

February 13, 2008

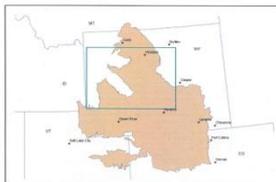
Greater Sage-Grouse Habitat & Livestock Grazing Management with emphasis on Nesting and Early Brood Rearing

Introduction

The sage-grouse literature is consistent in suggesting that intact sagebrush ecosystems are essential during all seasonal periods, and a sagebrush canopy in conjunction with robust herbaceous understorey is the key to quality breeding (e.g., nesting and early to summer seasonal habitats). Although there are many interrelationships between and sage-grouse habitats, the current need for analysis of sagebrush habitat is most important. Therefore, this document emphasizes ecological site progress dominated upland habitats. This emphasis is also chosen because it is not extant in previous literature. While sage-grouse benefit from healthy riparian habitat mid-summer, management of riparian zones has been the focus of rangeland initiatives in recent years, and there is little to add in this document. Appendix previous work that is referenced in this document, considered to be of particular address sage-grouse habitat issues not emphasized in this document.

This document addresses interrelationships between livestock grazing and sage the Wyoming Basin (Figure 1). A core premise of the document is that establish goals based on static and transition models is a critical first step in synchronizing habitat objectives and grazing management strategies.

Figure 1 – The Wyoming Basin



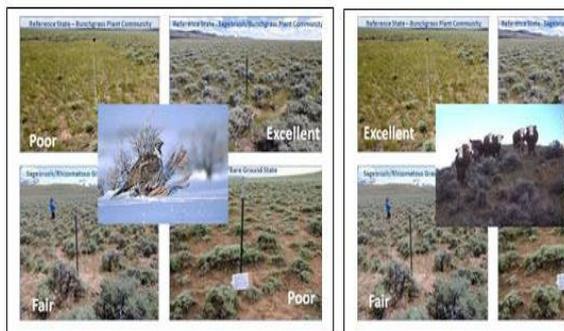
Wyoming Basin Vegetation Pattern

There are many species and subspecies of sagebrush in the Wyoming Basin. In the salt desert community, black and low sage are common on windswept or Basin big sagebrush and silver sagebrush occupy deep soils in lowland draws, subspecies of Wyoming and Mountain big sagebrush are considered most important.

Grazing Influence, Management and Objective Development in Greater Sage-Grouse Habitat

With emphasis on Nesting and Early Brood Rearing

August 16, 2009



Grazing Influence, Management and Objective Development in Wyoming's Greater Sage-Grouse Habitat

With emphasis on Nesting and Early Brood Rearing



March 2010

AUTHORS

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A Sage-Grouse/Grazing Year

Grouse Habitat Season	Gazing Issue
Mating - Leks	Avoid disturbance – Don't bed sheep or put infrastructure on or near Leks; Know where the leks are.
Nests – Early Brood Rearing	Hiding Cover is primarily dependent on residual cover from the previous year.
Late Brood Rearing	This is primarily a riparian health issue.
Winter	Avoid sagebrush treatments that can adversely affect grouse habitat.

**TR 1737 is really good
and really up to date –
So we didn't address
cover riparian issues
with depth**



RIPARIAN AREA MANAGEMENT

TR 1737-20

Grazing Management Processes and Strategies for Riparian-Wetland Areas



2006

The document addresses 3 primary topics:

