$10,646,649
Indirect	\$2,285,741	\$3,284,609	\$5,616,065
Induced	\$1,038,995	<u>\$1,493,036</u>	<u>\$2,552,811</u>
Total	\$7,657,926	\$11,004,440	\$18,815,524
Employment			
Direct	47.75	68.62	117.33
Indirect	26.87	38.61	66.01
Induced	9.97	<u>14.32</u>	<u>24.49</u>
Total	84.58	121.55	207.82

Table 8: Potential yearly loss in output and employment from 146,489 AUMs lost in the Region

	Average BLM AUM	Ranch Production BLM AUM(1)	Ranch Viability BLM AUM(1)
<u>Output</u>			
Direct	\$6,187,695	\$8,891,718	\$15,203,167
Indirect	\$3,263,985	\$4,690,346	\$8,019,610

Induced	\$1,483,661	<u>\$2,132,021</u>	\$3,645,355
Total	\$10,935,341	\$15,714,085	\$26,868,132
Employment			
Direct	68.19	97.99	167.54
Indirect	38.36	55.13	94.26
Induced	<u>14.23</u>	<u>20.45</u>	<u>34.97</u>
Total	120.78	173.57	296.77

Table 9 Allotments Impacted Under Scenario B

Table 9 Allounei	nts Impacted Under Scenario B		D	C	Constant Ford	ш - е	New	New	# of	0/ D	BLM	A 354 3 # -6	A 4: 0/ D	Adj	T-4-1 ATIM- I4 :	
Allotment ID	Allotment Name	# of Permittees	Permitted BLM AUMs	Grazing - Start Date	Grazing - End Date	# of Days	Grazing	Grazing	New	% Days Lost	AUMs	Adjusted # of New Days (1)	Adj % Days Lost	AUMs	Total AUMs Lost in the Planning Area	County
2061	Eubank South LaBarge Individual	1	80	10/16	11/14	28	Start Date	End Date	Davs 0	100.00%	Lost 80	0	100.00%	Lost 80	128	Lincoln
2075		1	42	9/16	10/15	29			0	100.00%	42	0	100.00%	42		Lincoln
12125		1	10	10/15	11/14	29			0	100.00%	10	0	100.00%	10	10	Lincoln
12204		1	150	8/26	9/30	34			0	100.00%	150	0	100.00%	150		Lincoln
12223 2077	North LaBarge Bridger Teton FS North LaBarge Common	7	1200 14500	8/1 5/16	10/5 10/15	64 149	6/20	7/31	41	100.00% 72.48%	1200 10510	41	100.00% 72.48%	1200 10510	1,200	Lincoln Lincoln
2080		1	14300	5/10	10/15	164	6/20	7/31	41	75.00%	13	41		10310	32	
12201	Upper North LaBarge Individual	1	1985	5/15	9/30	135	6/20	7/31	41	69.63%	1382	41		1382		Lincoln
12202	Viola Individual	1	81	5/15	9/14	119	6/20	7/31	41	65.55%	53	41	65.55%	53	148	Lincoln
22005	South LaBarge Common	7	10107	5/1	10/31	180	6/20	7/31	41	77.22%	7805	41		7805	9,362	
22010	Fontenelle Meadow Individual Cottonwood Meadows	1	56	5/1	11/30	209	6/20	7/31	41	80.38%	45	41		45	45	
2042 2047	Circle 9 Individual	1	236 63	8/15 5/1	2/28 6/10	193 39			0	100.00% 100.00%	236 63	0	100.00% 100.00%	236 63		Sublette Sublette
2048	Gilligan Individual	1	107	9/15	10/27	42			0	100.00%	107	0	100.00%	107		Sublette
2053	Clark-Bloom Common	1	239	5/16	6/20	34			0	100.00%	239	0	100.00%	239		Sublette
2057	Dack Individual	1	90	8/1	8/31	30			0	100.00%	90	0	100.00%	90	90	Sublette
2060		1	18	5/25	6/8	13			0	100.00%	18	0	100.00%	18		Sublette
2066		1	158	10/1	10/15 10/15	14			0	100.00%	158	0	100.00%	158		Sublette
2074 2078	South Piney Ranch Individual Johnson Place Meadows	1	92 45	9/1 9/16	10/15	44 29			0	100.00% 100.00%	92 45	0	100.00% 100.00%	92 45		Sublette Sublette
2079	South Piney Place Meadows	1	39	9/16	10/15	29			0	100.00%	39	0	100.00%	39		Sublette
2082	East Fork River Trail	1	3	5/1	5/31	30			0	100.00%	3	0	100.00%	3	3	Sublette
2131	South Ridge Soaphole Common	2	97	5/5	6/15	40	•		0	100.00%	97	0	100.00%	97		Sublette
2137	Lower Red Canyon Individual	2	101	9/13	9/30	17			0	100.00%	101	0	100.00%	101		Sublette
2139 2144	•	1	80 255	9/1 5/22	9/30 6/8	29 16			0	100.00% 100.00%	80 255	0	100.00% 100.00%	80 255		Sublette Sublette
2144		1	109	5/1	5/31	30			0	100.00%	109	0	100.00%	109		Sublette
2146	**	1	138	5/1	5/30	29			0	100.00%	138	0	100.00%	138		Sublette
2147	Daniel "Y" Individual	1	107	5/16	6/15	29			0	100.00%	107	0	100.00%	107	154	Sublette
2148	· ·	1	50	5/10	6/8	28			0	100.00%	50	0	100.00%	50		Sublette
	Miller Piney Individual	1	42	6/1	6/10	9			0	100.00%	42	0	100.00%	42		Sublette
2154 2155		1	65 131	8/1 5/5	9/15 6/4	44 29			0	100.00% 100.00%	65	0	100.00% 100.00%	65 131		Sublette Sublette
2160	• •	2	300	5/20	6/19	29			0	100.00%	131 300	0	100.00%	300		Sublette
2163	O'Neil Individual	1	80	5/16	6/15	29			0	100.00%	80	0	100.00%	80	90	
2164	West Cora Peak Individual	1	273	5/16	6/9	23			0	100.00%	273	0	100.00%	273	524	
2174	Q5 Soaphole	1	566	5/16	6/20	34			0	100.00%	566	0	100.00%	566	785	Sublette
2179	*	1	8	5/1	5/31	30			0	100.00%	8	0	100.00%	8	8	Sublette
2189	Horse Creek Bluff Individual Butte Individual	1	12	5/16 5/1	6/15 5/15	29			0	100.00%	12 7	0	100.00%	12		Sublette
2191 2199		1	43	10/1	12/15	14 74			0	100.00% 100.00%	43	0	100.00% 100.00%	43		Sublette Sublette
2200		1	120	5/25	6/14	19			0	100.00%	120	0	100.00%	120		Sublette
12113	New Fork Individual	1	302	5/10	6/20	40			0	100.00%	302	0	100.00%	302	361	Sublette
12117	I .	1	2	11/1	11/30	29			0	100.00%	2	0	100.00%	2	2	Sublette
12126	-	1	75	5/16	5/29	13			0	100.00%	75	0	100.00%	75		Sublette
12128 12132	Section 18 Individual Marincic Mesa Individual	1	26 350	10/1 5/10	11/30 6/15	59 35			0	100.00% 100.00%	26 350	0	100.00% 100.00%	26 350		Sublette Sublette
12132		1	14	5/20	6/19	29			0	100.00%	350 14	0	100.00%	14		Sublette
12217		1	90	5/1	5/30	29			0	100.00%	90	0	100.00%	90		Sublette
12220		1	42	6/1	6/15	14			0	100.00%	42	0	100.00%	42		Sublette
22002		4	542	5/18	6/8	20	· · ·		0	100.00%	542	0	100.00%	542		Sublette
22007		1	270	5/16	6/15	29	7/2	7/0	0	100.00%	270	0	100.00%	270		Sublette
1999 2156	Ç	1	2324	7/3 5/1	7/3 6/21	50	7/3 6/20	7/3 6/21	1	0.00% 98.00%	0 2278	0	100.00% 100.00%	2324		Sublette Sublette
2162		1	12	5/22	6/21	29	6/20	6/21	1	96.55%	12	0	100.00%	12		Sublette
12029	Blue Rim Desert	4	2826	5/1	6/21	50	6/20	6/21	1	98.00%	2769	0	100.00%	2826		Sublette
	Blue Rim Individual	1	3258	5/10	6/23	43	6/20	6/23	3	93.02%	3031	0	100.00%	3258		Sublette
	Mount Airy Common	4	757	5/16	6/25	39	6/20	6/25	5	87.18%	660	0	100.00%	757		Sublette
2095	*	1	113	5/11	6/25 7/6	44	6/20	6/25	5	88.64%	100	0	100.00%	113		Sublette
2099 2101	Jory Individual Webb Draw Pasture	1	50 417	7/1 5/20	6/25	35	7/1 6/20	7/6 6/25	5	0.00% 85.71%	0 357	0	100.00% 100.00%	50 417		Sublette Sublette
2101		1	125	6/9	6/25	16	6/20	6/25	5	68.75%	86	0	100.00%	125		Sublette
12107	J&K Daniel Ridge	1	47	5/26	6/25	29	6/20	6/25	5	82.76%	39	0	100.00%	47		Sublette
2142	Beaver Creek Meadow Individual	1	20	6/15	6/28	13	6/20	6/28	8	38.46%	8	8	38.46%	8		Sublette
2032		1	293	5/16	6/30	44	6/20	6/30	10	77.27%	226	10		226		Sublette
	Adjacent to Ranch Individual	1	26	5/16	6/30	44	6/20	6/30	10	77.27%	20	10		20		Sublette
2035		1	698 411	5/16 5/20	6/30 6/30	44 40	6/20	6/30	10	77.27%	539	10		539		Sublette
2036 2062		1	3170	5/11	6/30	40	6/20 6/20	6/30 6/30	10 10	75.00% 79.59%	308 2523	10		308 2523		Sublette Sublette
	Horse Creek Pasture #2	1	350	5/11	6/30	59	6/20	6/30	10	83.05%	291	0	100.00%	350		Sublette
2081		2	661	5/16	6/30	44	6/20	6/30	10	77.27%	511	0	100.00%	661		Sublette
2096		1	95	5/1	6/30	59	6/20	6/30	10	83.05%	79	10		79		Sublette
	2 6 751 7 11 11 1	1	50	7/21	8/20	29	7/21	7/31	10	65.52%	33	10	65.52%	33		Sublette
2098	McKinsey Individual Jewett Rye Grass Individual	1	440	5/22	6/30	38	6/20	6/30	10	73.68%	324	10		324		Sublette

