

Collaborative Landscape Grazing and Greater Sage-Grouse Survival

WSARE 13-056

Annual Report 2015

Objectives/Performance Targets:

Accompanying Tables

Table 1: Nests in pastures with cattle and without across both years of the study.

	2014	2015	Total
Total Nests	41	49	90
Nests with Cows	2	0	2
Nests without Cows	39	49	88

Objective: Estimate influence of habitat type on nesting success.

Table 2: Nesting success (%) of sage-grouse by habitat type in the Centennial Valley, MT, 2014-2015.

Year	mountain big sagebrush	three-tip sagebrush	basin big sagebrush	low sagebrush	Overall
2014	59	44	15	N/A	43
2015	35	29	10	N/A	28
Average	47	37	13	N/A	36

Table 3: Broods in pastures with cattle and without across both years of the study.

	2014	2015	Total
Broods with Cows	5	2	7
Broods without Cows	<u>9</u>	<u>8</u>	<u>17</u>
Total	14	10	24

Table 4: Average grass heights (cm) by year.

	2014	2015	P-value
Number of Plots	107	72	
Grass Height (cm)	27	33	0.39

Table 5: Influence of grazing on average grass height (cm) during brood-rearing of sage-grouse in the Centennial Valley, MT, 2014-2015.

	Grazed	Ungrazed	P-value
Number of Plots	92	87	
Grass Height (cm)	37	26	0.18

Table 6: Average grass heights (cm) in areas occupied by sage-grouse with broods by two habitat types.

	mountain big sagebrush	three-tip sagebrush	P-value
Number of Plots	97	56	
Grass Height (cm)	30	31	0.89

Table 7: Habitat types used by broods across both years of the study.

	Habitat Type			Total
	mountain big sagebrush	three-tip sagebrush	Mixture	
2014	6	3	2	11
2015	<u>3</u>	<u>4</u>	<u>1</u>	<u>8</u>
Total	9	7	3	19

Table 8: Grazing utilization levels in brood home ranges of broods in pastures with cattle across both years of the study.

	2014	2015	All
Average Utilization	4%	3%	4%
Max Utilization	14%	13%	14%

Table 9: Differences in overall brood home range size (acres) between years.

	Means		P-Value
	2014 (n = 11)	2015 (n = 8)	
Average Brood Home Range Size (acres)	252	351	0.66

Table 10: Differences in overall brood home range size (acres) between pastures grazed and ungrazed by cattle.

	Means		P-Value
	Grazed (n = 6)	Ungrazed (n = 13)	
Average Brood Home Range Size (acres)	368	225	0.35

Table 11: Differences in overall brood home range size (acres) across habitat type.

	Means		P-Value
	mountain big sagebrush (n = 9)	three-tip sagebrush (n = 7)	
Average Brood Home Range Size (acres)	200	227	0.78