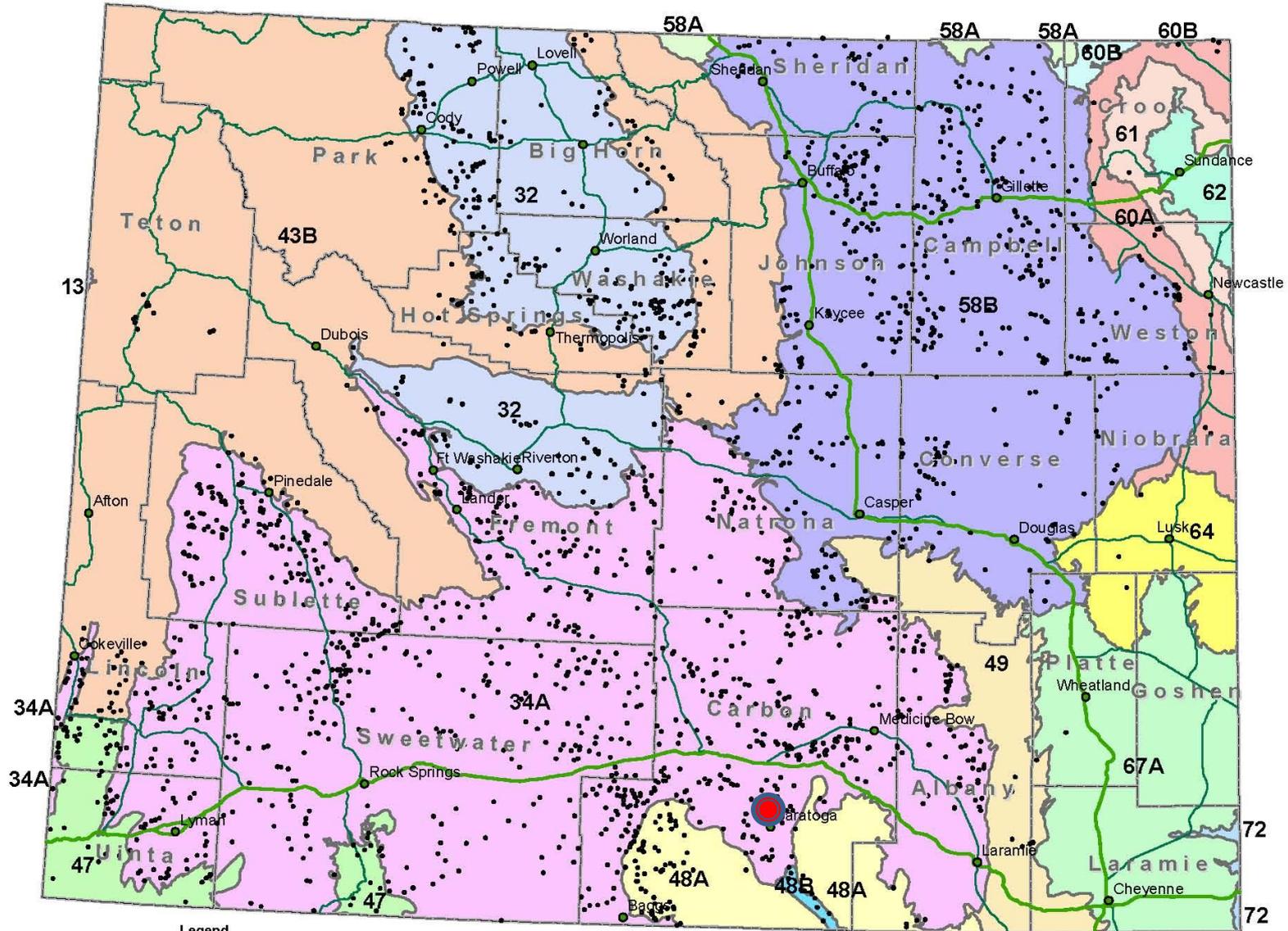
1. Sagebrush Ecology from a State and Transition Model Perspective

2. Long Term Grazing Management to Meet Trend Goals

3. Management of the Annual Standing Crop

The focus of the Document was on Nesting and Early Brood Rearing Habitat

Wyoming Major Land Resource Areas (MLRAs) and Sage Grouse Leks



Legend

- | | | | |
|--|---|--|--|
| 13 - Eastern Idaho Plateaus | 48A - Southern Rocky Mountains | 60A - Pierre Shale Plains and Badlands | 67A - Central High Plains, Northern Part |
| 32 - Northern Intermountain Deseritic Basins | 48B - Southern Rocky Mountain Parks | 60B - Pierre Shale Plains, Northern Part | 72 - Central High Tableland |
| 34A - Cool Central Deseritic Basins and Plateaus | 49 - Southern Rocky Mountain Foothills | 61 - Black Hills Foot Slopes | |
| 43B - Central Rocky Mountains | 58A - Northern Rolling High Plains, Northern Part | 62 - Black Hills | |
| 47 - Wasatch and Uinta Mountains | 58B - Northern Rolling High Plains, Southern Part | 64 - Mixed Sandy and Silty Tableland | |

The competition for Moisture and Space



Presentation Thesis

Establishing achievable goals based on state & transition models is a critical first step in synchronizing sagebrush habitat objectives and grazing management strategies.

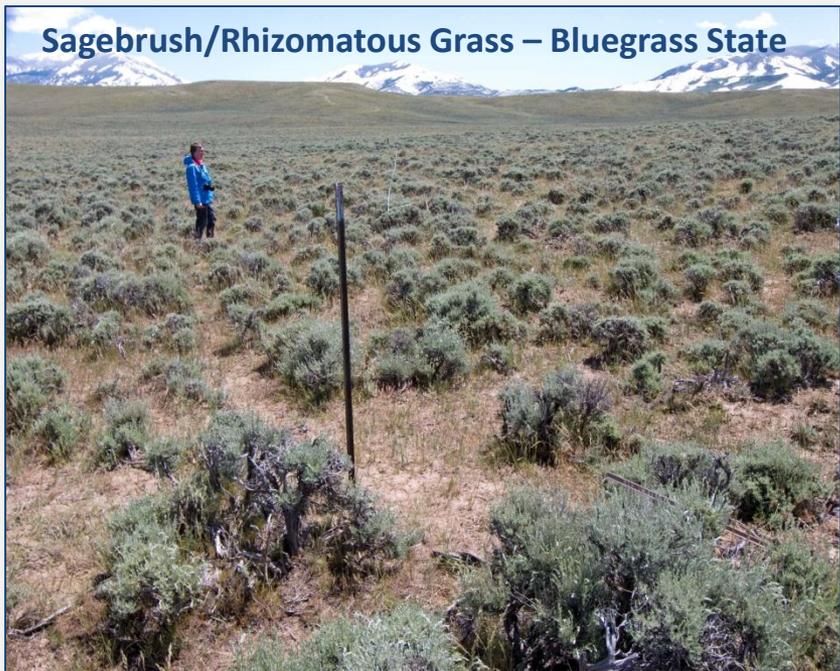
Reference State – Bunchgrass Plant Community