Allotment ID	Allotment Name	# of Permittees	Permitted BLM AUMs	Grazing - Start Date	Grazing - End Date	# of Days	New Grazing Start Date	New Grazing End Date	# of New Days	% Days Lost	BLM AUMs Lost	Adjusted # of New Days (1)	Adj % Days Lost	Adj AUMs Lost	Total AUMs Lost in the Planning Area	County
	-	1	586	5/10	6/30	50	6/20	6/30	10	80.00%	469	0	100.00%	586		Sublette
2152	Beaver-Horse Creek Individual	1	584	6/1	6/30	29	6/20	6/30	10	65.52%	383	10		383		Sublette
2168 2171	Chalk Butte Common Brodie Draw Individual	3	244 385	5/10 5/15	6/30 6/30	50 45	6/20	6/30 6/30	10 10	80.00% 77.78%	195 299	10	100.00% 77.78%	244 299		Sublette Sublette
2171	Merna Horse Creek Individual	1	65	6/1	6/30	29	6/20	6/30	10	65.52%	43	10		43		Sublette
12008	Stud Horse Common	3	2106	5/1	6/30	59	6/20	6/30	10	83.05%	1749	0	100.00%	2106		Sublette
12009	Fremont Butte Common	6	2410	5/6	6/30	54	6/20	6/30	10	81.48%	1964	0	100.00%	2410		Sublette
12011	East Cora Road Individual	1	14	6/1	6/30	29	6/20	6/30	10	65.52%	9	10	65.52%	9	9	Sublette
12017	Lower Pasture Individual	1	284	6/1	6/30	29	6/20	6/30	10	65.52%	186	10	65.52%	186	189	Sublette
12026	Desert Land Entry (DLE) Individual	1	75	5/15	6/30	45	6/20	6/30	10	77.78%	58	10		58		Sublette
12028	Upper Bench Corral Common	3	2009	5/10	6/30	50	6/20	6/30	10	80.00%	1607	0	100.00%	2009		Sublette
12123	Northwest Square Top Individual McNinch Deer Hills Individual	1	800	5/1 5/21	6/30 6/30	59	6/20	6/30	10	83.05%	664	10		664		Sublette
12127 12222	Price-Beecher Creek	1	252 50	6/1	6/30	39 29	6/20	6/30	10 10	74.36% 65.52%	187 33	10	74.36% 100.00%	187 50		Sublette Sublette
22006	Aspen Ridge Individual	1	1692	5/8	6/30	52	6/20	6/30	10	80.77%	1367	10		1367		Sublette
22019	Heifer Pasture Individual	1	86	6/1	6/30	29	6/20	6/30	10	65.52%	56	10		56		Sublette
22020	Boulder Lake Common	4	835	6/1	6/30	29	6/20	6/30	10	65.52%	547	0	100.00%	835	861	Sublette
32224	Lander Cutoff	1	233	5/11	6/30	49	6/20	6/30	10	79.59%	185	0	100.00%	233	216	Sublette
2150	Deer Hills Common	2	717	5/20	7/1	41	6/20	7/1	11	73.17%	525	11		525		Sublette
12108	Horse Creek Isolated Tract	1	35	7/20	11/1	101	7/20	7/31	11	89.11%	31	11		31		Sublette
2072	Spade Individual	1	688	6/1	7/2	31	6/20	7/2	12	61.29%	422	12		422		Sublette
2041 2064	Chapel Individual Camp Creek Individual	1	257 715	5/15 7/17	7/4 9/30	49 73	6/20 7/17	7/4 7/31	14 14	71.43% 80.82%	184 578	14 14		184 578		Sublette Sublette
2064	East of DLE Individual	1	271	5/15	9/30 7/4	49	6/20	7/4	14	71.43%	194	14		194		Sublette
2051	Square Top Common	7	4470	5/6	7/5	59	6/20	7/4	15	74.58%	3334	15		3334		Sublette
2180	Irish Canyon Tracts Individual	1	30	5/6	7/5	59	6/20	7/5	15	74.58%	22	15		22		Sublette
2181	Fremont Butte Individual	1	417	5/5	7/5	60	6/20	7/5	15	75.00%	313	15		313		Sublette
2197	Springman Creek Individual	1	150	7/16	9/14	58	7/16	7/31	15	74.14%	111	15	74.14%	111	115	Sublette
12022	East Fork Common	2	792	5/1	7/5	64	6/20	7/5	15	76.56%	606	15		606	952	Sublette
12027	Mickelson Bray Common	2	238	6/11	7/5	24	6/20	7/5	15	37.50%	89	15		89		Sublette
12205	Round Valley Ryegrass Individual	1	1616	5/15	7/5	50	6/20	7/5	15	70.00%	1131	15		1131		Sublette
2076	Fish Creek Individual (FW)	1	168	6/20	7/7 7/7	17	6/20	7/7	17	0.00%	0	17		0		Sublette
2088 2068	Horse Creek-Ryegrass Muleshoe	1	449 677	6/15 5/10	7/9	22 59	6/20	7/7 7/9	17 19	22.73% 67.80%	102 459	17 19		102 459		Sublette Sublette
2008	Lower Bench Corral Common	2	2635	5/10	7/10	60	6/20	7/10	20	66.67%	1757	20		1757		Sublette
2196	Johnson Ridge Individual	1	165	5/26	7/10	44	6/20	7/10	20	54.55%	90	20		90		Sublette
2038	Buyer Horse Creek Individual	1	351	5/27	7/11	44	6/20	7/11	21	52.27%	183	21		183		Sublette
2097	Cottonwood Common	1	345	6/16	7/11	25	6/20	7/11	21	16.00%	55	21		55		Sublette
2000	Daniel Ridge Individual	1	10	5/15	7/14	59	6/20	7/14	24	59.32%	6	24	59.32%	6	6	Sublette
2055	Lauzer Marsh Creek Individual	1	166	6/16	7/15	29	6/20	7/15	25	13.79%	23	25		23	41	Sublette
2140	Gilchrist DLE Individual	2	42	5/15	7/15	60	6/20	7/15	25	58.33%	25	25		25		Sublette
2172	Price Horse Creek Individual	1	40	5/16	7/15	59	6/20	7/15	25	57.63%	23	25		23		Sublette
2195 12119	South Piney Individual Soaphole Common	1 2	141 1014	6/1 5/16	7/15 7/15	44 59	6/20	7/15 7/15	25 25	43.18%	61 584	25		61 584		Sublette Sublette
2141	Beaver Creek Individual	3	1014	7/1	7/13	27	7/1	7/28	27	57.63% 0.00%	0	25 27	0.00%	384		Sublette
2054	Cora Peak Individual	1	150	7/1	7/30	29	7/1	7/30	29	0.00%	0	29		0		Sublette
2056	Three Island Individual	1	120	7/1	7/30	29	7/1	7/30	29	0.00%	0	29		0		Sublette
	Boulder Creek Tracts	1	28	7/1	7/30	29	7/1	7/30	29	0.00%	0	29		0	0	Sublette
12124	Luman Individual	1	600	5/20	7/19	59	6/20	7/19	29	50.85%	305	29	50.85%	305		Sublette
		1	150	7/1	8/15	44	7/1	7/31	30	31.82%	48	30		48		Sublette
2039	Maki Creek Individual	1	135	7/1	8/15	44	7/1	7/31	30	31.82%	43	30		43		Sublette
2063	Upper Muddy Individual	1	1874	7/1	10/15	104	7/1	7/31	30	71.15%	1333	30		1333		Sublette
2065 2067	Beecher Individual Johnson Huhtah Individual	1	306 136	7/1 7/1	9/30 10/14	103	7/1 7/1	7/31	30 30	66.29% 70.87%	203 96	30 30		203		Sublette
	LaBarge Individual	1	337	7/1	9/30	103 89	7/1	7/31 7/31	30	66.29%	223	30		96 223		Sublette Sublette
2133	Ball Horse Creek Individual	1	87	7/1	7/31	30	7/1	7/31	30	0.00%	0	30		0		Sublette
2134	Cranor Building Pasture	1	11	7/1	7/31	30	7/1	7/31	30	0.00%	0	30		0		Sublette
	Ball Individual	1	107	7/1	9/30	89	7/1	7/31	30	66.29%	71	30		71		Sublette
2165	Rosene Individual	1	42	7/1	9/30	89	7/1	7/31	30	66.29%	28	30		28		Sublette
2182	South Horse Creek Individual	1	10	7/1	8/30	59	7/1	7/31	30	49.15%	5	30		5		Sublette
	Soda Lake Common	2	156	7/1	9/15	74	7/1	7/31	30	59.46%	93	30		93		Sublette
		1	182	7/1	7/31	30	7/1	7/31	30	0.00%	0	30		0		Sublette
2192 2209	Big Sandy Individual Winkelman	1	30	7/1 7/1	11/30 8/31	149	7/1 7/1	7/31	30 30	79.87% 50.00%	24	30 30		24		Sublette
12025	Red Canyon Common	1	98 1075	7/1	9/30	60 89	7/1	7/31 7/31	30	66.29%	49 713	30		49 713		Sublette Sublette
12023	Reservoir Pasture	1	220	7/1	8/16	45	7/1	7/31	30	33.33%	73	30		73		Sublette
12103	Southwest Pasture Individual	1	59	7/1	7/31	30	7/1	7/31	30	0.00%	0	30		0		Sublette
12110	Piney Unit Fenced	1	19	7/1	9/22	81	7/1	7/31	30	62.96%	12	30		12		Sublette
	Star Corral Individual	1	62	7/1	8/15	44	7/1	7/31	30	31.82%	20	30		20		Sublette
12221	Cora Stock Driveway	1	854	7/1	10/5	94	7/1	7/31	30	68.09%	581	30		581		Sublette
	Ryegrass Individual	1	242	5/25	7/24	59	6/20	7/24	34	42.37%	103	34		103		Sublette
2085	Upper Billie's Individual	1	2214	6/26	9/30	94	6/26	7/31	35	62.77%	1390	35		1390		Sublette
2087	Upper Post Individual	1	123	6/26 6/26	9/30 7/31	94 35	6/26	7/31 7/31	35 35	62.77% 0.00%	77	35 35		77 0		Sublette Sublette
2185	Chain Lakes Individual		265								0					