Reference State - Sagebrush/Bunchgrass Plant Community



Sagebrush/Rhizomatous Grass – Bluegrass State



Sagebrush/Bare Ground State



Site: 347000
Altitude: 5000
Elevation: 8000
Transect: 0000
Date: 6-12-07

Reference State – Bunchgrass Plant Community

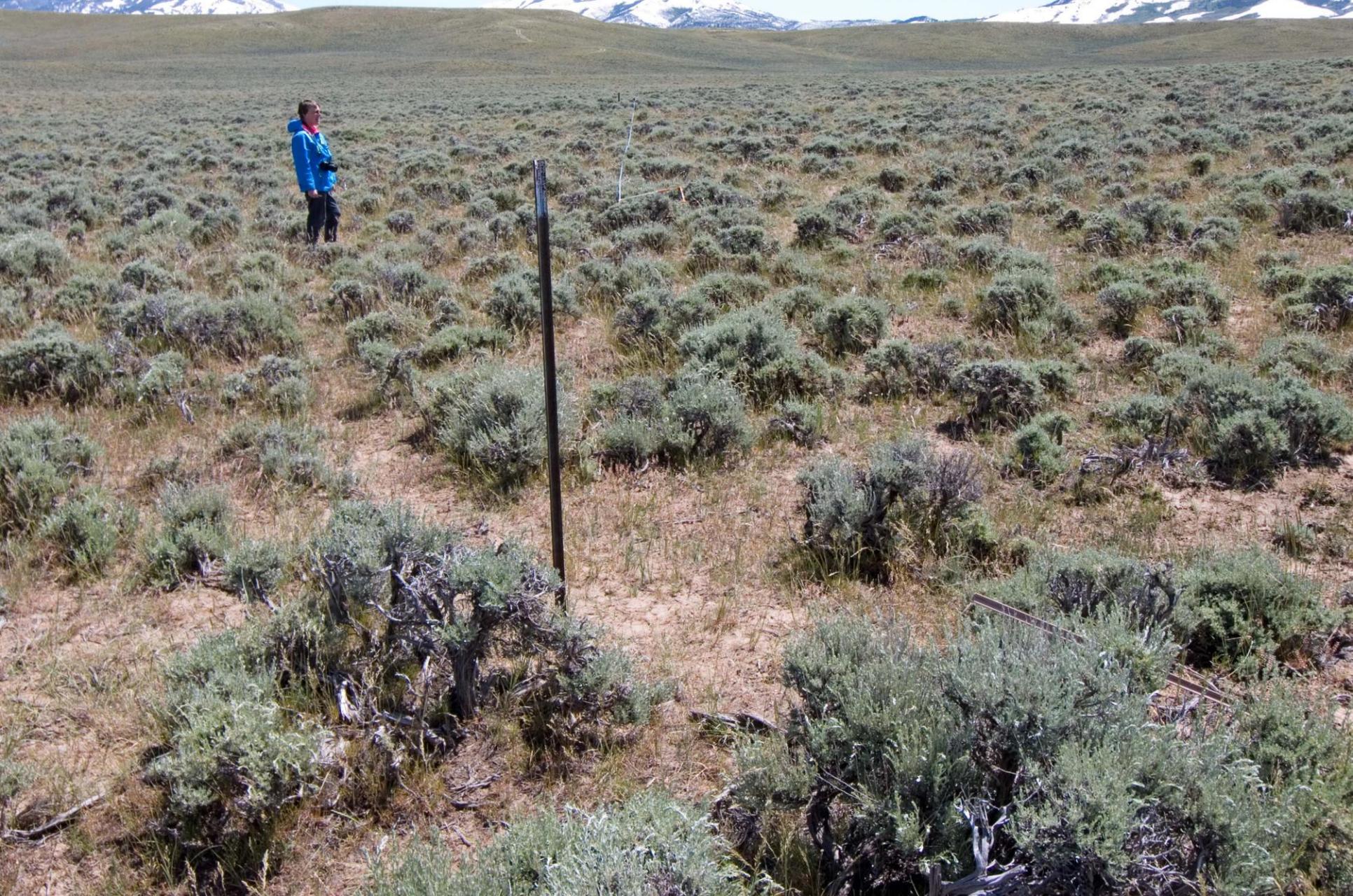


Sandy Ecological Site

Reference State - Sagebrush/Bunchgrass Plant Community



Sagebrush/Rhizomatous Grass – Bluegrass State



Sagebrush - Bare Ground State



Office: SARPATOGA
Allotment: SAGE
Pasture: SY 10-14
Transect: BARE GROUND
Date: 6-12-07

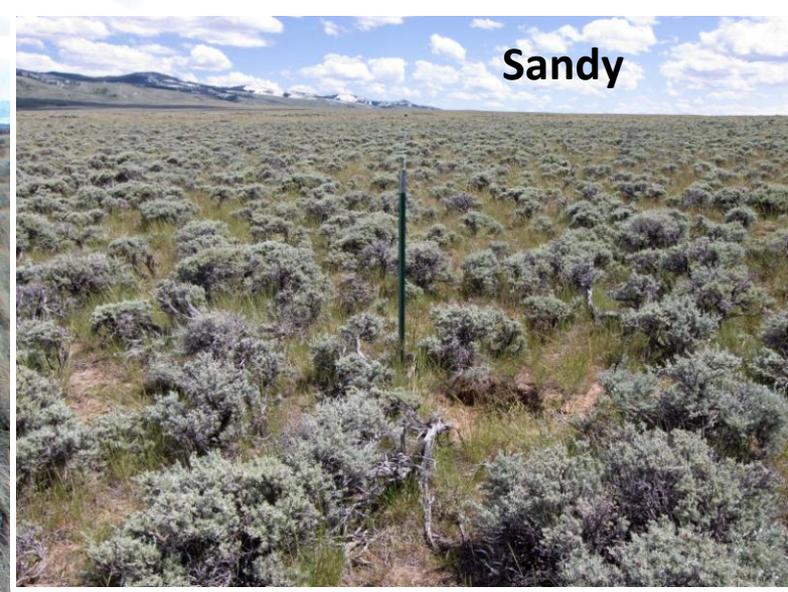
Sagebrush/Rhizomatous Grass – Bluegrass State



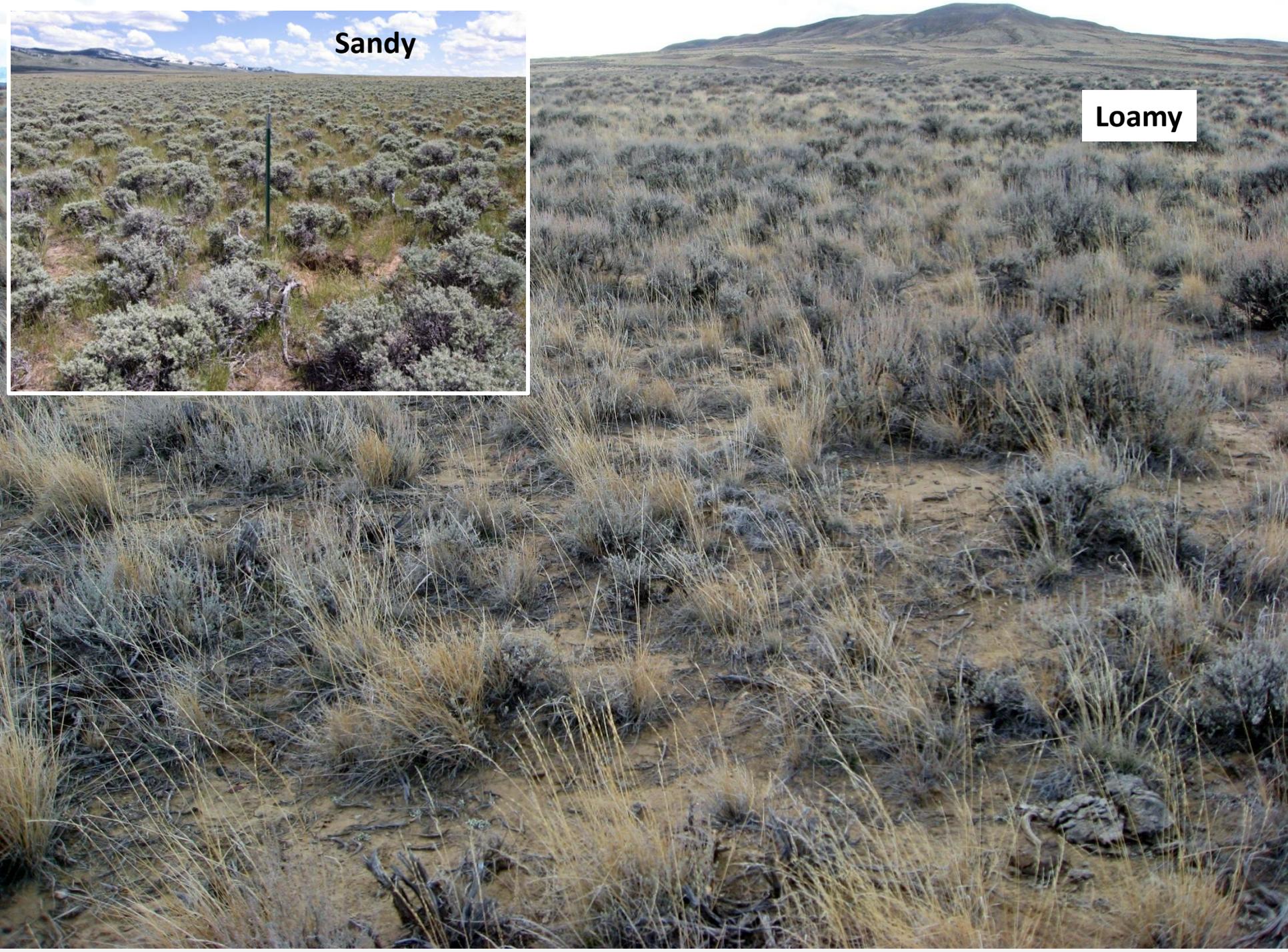
Reference State - Sagebrush/Bunchgrass Plant Community