Allotment ID	Allotment Name	# of Permittees	Permitted BLM AUMs	Grazing - Start Date	Grazing - End Date	# of Days	New Grazing Start Date	New Grazing End Date	# of New Days	% Days Lost	BLM AUMs Lost	Adjusted # of New Days (1)	Adj % Days Lost	Adj AUMs Lost	Total AUMs Lost in the Planning Area	County
2030	Horse Creek Individual	1	80	6/10	7/30	50	6/20	7/30	40	20.00%	16	40	20.00%	16	59	Sublette
22013	Willow Lake Tracts	1	26	6/1	7/30	59	6/20	7/30	40	32.20%	8	40	32.20%	8	8	Sublette
	Signal Individual	1	178	6/1	10/31	150	6/20	7/31	41	72.67%	129	41		129		Sublette
736	Kismet Individual	1	76	6/1	10/31	150	6/20	7/31	41	72.67%	55	41		55		Sublette
-	Bousman Common	2	755	5/15	9/15	120	6/20	7/31	41	65.83%	497	41		497		
	Mesa Common West Individual	21	4701	5/5 6/16	11/5 9/15	180	6/20	7/31	41	77.22%	3630	41		3630		
2037 2040	South Desert Allotment	1	525 2631	5/1	8/23	89 112	6/20 6/20	7/31 7/31	41	53.93% 63.39%	283 1668	41		283 1668	600 1,964	Sublette Sublette
	Pole Creek Individual	1	66	6/1	9/30	119	6/20	7/31	41	65.55%	43	41		43		
	Fremont Lake Individual	1	29	6/1	9/30	119	6/20	7/31	41	65.55%	19	41		19		Sublette
	Watson Draw	1	416	6/1	10/31	150	6/20	7/31	41	72.67%	302	41		302		Sublette
2046	Fall Creek Pasture	1	10	6/1	10/31	150	6/20	7/31	41	72.67%	7	41		7		Sublette
2050	Burch Individual	1	37	5/1	8/21	110	6/20	7/31	41	62.73%	23	41	62.73%	23	23	Sublette
2052	Cowley Tract	1	10	5/6	8/27	111	6/20	7/31	41	63.06%	6	41	63.06%	6	6	Sublette
2069	Warren Bridge Individual	1	48	6/1	9/15	104	6/20	7/31	41	60.58%	29	41	60.58%	29	182	Sublette
2070	Horse Creek Pasture #1	1	74	6/1	9/15	104	6/20	7/31	41	60.58%	45	41	60.58%	45	179	Sublette
2073	Reardon Canyon Common	2	1121	5/10	9/9	119	6/20	7/31	41	65.55%	735	41		735	883	Sublette
	Guio Sections Individual	1	417	6/15	8/10	55		7/31	41	25.45%	106	41		106		Sublette
	Hansen Tract	1	14	5/1	11/30	209	6/20	7/31	41	80.38%	11	41		11		Sublette
	Rief Individual	1	66	6/1	7/31	60	6/20	7/31	41	31.67%	21	41		21		Sublette
	Hicks Pinedale Individual	1	10	6/1	10/30	149	6/20	7/31	41	72.48%	7	41		7		Sublette
	Dry Piney Individual Todd Pasture	1	30 11	5/15 6/1	10/14 11/15	149 164	6/20 6/20	7/31 7/31	41	72.48% 75.00%	22	41		22		Sublette Sublette
2138	Rathburn Individual	1	208	6/1	10/15	134	6/20	7/31	41	69.40%	144	41		144		Sublette
	Hoback Rim Individual	1	25	6/1	10/31	150	6/20	7/31	41	72.67%	18	41		18		
	Scab Creek Individual	1	607	6/1	9/30	119	6/20	7/31	41	65.55%	398	41		398	583	
	Hot Spring Pasture Individual	1	32	5/30	10/15	135	6/20	7/31	41	69.63%	22	41		22		
	Noble Tracts Individual	1	36	5/16	9/15	119	6/20	7/31	41	65.55%	24	41		24		Sublette
2161	Norris North Piney Individual	1	144	5/15	9/14	119	6/20	7/31	41	65.55%	94	41	65.55%	94	419	Sublette
2166	Pine Creek Individual	1	20	6/1	10/30	149	6/20	7/31	41	72.48%	14	41	72.48%	14	48	Sublette
2167	Green River Unit Individual	1	40	6/1	7/31	60	6/20	7/31	41	31.67%	13	41	31.67%	13	20	Sublette
2169	North Hoback Rim Individual	1	113	6/15	9/15	90	6/20	7/31	41	54.44%	62	41		62	62	Sublette
	North Beaver Tracts Individual	1	190	6/1	10/16	135	6/20	7/31	41	69.63%	132	41		132		
	Q5 Antelope Flat Individual	1	122	6/1	10/15	134	6/20	7/31	41	69.40%	85	41		85		Sublette
	Hay Draw Individual	1	77	6/1	10/15	134	6/20	7/31	41	69.40%	53	41		53		Sublette
	Miller Home Place Individual	1	24	5/1 6/1	8/31 9/30	120	6/20	7/31	41	65.83%	16	41		16 20		Sublette
	Sandy Fenced Individual Muddy Corral Individual	1	30 195	5/15	10/31	119 166	6/20 6/20	7/31 7/31	41	65.55% 75.30%	20 147	41	65.55% 75.30%	147		
2186 2187	189 Muddy Meadow Individual	1	36	5/13	10/31	179	6/20	7/31	41	75.30%	28	41		28		Sublette
	Fall Creek	1	70	6/1	8/31	90	6/20	7/31	41	54.44%	38	41		38		Sublette
2194	LaBarge Unit Individual	1	140	5/16	9/15	119	6/20	7/31	41	65.55%	92	41		92		Sublette
2198	Beaver Tract Individual	1	48	5/16	9/15	119	6/20	7/31	41	65.55%	31	41		31		
	James Ryegrass	1	728	6/1	7/31	60	6/20	7/31	41	31.67%	231	41		231		Sublette
	Webb Home Pasture	1	5	6/1	10/31	150	6/20	7/31	41	72.67%	4	41		4		Sublette
12109	Individual Fenced	1	11	5/1	10/15	164	6/20	7/31	41	75.00%	8	41	75.00%	8	- 8	Sublette
12110	Sandy Upper Muddy Individual	1	39	5/1	10/15	164	6/20	7/31	41	75.00%	29	41		29	35	Sublette
	Sandy Individual	1	14	5/1	8/15	104	6/20	7/31	41	60.58%	8	41		8		Sublette
	Muddy Meadows	1	20	5/1	9/30	149	6/20	7/31	41	72.48%	14	41		14		Sublette
	Scattered Tracts	1	41	5/6	9/7	121	6/20	7/31	41	66.12%	27	41		27		Sublette
	North Pasture Individual	1	31	5/1	8/28	117	6/20	7/31	41	64.96%	20	41		20		Sublette
	West Fremont Ridge Common	2	293	5/15	9/24	129	6/20	7/31	41	68.22%	200	41		200		Sublette
	Boulder Stock Driveway West of Ranch Individual	1	55 130	5/16 5/16	10/30 8/31	164 105	6/20 6/20	7/31 7/31	41	75.00% 60.95%	41 79	41		41 79		Sublette Sublette
	Ditch Individual	1	130	6/15	9/1	76		7/31	41	46.05%	79	41		/9		Sublette
	New Fork Tract Isolated	1	8	5/16	9/15	119	6/20	7/31	41	65.55%	5	41		5		Sublette
	Alkali Draw	2	1556	5/1	10/31	180	6/20	7/31	41	77.22%	1202	41		1202		Sublette
	Homestead Individual	1	45	5/1	9/30	149	6/20	7/31	41	72.48%	33	41		33		Sublette
	Glascow Individual	1	24	5/1	8/30	119	6/20	7/31	41	65.55%	16	41		16		Sublette
	East Cora Road Meadow	1	64	6/1	7/31	60		7/31	41		20	41		20		Sublette
	Fish Hatchery Individual	1	56	5/1	11/30	209	6/20	7/31	41		45	41		45		Sublette
	Antelope Flat Common	2	533	6/15	8/31	76		7/31	41	46.05%	245	41		245		Sublette
22018	Isolated Tracts Individual	1	83	5/1	10/30	179	6/20	7/31	41	77.09%	64	41	77.09%	64	64	Sublette
	North Rathburn	1	28	6/1	10/17	136	6/20	7/31	41	69.85%	20	41	69.85%	20		Sublette
	Totals	296	106,520								78,931			81,471	102,585	1

⁽¹⁾ Adjusted based on ranchers decision that there are not enough days to graze, therefore new days is adjusted to 0.

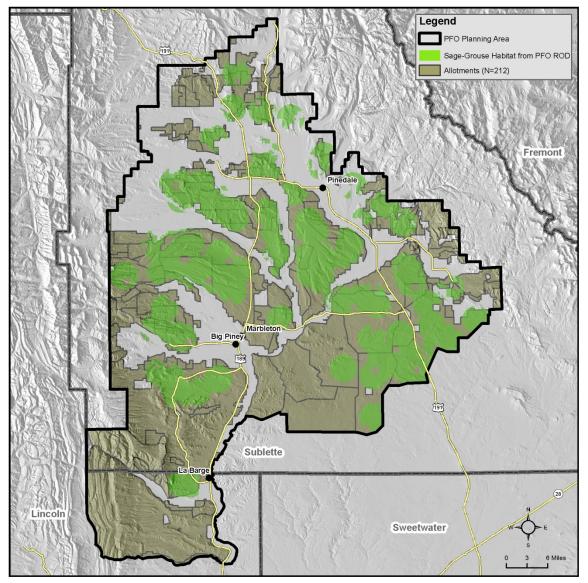
Not found on Allots_Joined but almost totals those on allots_joined that are not found on this sheet. Difference of 64.