Sandy



Loamy





Sagebrush Blue Grama



Sagebrush Threadleaf Sedge





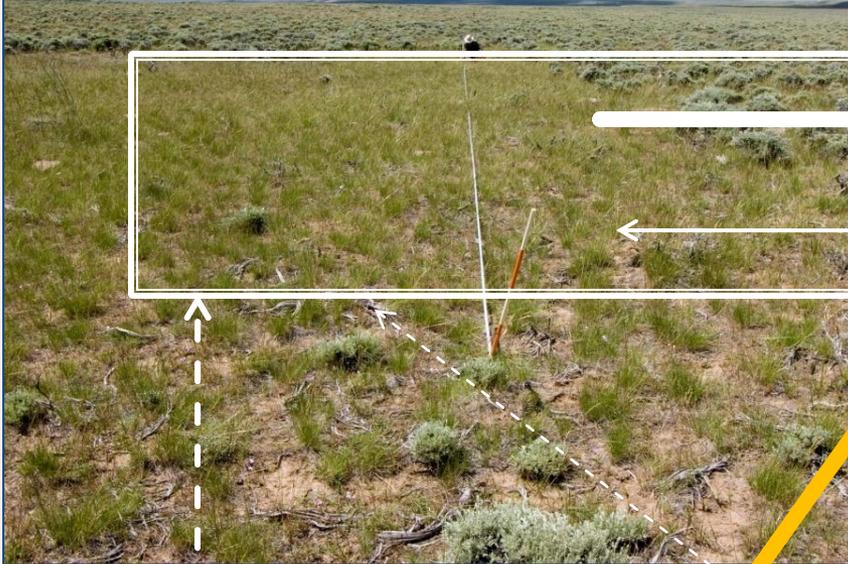
Cover Data

Species	Bunchgrass	Sagebrush Bunchgrass	Sagebrush Rhizomatous - Bluegrass	Sagebrush Bare Ground
Unknown Grass	11.8	3.8	.2	1.2
Bunchgrass	13.4	5.8	.6	0
Rhizomatous/ Bluegrass	15.2	9.0	5.4	0
Broadleaf Forb	2.2	3.4	.6	0
Cushion Forb	.2	1.2	3.8	.6
Sagebrush	.2	21.2	29.4	33.6
Litter	39.4	26.2	16.2	11.6
Bare Ground	14.8	21.4	36	49.4

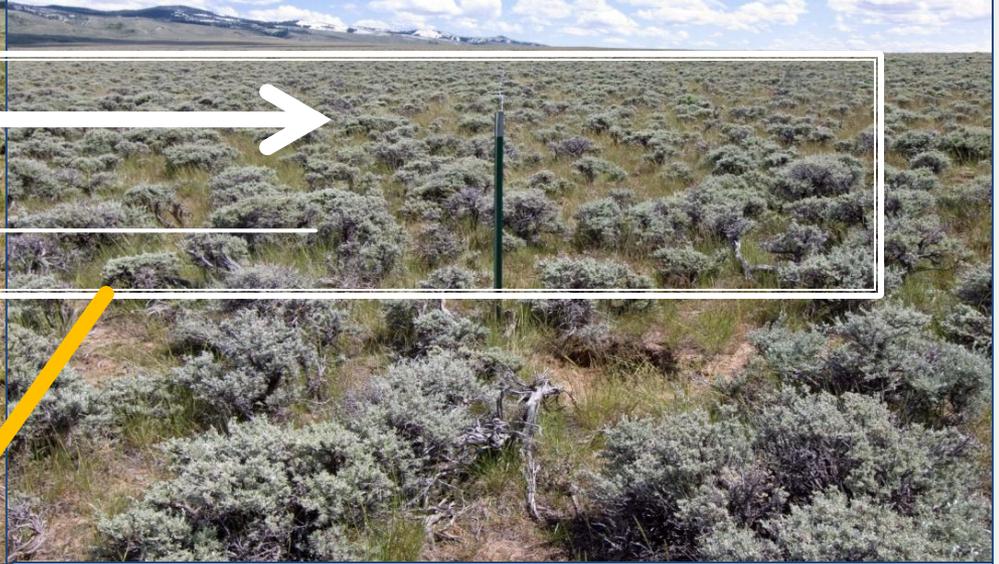
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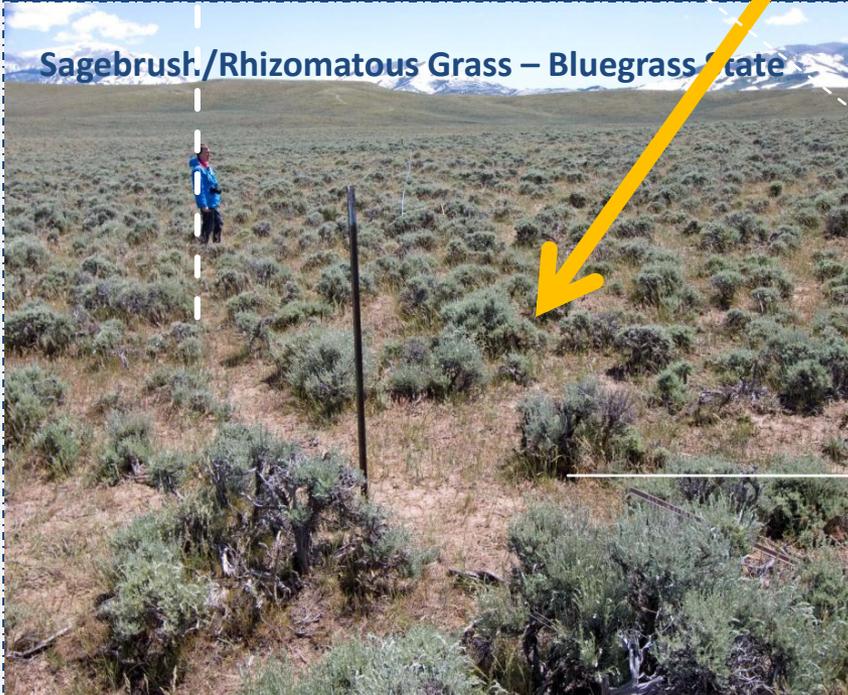
Reference State – Bunchgrass Plant Community



Reference State - Sagebrush/Bunchgrass Plant Community



Sagebrush/Rhizomatous Grass – Bluegrass State



Sagebrush/Bare Ground State



Reference State – Bunchgrass Plant Community

Reference State - Sagebrush/Bunchgrass Plant Community



Sagebrush/Rhizomatous Grass – Bluegrass State

Sagebrush/Bare Ground State





Percent Similarity Scoring

Plant Community 1

Plan Species	Dry Weight %	Site Guide %	Condition Score
Needle and Thread	25	50	25
Thickspike Wheat	15	25	15
Prairie Junegrass	10	5	5
Mutton Bluegrass	5	5	5
Annual Forbs	5	0	0
Perennial Forbs	5	10	5
Sagebrush	25	5	5
Rabbitbrush	10	5	5
Totals	100		65
		Condition	Good

Percent Similarity Scoring

Plant Community 2

Plan Species	Dry Weight %	Site Guide %	Condition Score
Needle and Thread	10	50	10
Thickspike Wheat	10	25	10
Prairie Junegrass	5	5	5
Mutton Bluegrass	5	5	5
Annual Forbs	5	0	0
Perennial Forbs	5	10	5
Sagebrush	50	5	5
Rabbitbrush	10	5	5
Totals	100		45
		Condition	Fair

Reference State – Bunchgrass Plant Community



Excellent

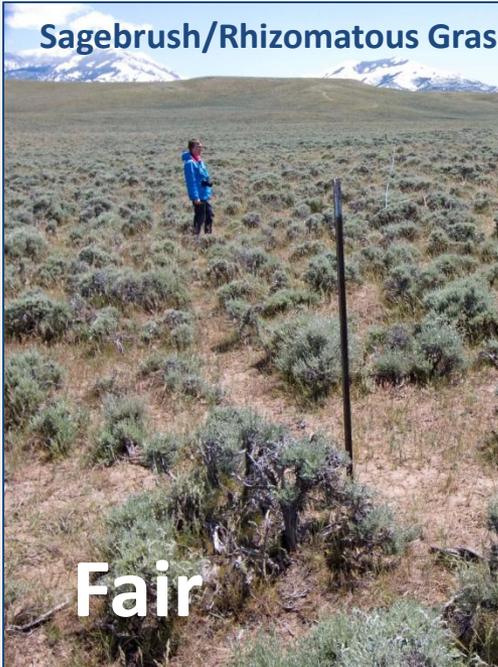
Reference State - Sagebrush/Bunchgrass Plant Community