These allotments are grouped together in Allots_Joined

Scenario C - Habitat from ROD

Description and Map of Scenario C

The PFO in the Record of Decision (ROD) for the RMP FEIS presented a map showing Greater Sage-grouse nesting and brood rearing habitats (Map 2-36). These shapes were provided by the PFO and were comprised two mile buffers on leks. We analyzed these buffered leks as Scenario C. Map below presents the overlap between the nesting and brood rearing habitat from the ROD and the 212 allotments in the PFO.



Map 3 Scenario C

Economic Impacts

Table 10: Potential yearly loss in output and employment from 63,148 BLM AUMs lost

	Average BLM AUM	Ranch Production BLM AUM(1)	Ranch Viability BLM AUM(1)
Output			
Direct	\$2,667,372	\$3,809,087	\$6,553,732
Indirect	\$1,407,028	\$2,021,899	\$3,457,067
Induced	<u>\$639,572</u>	<u>\$919,064</u>	<u>\$1,571,428</u>
Total	\$4,713,971	\$6,750,051	\$11,582,227
Employment			
Direct	29.39	42.24	72.22
Indirect	16.54	23.76	40.63
Induced	6.13	8.82	<u>15.07</u>
Total	52.07	74.82	127.93

Table 11: Potential yearly loss in output and employment from 75,882 AUMs lost in the Planning Region

	Average BLM AUM	Ranch Production BLM AUM(1)	Ranch Viability BLM AUM(1)
Output			
Direct	\$3,205,256	\$4,577,202	\$7,875,313
Indirect	\$1,690,760	\$2,429,621	\$4,154,196
Induced	<u>\$768,543</u>	\$1,104,397	<u>\$1,888,311</u>
Total	\$5,664,559	\$8,111,221	\$13,917,821
Employment			
Direct	35.32	50.76	86.79
Indirect	19.87	28.56	48.83
Induced	<u>7.37</u>	<u>10.59</u>	<u>18.11</u>
Total	62.57	89.91	153.73

Table 12: Potential yearly loss in the output and employment from 119,786 AUMs lost in the Region

	Average BLM AUM	Ranch Production BLM AUM(1)	Ranch Viability BLM AUM(1)
Output			
Direct	\$5,059,761	\$7,225,492	\$12,431,832
Indirect	\$2,669,003	\$3,835,358	\$6,557,742
Induced	\$1,213,209	<u>\$1,743,382</u>	<u>\$2,980,855</u>
Total	\$8,941,973	\$12,804,231	\$21,970,428
Employment			
Direct	55.76	80.13	137.00
Indirect	31.37	45.08	77.08
Induced	<u>11.64</u>	<u>16.72</u>	<u>28.59</u>
Total	98.77	141.93	242.67

Table 13 Allotments Impacted Under Scenario C

Allotment ID	Allotment Name # of Permittees	# of Permittees Impacted	AUMs	Permitted BLM AUMs Impacted	State	Total Permitted AUMs	Total Permitted AUMs Impacted	Grazing - Start Date	Grazing - End Date	Days	New Grazing Start Date	New Grazing End Date	# of New Days	% Days Lost	AUMs Lost	Adjusted # of New Days (1)		Adj AUMs Lost	Total AUMs lost in the Planning Area	County
	Eubank South LaBarge Individual LaBarge Creek Ranch Individual	1 0	80	0	21	128 42			11/14	28 29										D Lincoln D Lincoln
	Bondurant Individual	1 0	10	0		10			11/14	29									0	0 Lincoln
	Yose Individual	1 1	150			150		8/26	9/30	34			0	100.00%	150	0	100.00%	150) Lincoln
	North LaBarge Bridger Teton Forest Service 1 North LaBarge Common 7	1 1	1200 7 14500		1621	1200 19398	1200 19398		10/5	64 149		7/31	0 41	100.00% 72.48%	1200 10510	41	100.00% 72.48%	1200 10510	1,200 14,060	
	Fox LaBarge Individual	1 0	14300	0	1021	42			10/15	164		7/31	41	12.4670	10310	41	72.4070	10310		0 Lincoln
	Upper North LaBarge Individual	1 0	1985		96	2109			9/30	135) Lincoln
	Viola Individual 1 South LaBarge Common 7	1 0	81		1205	226 12124		5/15	9/14	119 180										D Lincoln D Lincoln
	Fontenelle Meadow Individual	1 0	56		1203	56			11/30	209										0 Lincoln
2042	Cottonwood Meadows 1	1 0	236			1036		8/15	2/28	193									0	Sublette
	Circle 9 Individual 1 Gilligan Individual 1	1 0	63		13	89 257		5/1 9/15	6/10	39 42										Sublette Sublette
	Clark-Bloom Common	1 1	239			264		5/16	6/20	34			0	100.00%	239	0	100.00%	239		4 Sublette
2057	Dack Individual 1	1 0	90	0		90	0	8/1	8/31	30					=0,				0	Sublette
	Ryegrass Isolated 1	1 0	18		83	143			6/8	13			0	100.000/	150		100.000/	150		Sublette
	School Section Individual 1 South Piney Ranch Individual 1	1 1 1 1	158		40	210 92		10/1 9/1	10/15	14 44			0	100.00%	158 92	0	100.00% 100.00%	158 92		Sublette Sublette
	Johnson Place Meadows	1 0) 45			45			10/15	29				100.0070	72		100.0070	/2) Sublette
	South Piney Place Meadows	1 0	39	0		39			10/15	29										Sublette
	East Fork River Trail 1 South Ridge Soaphole Common 2	2 2	97	97	0	154		5/1	5/31 6/15	30 40			0	100.00%	97	0	100.00%	97		Sublette Sublette
2137	Lower Red Canyon Individual	2 2	2 101			183		9/13	9/30	17			0	100.00%	101	0	100.00%	101		3 Sublette
	Piney Individual	1 0	80			80			9/30	29										Sublette
	Lower Horse Creek Individual Upper Horse Creek Individual	1 1	255			255 179		5/22	6/8 5/31	16 30			0	100.00%	255 109	0	100.00% 100.00%	255 109		Sublette Sublette
	Home Individual	1 1	138			146		5/1	5/30	29			0	100.00%	138	0	100.00%	138		6 Sublette
	Daniel "Y" Individual	1 1	107			154			6/15	29			0	100.00%	107	0	100.00%	107		4 Sublette
	Miller Daniel Ridge	1 0	50			50		5/10	6/8	28										O Sublette
	Miller Piney Individual 1 Silver Creek Individual 1	1 0) 42			42 445			6/10 9/15	44										Sublette Sublette
	Piney Bridge Individual	1 1	131		55	200	200	5/5	6/4	29			0	100.00%	131	0	100.00%	131		Sublette
	Noble Cora Peak Common	2 2	300			390		5/20	6/19	29			0	100.00%	300	0	100.00%	300		Sublette
	O'Neil Individual West Cora Peak Individual	1 1	80 273			90 524		5/16	6/15	29 23			0	100.00%	80 273		100.00% 100.00%	80 273		Sublette Sublette
	Q5 Soaphole	1 1	566			785		5/16	6/20	34			0	100.00%	566		100.00%	566		5 Sublette
	Spence Place Individual	1 1	8	8		8		5/1	5/31	30			0	100.00%	8	0	100.00%	8		8 Sublette
	Horse Creek Bluff Individual Butte Individual	1 1	12	12		12		5/16	6/15 5/15	29 14			0	100.00%	12	0	100.00%	12		2 Sublette 0 Sublette
	Horse Creek Road Individual	1 0	43	0		43		10/1	12/15	74										0 Sublette
	Cora Y Common	1 1	120			125		5/25	6/14	19			0	100.00%	120	0	100.00%	120		5 Sublette
	New Fork Individual 1 Boulter Pasture 1	1 1	302	302		361		5/10	6/20	40			0	100.00%	302	0	100.00%	302		Sublette Sublette
	Hay Gulch	1 1	75	75		75		5/16	5/29	13			0	100.00%	75	0	100.00%	75		5 Sublette
	Section 18 Individual	1 0	26			200			11/30	59										Sublette
	Marincic Mesa Individual	1 1	350		27	355 52			6/15 6/19	35 29			0	100.00%	350	0	100.00%	350		5 Sublette
	Bird Individual 1 Cottonwood Gap Individual 1	1 0	90		21	155		5/20	5/30	29										O Sublette O Sublette
	Cora Road Individual	1 1	42			87		6/1	6/15	14			0	100.00%	42	0	100.00%	42	87	7 Sublette
	40 Rod Common	4 4	542			542			6/8	20			0	100.00%	542	0	100.0070	542		2 Sublette
	Fayette Individual 1 CB Holding Pen 1	1	270	270		276			6/15 7/3	29		7/3	1	100.00% 0.00%	270	0	100.00% 100.00%	270		Sublette Sublette
2156	Sand Draw Allotment 3	3	3 2324	2324		2324	2324	5/1	6/21	50	6/20	6/21	1	98.00%	2278	0	100.00%	2324	2,324	4 Sublette
	5-Acre Pasture Individual	1 0	12			12			6/21	29		- 10 -		00.000	27.60		100.000	2025		Sublette
	Blue Rim Desert 4 Blue Rim Individual	+1 4 1 1	2826 3258		199	2826 3645	2826 3645	5/1 5/10	6/21	50 43		6/21	1 3	98.00% 93.02%	2769 3031	0	100.00% 100.00%	2826 3258		Sublette Sublette
	Mount Airy Common	4 4				758			6/25	39		6/25	5	87.18%	660	0	100.00%	757		8 Sublette
	Muddy Creek Individual	1 1	113			124		5/11	6/25	44	6/20	6/25	5	88.64%	100	0	100.00%	113		4 Sublette
	Jory Individual 1 Webb Draw Pasture 1	1 0	50			708			7/6 6/25	5 35	6/20	6/25	5	85.71%	357	0	100.00%	417		Sublette Sublette
	Canyon Ditch Individual	1 1	125		40	165		6/9	6/25	16		6/25		68.75%	86		100.00%	125		5 Sublette
	J&K Daniel Ridge	1 1	47		70	61		5/26	6/25	29		6/25	5	82.76%	39		100.00%	47		Sublette
2142	Beaver Creek Meadow Individual	1 1	20	20		20	20	6/15	6/28	13	6/20	6/28		38.46%	8	8	38.46%	8	8	8 Sublette
	Dan Budd Deer Hill Individual Adjacent to Ranch Individual	1 1	293			305 144		5/16	6/30 6/30	44 44		6/30 6/30		77.27% 77.27%	226 20			226 20		Sublette Sublette
	Deer Hills Individual	1 1	698		10	708			6/30	44		6/30		77.27%	539			539		7 Sublette
2036	Dead Indian Dome Individual	1 1	411	411		461	461	5/20	6/30	40	6/20	6/30	10	75.00%	308	10	75.00%	308	346	5 Sublette
	Bench Corral Individual	1 1	3170		73			5/11	6/30	49		6/30		79.59%	2523			2523		4 Sublette
	Horse Creek Pasture #2 Fox-Yose Common	1 1 2	350		62	300 773		5/1 5/16	6/30	59 44		6/30	10	83.05%	291	0	100.00%	350		Sublette Sublette
	Hittle Individual	1 0	95		02	95			6/30	59										O Sublette
2098	McKinsey Individual	1 0	50	0		68	0	7/21	8/20	29									0	Sublette
	Jewett Rye Grass Individual	1 1	440			440		5/22	6/30	38		6/30		73.68%	324	10		324		4 Sublette
	Grindstone Soaphole 1	1 1	586		73	854 800		5/10	6/30 6/30	50 29		6/30 6/30		80.00% 65.52%	469 383	10	100.00% 65.52%	586 383		4 Sublette 4 Sublette
21521	Beaver-Horse Creek Individual																			

Allotment ID	Allotment Name	# of Permittees	# of Permittees Impacted	Permitted BLM AUMs	Permitted BLM AUMs Impacted	State	Total Permitted AUMs	Total Permitted AUMs Impacted	Grazing - Start Date	Grazing - End Date	# of Days	Grazing G	New Frazing nd Date	# of New Days	% Days Lost	AUMs Lost	Adjusted # of New Days (1)	Adj % Days Lost	Adj AUMs Lost	Total AUMs lost in the Planning Area	County
	Brodie Draw Individual		1 1	385	385		814	814 5		6/30	45	6/20	6/30	10	77.78%	299	10	77.78%	299		Sublette
2193	Merna Horse Creek Individual		1 0	65	0		189	0 6		6/30	29										Sublette
12008	Stud Horse Common		3	2106	2106	213	1942	1942 5		6/30	59	6/20	6/30	10	83.05%	1749	0	100.00%	2106		Sublette
12009	Fremont Butte Common		6	5 2410	2410	92	2568	2568 5		6/30	54	6/20	6/30	10	81.48%	1964	0	100.00%	2410	,	Sublette
	East Cora Road Individual Lower Pasture Individual		1 0	284	284		288	288 6		6/30 6/30	29 29	6/20	6/30	10	65.52%	186	10	65.52%	186		Sublette Sublette
	Desert Land Entry (DLE) Individual		1 1	75			75		5/15	6/30	45		0/30	10	03.32%	160	10	03.32%	160		Sublette
	Upper Bench Corral Common		3 3	2009	2009	44	2063	2063 5		6/30	50	6/20	6/30	10	80.00%	1607	0	100.00%	2009		Sublette
	Northwest Square Top Individual		1 1	800	800	14	999	999 5		6/30	59	6/20	6/30		83.05%	664	10		664		Sublette
12127	McNinch Deer Hills Individual		1 1	252	252		252			6/30	39	6/20	6/30	10	74.36%	187	10		187		Sublette
	Price-Beecher Creek		1 0	50	0		195	0 6		6/30	29									0	Sublette
22006	Aspen Ridge Individual		1 1	1692	1692		939	939 5	5/8	6/30	52	6/20	6/30	10	80.77%	1367	10	80.77%	1367	758	Sublette
22019	Heifer Pasture Individual		1	86	0		86	0 (5/1	6/30	29									0	Sublette
22020	Boulder Lake Common	4	4 4	835	835		861			6/30	29	6/20	6/30	10	65.52%	547	0	100.00%	835		Sublette
	Lander Cutoff		1 0	233		27	216		5/11	6/30	49										Sublette
2150	Deer Hills Common		2 2	717	717	68	814	814 5		7/1	41	6/20	7/1	11	73.17%	525	11	73.17%	525		Sublette
12108	Horse Creek Isolated Tract		1 0	35			35		7/20	11/1	101	- 15.0	- 4								Sublette
2072	Spade Individual		l l	688		5.5	1604	1604 6		7/2	31	6/20	7/2		61.29%	422	12		422		Sublette
	Chapel Individual Camp Creek Individual		1 1	257	257	55	362 782	362 5	7/17	7/4 9/30	49 73	6/20	7/4	14	71.43%	184	14	71.43%	184		Sublette Sublette
	East of DLE Individual		1 1	271	271		277	277 5		7/4	49	6/20	7/4	14	71.43%	194	14	71.43%	194		Sublette
	Square Top Common	+	7 7	4470	4470	237	4731	4731 5		7/5	59	6/20	7/4			3334	14		3334		Sublette
	Irish Canyon Tracts Individual		1	30	4470	231	30	0 5		7/5	59	0/20	1/3	13	74.3070	3334	13	74.30%	3334		Sublette
	Fremont Butte Individual		1 1	417	417	60	477			7/5	60	6/20	7/5	15	75.00%	313	15	75.00%	313		Sublette
	Springman Creek Individual		1 0	150	,	50	155			9/14	58	20	.,5			3.3	- 13		3.3		Sublette
	East Fork Common		2 2	2 792	792	413	1244	1244 5		7/5	64	6/20	7/5	15	76.56%	606	15	76.56%	606		Sublette
	Mickelson Bray Common		2 2	2 238		39	287	287 6		7/5	24	6/20	7/5		37.50%	89	15		89		Sublette
	Round Valley Ryegrass Individual		1 1	1616	1616	31		1647 5		7/5	50	6/20	7/5			1131	15		1131	1,153	Sublette
2076	Fish Creek Individual (FW)		1	168	0		1687	0 (5/20	7/7	17										Sublette
	Horse Creek-Ryegrass		1 1	449	449		449	449 6		7/7	22	6/20	7/7	17	22.73%	102	17	22.73%	102		Sublette
2068	Muleshoe		1 1	677	677	26	522	522 5		7/9	59	6/20	7/9		67.80%	459	19	67.80%	459		Sublette
	Lower Bench Corral Common	2	2 2	2635	2635	120	2774	2774 5		7/10	60	6/20	7/10		66.67%	1757	20		1757	, , ,	Sublette
2196	Johnson Ridge Individual		1 1	165			165	165 5		7/10	44	6/20	7/10		54.55%	90	20		90		Sublette
	Buyer Horse Creek Individual		1 1	351	351		418	418 5		7/11	44	6/20	7/11	21	52.27%	183	21	52.27%	183		Sublette
	Cottonwood Common		1 0	345		2	371	0 (7/11	25	- 15.0				-					Sublette
	Daniel Ridge Individual		1 1	10			10			7/14	59	6/20	7/14	24	59.32%	6	24	59.32%	6		Sublette
2055	Lauzer Marsh Creek Individual		1 0	166			296		5/16	7/15	29	6/20	7/15	25	50.220/	25	25	50.2204	25		Sublette
	Gilchrist DLE Individual Price Horse Creek Individual		2 2	2 42	42		42 75			7/15 7/15	60 59	6/20 6/20	7/15 7/15			25 23	25 25		25 23		Sublette Sublette
	South Piney Individual		1 1	141			82			7/15	44		7/15			61	25		61		Sublette
	Soaphole Common		3 3	1014	1014		1849	1849 5		7/15	59	6/20	7/15			584	25		584		Sublette
	Beaver Creek Individual		1 1	129	129		129	129		7/28	27	7/1	7/28	27	0.00%	0			0		Sublette
	Cora Peak Individual		1 1	150	150		175	175		7/30	29	7/1	7/30	29	0.00%	0	29		0		Sublette
2056			1 1	120	120		121			7/30	29	7/1	7/30	29	0.00%	0	29	0.00%	0		Sublette
12021	Boulder Creek Tracts		1 1	28	28		28			7/30	29	7/1	7/30	29	0.00%	0	29	0.00%	0	0	Sublette
12124	Luman Individual		1 1	600	600		600	600 5	5/20	7/19	59	6/20	7/19	29	50.85%	305	29	50.85%	305	305	Sublette
2033	Fish Creek Individual (DB)		1	150	0		150	0 7	7/1	8/15	44										Sublette
2039	Maki Creek Individual		1 0	135	0		135	0 7	7/1	8/15	44									0	Sublette
	Upper Muddy Individual		1 1	1874	1874	200	2124	2124		10/15	104	7/1	7/31		71.15%	1333	30	71.15%	1333		Sublette
	Beecher Individual		1 1	306	306		768			9/30	89	7/1	7/31		66.29%	203	30		203		Sublette
	Johnson Huhtah Individual		1 1	136		94	444			10/14	103	7/1	7/31	30	70.87%	96	30	70.87%	96		Sublette
	LaBarge Individual		1 0	337			421			9/30	89	7/1	7/21	20	0.000/	0	20	0.000/	0		Sublette
	Ball Horse Creek Individual Cranor Building Pasture	+	1 1 1 1	87			87 11			7/31 7/31	30 30	7/1 7/1	7/31 7/31		0.00%	0	30		0		Sublette Sublette
	Ball Individual	-	. 1 1 1	107			668			9/30	89	7/1	7/31			71	30		71		Sublette
	Rosene Individual		1 1	42	42		162	162		9/30	89	7/1	7/31		66.29%	28		66.29%	28		Sublette
	South Horse Creek Individual		1 0	10			102			8/30	59		.,31	30	55.2770	20	30	55.2770	20		Sublette
_	Soda Lake Common		2 2	2 156			156			9/15	74		7/31	30	59.46%	93	30	59.46%	93		Sublette
	Steele Individual		1 1	182	182		184			7/31	30	7/1	7/31		0.00%	0	30	0.00%	0		Sublette
	Big Sandy Individual		1 0	30			30			11/30	149										Sublette
	Winkelman		1 1	98	98		246			8/31	60	7/1	7/31	30	50.00%	49	30	50.00%	49	123	Sublette
	Red Canyon Common		2 2	1075		120	1350	1350		9/30	89		7/31	30	66.29%	713	30	66.29%	713		Sublette
	Reservoir Pasture		1 0	220			81			8/16	45										Sublette
	Southwest Pasture Individual		1 0	59			89			7/31	30										Sublette
	Piney Unit Fenced		1 1	19			19			9/22	81		7/31			12			12		Sublette
	Star Corral Individual		1 1	62			113			8/15	44		7/31		31.82%	20			20		Sublette
	Cora Stock Driveway		1 1	854			877			10/5	94		7/31		68.09%	581	30		581		Sublette
	Ryegrass Individual		1 1	242			247			7/24	59		7/24			103	34		103		Sublette
	Upper Billie's Individual		1 1	2214			2231			9/30	94	6/26	7/31	35	62.77%	1390	35	62.77%	1390		Sublette
	Upper Post Individual		1 0	123			123		5/26	9/30	94	6/06	7/21	0.5	0.0001			0.000	^		Sublette
	Chain Lakes Individual		1 1	265			266			7/31	35	6/26	7/31	35	0.00%	0	35	0.00%	0		Sublette
	Long Pasture Horse Creek Individual		1 0	352			766 296		5/25	10/15 7/30	110 50										Sublette Sublette
	Willow Lake Tracts		1 0	0 80			296		5/10	7/30	59										Sublette
	Signal Individual		1 0	-			20		5/1	10/31	150										Sublette
	Kismet Individual		1 0	76					5/1	10/31	150										Sublette
	Bousman Common	,	2	755	755		755			9/15	120	6/20	7/31	41	65.83%	497	41	65.83%	497		Sublette
	Mesa Common	2	1 21		4701	197	5003	5003 5		11/5	180	6/20	7/31			3630	41		3630		Sublette
/0311																					