Good



Sagebrush/Rhizomatous Grass



Fair

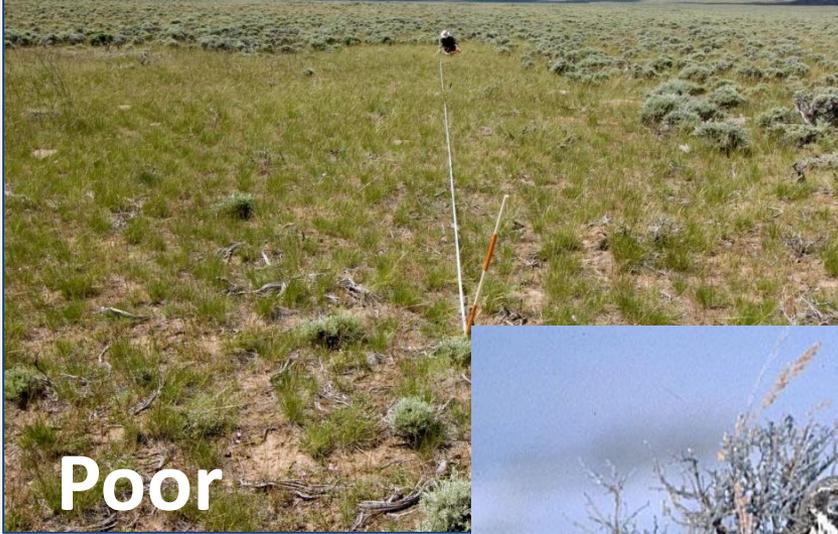
Ground State



Poor

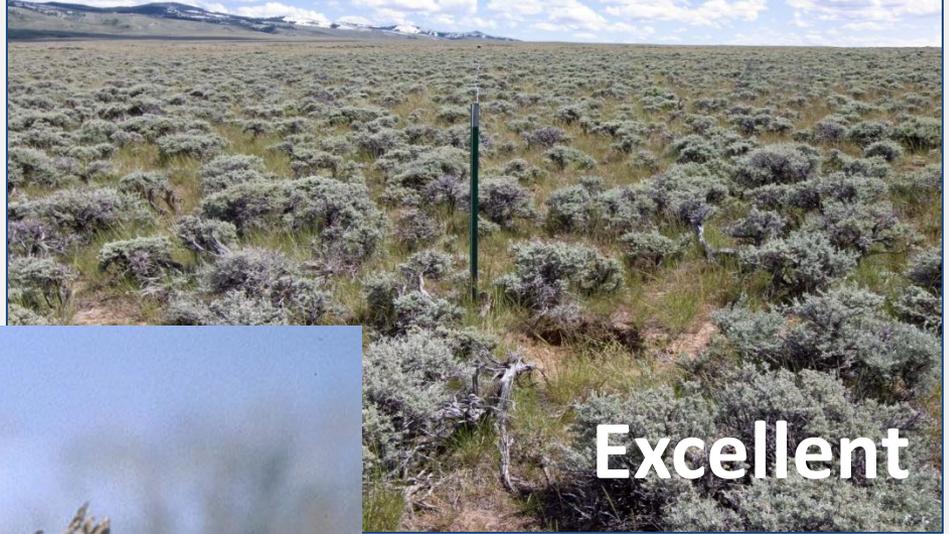
Site: 341000
Altitude: 5066
Pasture: 51 1014
Transect: 5002 02000
Date: 6-12-07

Reference State – Bunchgrass Plant Community



Poor

Reference State - Sagebrush/Bunchgrass Plant Community



Excellent



Sagebrush/Rhizomatous Grass



Fair

Bare Ground State



Poor

A Change Off Course

Points	Condition		New Name
75-100	Excellent		Potential Natural Community
50-74	Good		Late Seral
25-49	Fair		Mid Seral
0-24	Poor		Early Seral

Reference State – Bunchgrass Plant Community



Excellent
Potential Natural Community

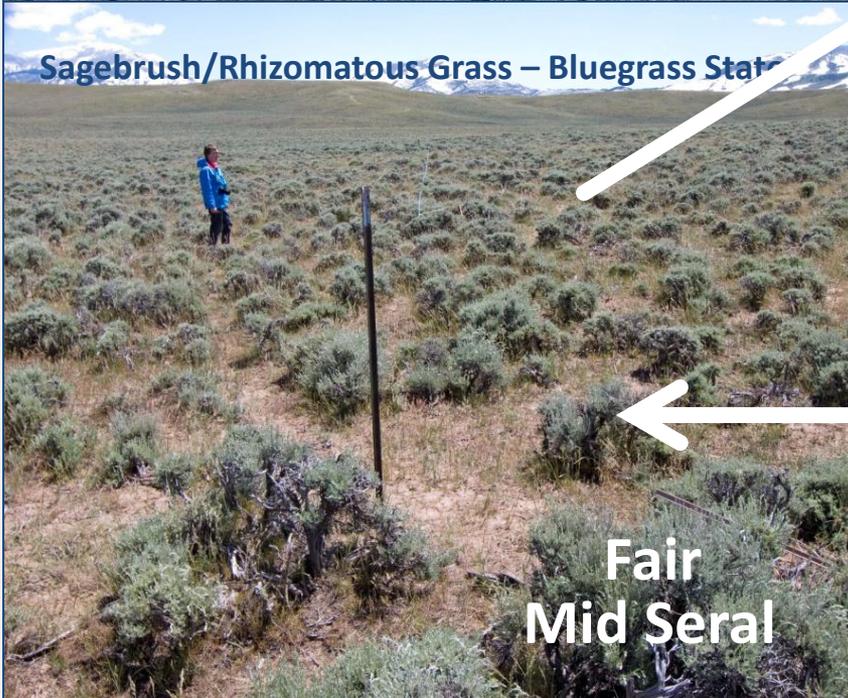
Reference State - Sagebrush/Bunchgrass Plant Community