Allotment ID	Allotment Name	# of Permittees	# of Permittees Impacted	Permitted BLM AUMs	Permitted BLM AUMs Impacted	State	Total Permitted AUMs	Total Permitted Grazing - AUMs Start Date Impacted	Grazing - End Date	# of Days	New Grazing Start Date	New Grazing End Date	# of New Days	% Days Lost	AUMs Lost	Adjusted # of New Days (1)	Adj % Days Lost	Adj AUMs Lost	Total AUMs lost in the Planning Area	County
	South Desert Allotment	6	0	2631	0	348	3098	0 5/1	8/23	112									() Sublette
	Pole Creek Individual	1	1	66	66	84		350 6/1	9/30	119		7/31	41	65.55%	43	41	65.55%	43		9 Sublette
	Fremont Lake Individual	1	0	29	0		94	0 6/1	9/30	119										Sublette
	Watson Draw	1	0	416	0			6/1	10/31	150										Sublette
	Fall Creek Pasture	1	1	10	10		10	10 6/1	10/31	150		7/31		72.67%	7	41		7		7 Sublette
	Burch Individual	1	1	37	37		37	37 5/1	8/21	110		7/31		62.73%	23	41		23		3 Sublette
	Cowley Tract	1	1	10	10		10	10 5/6	8/27	111		7/31	41	63.06%	6	41		6		6 Sublette
	Warren Bridge Individual	1	1	48	48		301	301 6/1	9/15	104	0, = 0	7/31	41	60.58%	29	41	60.58%	29		2 Sublette
	Horse Creek Pasture #1	1	0	74	0	120	296	0 6/1	9/15	104										Sublette
	Reardon Canyon Common	2	. 0	1121	417	120		0 5/10	9/9	119		7/01	41	25.450/	106	41	25 450/	106		Sublette
	Guio Sections Individual	1	1	417	417	51		1668 6/15	8/10	55		7/31	41	25.45%	106	41	25.45%	106		Sublette
	Hansen Tract	1	0	14	0		46	0 5/1	11/30	209		7/01	41	21.670/	21	4.1	21.670/	21		Sublette
	Rief Individual	1	1	66 10			66	66 6/1	7/31 10/30	60	0, = 0	7/31	41	31.67%	21	41	31.67%	21		1 Sublette
	Hicks Pinedale Individual Dry Piney Individual	1	0	30	0		397	0 6/1 0 5/15	10/30	149 149										Sublette Sublette
	Todd Pasture	1	0	30 11	11		11	11 6/1	11/15	164		7/31	41	75.00%	0	41	75.00%	0		8 Sublette
	Rathburn Individual	1	1	208			472	0 6/1	10/15	134		//31	41	73.00%	8	41	73.00%	8		Sublette Sublette
	Hoback Rim Individual	1	0	208			3619	0 6/1	10/15	150										Sublette Sublette
	Scab Creek Individual	1	1	607	607	24		889 6/1	9/30	119		7/31	41	65.55%	398	41	65.55%	398		3 Sublette
	Hot Spring Pasture Individual	1	0	32	007		32	0 5/30	10/15	135		7/31	71	03.3370	370	71	03.3370	370		O Sublette
	Noble Tracts Individual	1	0	36	0	100		0 5/16	9/15	119) Sublette
	Norris North Piney Individual	1	0	144	0	100	639	0 5/15	9/14	119) Sublette
	Pine Creek Individual	1	1	20			66	66 6/1	10/30	149		7/31	41	72.48%	14	41	72.48%	14		8 Sublette
	Green River Unit Individual	1	0	40	0		63	0 6/1	7/31	60		7/31	- 11	72.4670	1 1	71	72.4070	11		O Sublette
	North Hoback Rim Individual	1	0	113	0		113	0 6/15	9/15	90										0 Sublette
	North Beaver Tracts Individual	1	1	190	190		190	190 6/1	10/16	135		7/31	41	69.63%	132	41	69.63%	132		2 Sublette
	Q5 Antelope Flat Individual	1	1	122	122		122	122 6/1	10/15	134		7/31		69.40%	85	41	07.0070	85		5 Sublette
	Hay Draw Individual	1	1	77			77	77 6/1	10/15	134		7/31		69.40%	53	41		53		3 Sublette
	Miller Home Place Individual	1	0	24	0		24	0 5/1	8/31	120										Sublette
	Sandy Fenced Individual	1	1	30	30		2946	2946 6/1	9/30	119	6/20	7/31	41	65.55%	20	41	65.55%	20	1,93	1 Sublette
2186	Muddy Corral Individual	1	1	195	195	29	288	288 5/15	10/31	166	6/20	7/31	41	75.30%	147	41	75.30%	147	217	7 Sublette
2187	189 Muddy Meadow Individual	1	0	36	0		36	0 5/1	10/30	179									(Sublette
2188	Fall Creek	1	1	70	70		166	166 6/1	8/31	90	6/20	7/31	41	54.44%	38	41	54.44%	38	90	Sublette
2194	LaBarge Unit Individual	1	1	140	140	124	274	274 5/16	9/15	119	6/20	7/31	41	65.55%	92	41	65.55%	92	180	Sublette
2198	Beaver Tract Individual	1	1	48	48		48	48 5/16	9/15	119	6/20	7/31	41	65.55%	31	41	65.55%	31	3:	1 Sublette
12102	James Ryegrass	1	1	728	728	100	828	828 6/1	7/31	60	0, = 0	7/31	41	31.67%	231	41	31.67%	231		2 Sublette
12106	Webb Home Pasture	1	1	5	5		5	5 6/1	10/31	150		7/31	41	72.67%	4	41	72.67%	4	4	4 Sublette
	Individual Fenced	1	1	11	11		11	11 5/1	10/15	164		7/31	41	75.00%	8	41	75.00%	8		8 Sublette
	Sandy Upper Muddy Individual	1	0	39	0		47	0 5/1	10/15	164										Sublette
	Sandy Individual	1	1	14	14		14	14 5/1	8/15	104		7/31	41	60.58%	8	41		8		8 Sublette
	Muddy Meadows	1	1	20			20	20 5/1	9/30	149		7/31		72.48%	14	41		14		4 Sublette
	Scattered Tracts	1	1	41	41		41	41 5/6	9/7	121		7/31		66.12%	27	41		27		7 Sublette
	North Pasture Individual	1	1	31	31		41	41 5/1	8/28	117		7/31	41	64.96%	20	41		20		7 Sublette
	West Fremont Ridge Common	2	2	293	293		293	293 5/15	9/24	129		7/31		68.22%	200	41		200		Sublette
	Boulder Stock Driveway	1	1	55 130	55		96 260	96 5/16	10/30	164		7/31	41	75.00%	41	41		41		2 Sublette
	West of Ranch Individual	1	1		130			260 5/16	8/31	105	0, = 0	7/31		60.95%	79	41	0017070	79		8 Sublette
	Ditch Individual	1	1	19	19		19	19 6/15	9/1	76		7/31	41	46.05%	9	41	46.05%	9		9 Sublette 0 Sublette
	New Fork Tract Isolated Alkali Draw	1	0	1556	0		1556	0 5/16 0 5/1	9/15 10/31	119 180										Sublette Sublette
	Homestead Individual	2	0	1556	45		178	178 5/1	9/30	149		7/31	41	72.48%	22	41	72.48%	22		9 Sublette
	Glascow Individual	1	1	24	43		1/8	0 5/1	8/30	119		//31	41	12.40%	33	41	12.48%	33		O Sublette
	East Cora Road Meadow	1	1	64	64		64	64 6/1	7/31	60		7/31	41	31.67%	20	41	31.67%	20		Sublette Sublette
	Fish Hatchery Individual	1	1	56	56		56	56 5/1	11/30	209		7/31	41	80.38%	45	41		45		5 Sublette
	Antelope Flat Common	2	1	533	533		481	481 6/15	8/31	76		7/31	41	46.05%	245	41	00.00.0	245		2 Sublette
	Isolated Tracts Individual	2	2	83	333		83	0 5/1	10/30	179	0, = 0	//31	41	40.03%	243	41	40.03%	243		O Sublette
	North Rathburn	1	1	28	28		42	42 6/1	10/30	136		7/31	41	69.85%	20	41	69.85%	20		9 Sublette
	Totals	297	204	106,520	81.128	6,686		99,706	10/1/	130	0/20	1/31	71	07.03/0	60.874	41	07.03/0	63,148		

⁽¹⁾ Adjusted based on ranchers decision that there are not enough days to graze, therefore new days is adjusted to 0 Not found on Allots_Joined but almost totals those on allots_joined that are not found on this sheet. Difference of 64 Not impacted in this scenario

Connelly, J. W., S. T. Knick, M. A. Schroeder, and S. J. Stiver. 2004. Conservation Assessment of Greater Sage-grouse and Sagebrush Habitats. Western Association of Fish and Wildlife Agencies. Unpublished Report. Cheyenne, Wyoming.

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APPENDIX B

Methodology and Assumptions

Economic and geographic information systems (GIS) methods were combined to measure the potential economic losses in the Pinedale Field Office's (PFO) Planning Area from reductions in grazing should the interim management requirements posed by the Western Watersheds Project (WWP) in Western Watersheds Project vs. Salazar, No.08cv516 be implemented. GIS layers of Greater Sage-grouse habitat and grazing allotments were combined in order to determine which allotments, and the number of animal unit months (AUMs) associated with them, would be impacted by the proposed management requirements. The number of AUMs lost due to time restrictions outlined in the management requirements was calculated and the potential loss in output and employment were estimated. Specific assumptions and methods of each step are outlined below.

GIS Layers

GIS data were collected from the PFO, United States Department of the Interior and the United States Department of Agriculture, Forest Service's LANDFIRE Program, the United States Geologic Survey's SAGEMAP Program, and Wyoming Geographic Information Science Center.

Key to the analysis was starting with an accurate allotment layer; then utilizing GIS to overlay the various Greater Sage-grouse habitats to quantify the effects of the interim management requirements posed by WWP. The 'allotments' shapefile provided by the PFO had a sum of 237,720 AUMs when the 'TOTAL_AUMS' field is summed. This was drastically different from the total AUMs presented in Appendix 21 from the PFO Resource Management Plan and Final Environmental Impact Statement (RMP/FEIS) (USDI 2008), which presented 107,775 total AUMs. The discrepancy was identified in the 'allotments' shapefile which had several allotments with multiple pasture polygons attributed with the same allotment ID and AUMs. To remove this 'double counting' the 'allotments' shapefile was dissolved on the following fields: ALLOT_NAME, CLASS, TOTAL_AUMS, NO_PERMIT, SEL_MGMT_C, STAND_ASMT, PUBLIC_AUM, STATE_AUM, and PRVT_AUM. This dissolve created a new shapefile with 212 allotments, totaling 1,100,179 total acres and 138,287 total AUMs. Appendix 21 in the FEIS presents 214 allotments, totaling 1,138,282 acres (BLM, State, and Private), and 141,475 AUMs (BLM, State, and Private). These methods were reviewed with PFO's Resource Data Manager who reaffirmed our methods by saying, "I don't know how the analysts got to the numbers they produced for the FEIS, but it sounds like you are on the right track (Gregory pers. comm.)."

The PFO's RMP/FEIS, Record of Decision (ROD), and GIS data presented conflicting figures for number of allotments, allotment acres, and AUMs. Table 1 below presents some of the discrepancies encountered.

Table 1 Discrepancies Encountered with Allotment Information

Source	Number of Allotments	BLM AUMs	Total AUMs	Total Acres	
RMP/FEIS pg. 3-29	219	107,536			
RMP/FEIS pg. 3-30	213			1,053,646	

Source	Number of Allotments	BLM AUMs	Total AUMs	Total Acres	
RMP/FEIS pg. 3-33	214			931,630	
RMP/FEIS Appendix 20	213	106,663			
RMP/FEIS Appendix 21	214	107,775	141,475	1,138,282	
ROD pg. 2-17	213				
ROD pg. 2-18		107,907			
PFO GIS Data	218			1,100,004	
Edited GIS Data	212	107,109	137,987	1,099,637	

Once the edited PFO allotment shapefile closely approximated the figures presented in the RMP/FEIS and ROD the layer was frozen and used it to analyze the following six Greater Sage-grouse habitat scenarios:

Scenario A uses the Wyoming Governor's Greater Sage-grouse Core Areas Version 3. GIS was utilized to overlay the grazing allotments with the Greater Sage-grouse Core Areas.

Scenario B uses the current distribution of Greater Sage-grouse. In 2004 the Western Association of Fish and Wildlife Agencies published the Conservation Assessment of Greater Sage-grouse and Sagebrush Habitats, the lead author was John Connelly. This comprehensive report on Greater Sage-grouse presented a map of the current and historic distribution.

The PFO in the ROD for the RMP/FEIS presented a map showing Greater Sage-grouse nesting and brood rearing habitats (Map 2-36). These shapes were provided by the PFO and were comprised two mile buffers on leks. These buffered leks were analyzed as Scenario C.

Method of Determining Number of AUMs Lost

Appendix 20 RMP/EIS contains information on 212 active BLM allotments, including allotment ID, allotment name, AUMs, and grazing dates. Using this table as a base, the GIS information was used to determine which allotments were impacted and the total number of AUMs associated with the allotments. The proposed interim requirements contain a time frame for grazing and this was used to calculate the number of AUMs lost. The tables in appendix A detail all 212 allotments and the information available through Appendix 20 and GIS data sets obtained from the BLM.

Assumptions

Two sections of the proposed interim management requirements were assumed to affect the ranchers' ability to utilize AUMs. The first proposed management measurement is to "exclude livestock grazing in Sage-grouse nesting and brood-rearing habitats from March 1 to June 20, and remove livestock by August 1 of each year, with a mandatory goal of leaving at least 70 percent of the herbaceous production each year to form residual cover to benefit Sage-grouse nesting the following spring." Using this as a

guideline, it was assumed that AUMs utilized would be reduced by the same percentage as the number of days of grazing. It may be possible for ranchers to utilize more AUMs during a shorter period of time by placing more cattle on the allotment; however, given that this would require the home ranch to support a larger herd during the rest of the season, it was assumed herd size would not be increased.

While the acres of Sage-grouse habitat may not cover an entire allotment, it was assumed that the date restrictions would pertain to the entire allotment. One of the other interim management measures specifies that no new fences would be allowed. Without the ability to fence off the Sage-grouse habitat from the rest of the allotment, the rancher must forego the use of the entire allotment during the date restrictions. In addition, the BLM allotments have State and private lands interspersed throughout. The use of these must also be foregone without the ability to erect new fences.

Based on personal communication with Sublette County permittees, it was assumed that if the new grazing period was less than five days the rancher would forego use of the allotment and if the new grazing period was between five and ten days and it was a common allotment the ranchers would also forego use of the allotment. According to local ranchers, if it was an individual allotment and the new time period was over five days they would send cattle to the allotment. However, if it was less than 10 days and a common allotment, the exercise of separating their cattle would drive the decision to forego use.

The second measure calls for prohibiting grazing twice in the same season (including trailing). According to local permittees, those with Forest Service allotments typically use a trailing permit to bring cattle back across the BLM Planning Area at the end of the season. Prohibiting this would force ranchers to forego use of Forest Service allotments without means to bring the cattle back to the home ranch. Therefore it was assumed that all of the Forest Service AUMs on allotments that were used by BLM permittees would be lost.

Calculations of AUMs Lost

Using Appendix 20 of the RMP, GIS results, and the assumptions outlined above, the potential loss in AUMs for each allotment was calculated for both BLM allotments and total allotments in the Planning Area. The first step was to calculate the total number of days in the grazing period for each allotment. Then the number of new days was calculated based on the date restrictions. Once the new days were calculated, all allotments with five or fewer days was set to zero new days. All allotments with ten days or less on common allotments was also set to zero. The adjusted number of new days was compared to the original number of days to calculate a percentage of days lost. The percentage of days lost was applied to both BLM AUMs in the allotment and total AUMs permitted in the allotment (included State AUMs and private AUMs). This amount was totaled and added to the Forest Service allotments that were no longer usable. These categories of lost AUMs, BLM AUMs, AUMs in the Planning Area, and AUMs in the Region, were used to calculate impacts to local economics. The table in appendix A contain columns for each of these categories.

Measurement of Impacts to Cattle Ranching and Local Communities

Impacts to output and employment in the region were estimated using a modified IMPLAN© model provided by David T. Taylor. IMPLAN© is a regional input/output economic model utilized by the BLM to measure indirect and induced changes to local economies. Indirect impacts are changes in industries that sell inputs to the industries that are directly impacted. Induced impacts are changes in household spending that result from increases or decreases in household income.

Impacts to ranching, particularly for ranches that utilize public lands for grazing, are difficult to model for several reasons. The first is that many ranches are supplemented by outside income. The second is that prices in the cattle market and hay market fluctuate a great deal from year to year. A ranch may realize a large profit one year and then not profit again for several years. Also, many times the rancher and his family are also the workers, which obscures employment impacts. For a complete review of the difficulties of modeling ranching decisions see Appendix C – Literature Review.

The analysis utilized AUM valuation methods developed by David T. Taylor et al. for Fremont County, Wyoming in 2004. Three valuations were developed based on dependency of the ranch on public land grazing. An average value for a BLM AUM, where 1 AUM is the equivalent of 1 AUM in livestock output, is used when the ranch is not dependent on BLM AUM. This would be the case when there are perfect substitutes for the BLM AUM. If the ranch is seasonally dependent on the public AUMs, meaning that it is not possible to simply replace the public AUM with other AUMs, then the value per public AUM is higher. In this case, 1BLM AUM is the equivalent of 1.45 AUMs in livestock output. If the ranch is so dependent of the public AUMs that production will cease without them then the value per public AUM is higher still. Then 1 BLM AUM is equivalent to 2.46 AUMs in livestock production. (Taylor 2004)

According to Taylor et al. (2004) which of these values are appropriate to use is based on several factors, including:

- 1. Individual ranch's level of dependency on Federal grazing;
- 2. Magnitude of proposed change in grazing;
- 3. Financial solvency of the ranch;
- 4. Availability of alternative sources of forage; and
- 5. Desire of the rancher to remain in ranching.

The direct output values are calculated using a representative ranch budget and running Monte-Carlo simulations. The direct output values for average BLM AUM and Ranch Viability BLM AUM remain the same for any level of reduction in BLM grazing. The Ranch Production BLM AUM value changes for different levels of reduction in grazing. In Table 2, there are two values for direct output. For a 75% reduction in AUMs the direct output value is \$60.70 and for the 50% reduction the value is \$60.32. Using these numbers in 2010 IMPLAN© for Lincoln and Sublette County the indirect, induced, and total values were calculated for output and employment.

Table 2: Values per AUM used in Impact Calculations

	Average BLM AUM	Ranch Production BLM AUM(1)	Ranch Viability BLM AUM		
<u>Output</u>					
Direct	\$42.24	\$60.70 (\$60.32)	\$103.78		
Indirect	\$22.28	\$32.02	\$54.75		
Induced	\$10.13	<u>\$14.55</u>	<u>\$24.88</u>		
Total	\$74.65	\$107.27	\$183.41		
Employment					
Direct	0.000465	0.000669	0.001144		
Indirect	0.000262	0.000376	0.000643		
Induced	0.000097	0.000140	0.000239		
Total	0.000825	0.001185	0.002026		

Source: David T. Taylor 2012

For purposes of this analysis, the impacts from the foregone use of State and private AUMs that are within the BLM allotments are calculated using these values.

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APPENDIX C

Literature Review

A literature review was conducted to understand the economic and social impacts of imposing the interim management requirements in the Pinedale Planning Area. This review is summarized below and is categorized by resource issue in order to provide a better understanding of the potential impacts. First, literature on the economic values and history of public land grazing permits is offered. This is followed by research examining the variables affecting ranchers' decisions to continue ranching, including representative budgets and quality of life factors, and studies that have measured the impact of decreases in public land grazing. Lastly, other studies that have examined the costs and benefits of ranch land fragmentation in smaller "ranchettes" is presented.

1. Economic Value and History of Public Land Grazing Permits

Van Tassell and Richardson (1998) explained that during the settlement of the west, "when federal grazing lands were originally allocated, livestock operators who met the commensurate and prior-use requirements were given preference for receiving available grazing permits. Grazing fees were set below 'fair market value,' and permits were allocated to encourage settlement and stability of local communities. Public lands were incorporated quickly into the ranchers' forage rotations and became an integral ingredient to successful ranching in the arid west."

Torell, Rimbey, and Tanaka (2006) in *On Why Grazing Permits Have Economic Value* evaluated permit values in New Mexico and the Great Basin and found that grazing permits added to ranchland value for ranches with a high percentage of public land. The value is the in the land itself and not the cattle. "It has long been recognized that western ranches are overpriced relative to their income earning potential and that the lifestyle and social fulfillment experienced by ranchers are major reasons for ranch purpose." For their two case studies they estimated changes to permit value based on public land acreages, grazing use, and grazing fees change.

In Explication of and Rationale for the Voluntary Grazing Permit Waiver Provision in the *Proposed Central Idaho Economic Development and Recreation Act* the National Public Lands Grazing Campaign (2005) state, "grazing permits do possess economic value that permittees rely upon when buying, selling, and financing their ranch. Financial institutions use grazing permits as collateral for loans. The real estate industry recognizes increased value in private 'base properties' with attached federal grazing permits. Even the Internal Revenue Service recognizes value in federal grazing permits, taxing them when a rancher transfers their permit or dies."

2. Measuring Impacts of Reductions in Federal Grazing Permits

Taylor et al. (2004b) studied the economic impact of a reduction of grazing on BLM land in Fremont County, Wyoming. The study analyzed how profitability at the ranch level might be affected by a reduction in BLM grazing and then analyzed the regional level impacts on jobs and income at the county level. They found that federal livestock grazing is an important part of livestock production in terms of the number of producers affected, the acres of land involved and economic effects on the individual agriculture operations. Federal livestock grazing also has important economic implications for the local

community. The total economic impact estimates for BLM grazing in Fremont County range from 277 to 681 jobs and \$3.9 to \$9.7 million in labor income.

Van Tassel and Richardson (1998) conducted a study that examined the profitability of a ranching operation that adjusted to a reduced stocking rate resulting from a decrease in public land use. A linear programming model of production alternatives was developed to assess how a ranch would adjust to a reduction in federal Animal Unit Months (AUMs). Findings suggest that federal grazing permits were important to the success of the representative ranch used in the study. Economies of size, obtained through the additional cows the ranch was able to maintain because of the federal grazing permits, were an important aspect of this success. Equity rapidly eroded as federal permits were removed or reduced potentially causing the loss of the ranch. The potential exists, therefore, that without federal grazing permits, much of the land around national forest could change ownership. The danger is that those lands would be subdivided into ranchettes, or other residences, rather than remaining as open space or productive agriculture use.

Foulke, Coupal, and Taylor (2006) studied the role of federal grazing in the economy of Park County, Wyoming and how changes in permitted use may affect individual agricultural producers, land use patterns and the local economy. The results of their study indicated that the availability of federal grazing may be critical to the economic viability of many federal grazing dependent ranches. The ranch level analysis showed the net profits for federal grazing dependent ranches without federal grazing approaches zero. In regard to land use patterns they found that if grazing is lost, these base ranch properties that are so important as open space and wildlife habitat are in jeopardy of being developed into ranchettes or residential. Results show that replacing 35 acres of agricultural land with one average size household generates more revenues, but considerably more county expenditures.

A similar study to the Park County analysis was conducted by Torell, Garrett, and Ching (1981). The study assessed an increase in grazing fees, elimination of spring grazing, and reductions in BLM grazing allotments of 20, 40, and 60%. It was determined that grazing fee increases have an obvious impact on net ranch income but not an appreciable effect on the production of beef or the use of forage resources. On the other hand, allotment reductions and elimination of early spring grazing have significant effects. It was thus concluded that allotment reductions may have the most serious impact on the ranching sector.

Lewandrowski and Ingram (2011) and Taylor et al. (2004a) looked at impacts of restricting grazing on federal lands to protect Threatened and Endangered Species. Lewandrowski and Ingram (2004) found that a 10% reduction in grazing would have relatively minor impacts on economic activity at the regional, state, and national level. But, for many ranches at the local level the negative impacts of even a relatively modest reduction in grazing on federal lands would be significant. Taylor et al. (2004a) found that designating critical habitat would have the potential to significantly impact agricultural operations and the economy of local communities.

Resource Concepts Inc prepared a study for the State of Nevada and Nevada Association of Counties that examined the economic changes that have occurred as a result of grazing allocation changes. Based on this study it was concluded that decisions to increase or decrease livestock numbers on federal lands in Nevada have an important trickle down negative impact to the economy.

Bartlett et al. (2002) found that forage value studies in the last 40 years have resulted in low or negative estimates of public land forage value. Livestock production returns are low when compared to any standard investment criteria. Yet ranchers still graze livestock on public lands and purchase ranches with grazing permits. The authors concluded that public land forage values include not only traditional livestock production value, but also other quality-of-life values.

3. Fragmentation of Ranchlands

Some of the essential information and data regarding the benefits of ranches, the trend of fragmentation, and the costs of fragmentation are listed below:

Benefits (Ecological, Social, Cultural and Economic)

- "Ranches are said to safeguard rangeland ecosystems services, protect open space, and maintain a unique and cherished American heritage while maintaining local property tax revenue and agricultural economics and cultures." (Brunson and Huntsinger 2008)
- "Under nineteenth century land disposition policies, more productive and well-watered rangelands were claimed by private landowners, along with critical wildlife habitat. Much evidence exists that under extensive rangeland livestock production these lands have been stewarded reasonably well. Researchers have found that biodiversity levels are higher on private ranch lands than they are on public lands." (Synder 2006)
- "Habitat for 95% of all federally threatened and endangered flora and fauna is on private lands in the United States, and 262 of these species (19%) survive only on private parcels." (Brunson and Huntsinger 2008)
- In Wyoming, winter range for big game is 56% private land. (Coupal et al. 2004)
- "The culture of the American West, with its themes of heroic deeds in a larger-than-life landscape and a struggle against adversity both anthropogenic and natural, has relied heavily on images of livestock production." (Brunson and Huntsinger 2008)
- "This tradition [public lands grazing] has been part of the western North American landscape since the 17th century, and may be considered an element of ranching culture." (Brunson and Huntsinger 2008)

Fragmentation Trend

- "As many as 45% of US ranches are being sold each decade." (Brunson and Huntsinger 2008)
- During the period from 1990 to 2001 one-fourth of the large agricultural operations in the Greater Yellowstone Ecosystem were sold. (Gosnell et al. 2006)
- Only 25% of the ranches sold from 1990 to 2001 in the Greater Yellowstone Ecosystem were sold to traditional ranchers. Amenity buyers bought 44% of the ranches that sold and investors bought 12%. (Gosnell et al 2006)

Costs of Fragmentation

- "Anecdote and our interviews with public land managers suggest that amenity-oriented owners are more open to changes (especially reductions) in grazing permits. (Gosnell et al. 2006)
- "Loss of local knowledge should be a concern regarding both public lands and common problems like water and weeds, suggesting the need for efforts to build bridges between new and established landowners." (Gosnell et al. 2006)
- "The current transition probably implies a long period of instability in ranchland status and uncertainty about the role ranchlands will play in maintaining the ecological integrity of the Greater Yellowstone Ecosystem." (Gosnell et al. 2006)
- "Natural resource lands within fragmented landscapes are also harder to manage from a logistical as well as a legal standpoint. Prescribed burning and some forms of invasive species control are more difficult when small, unmanaged lands are intermixed with extensive rangelands...Public land conflicts also increase with more people using the lands more frequently." (Snyder 2006)

An important variable in the viability of ranching in the west is the continuation of federal allotments for livestock grazing. Following is some of the data that exists highlighting the effect of reductions or uncertainty with regard to the future of federal grazing permits:

- "Seventy percent of public land permittees ...had adopted a passive, "wait-and-see" management strateg(y) rather than taking steps to improve viability of their operations." (Brunson and Huntsinger 2008)
- "It is likely that if federal forage resources are lost, or if land values become high enough, ranchers will sell their private parcels. Further, if neighboring ranches are sold for development, and ranchers experience a loss in local infrastructure and community, they also will be more likely to sell their ranches for development." (Snyder 2006)

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