Good
Late Seral



Sagebrush/Rhizomatous Grass – Bluegrass State



Fair
Mid Seral

Sagebrush/Bare Ground State



Poor
Early Seral

Office: SARETODG
 Allotment: 501.6
 Position: 50-10-19
 Transect: GORE_GROUND
 Date: 6-12-07

Reference State – Bunchgrass Plant Community

Reference State - Sagebrush/Bunchgrass Plant Community

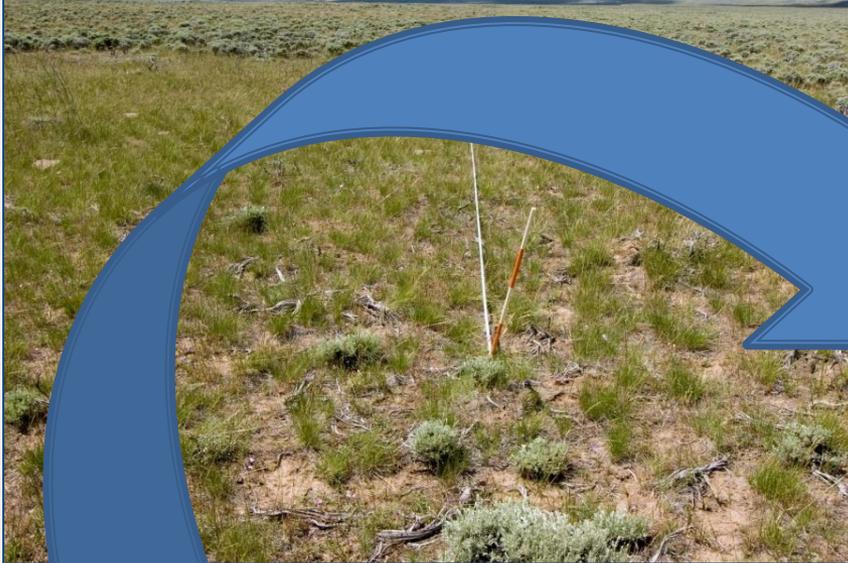


Sagebrush/Rhizomatous Grass – Bluegrass State

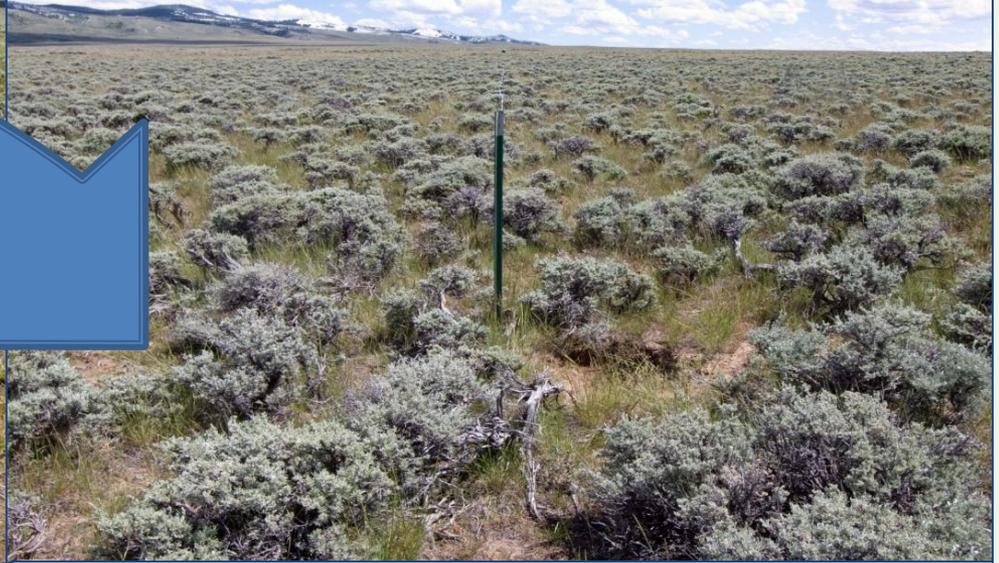
Sagebrush/Bare Ground State



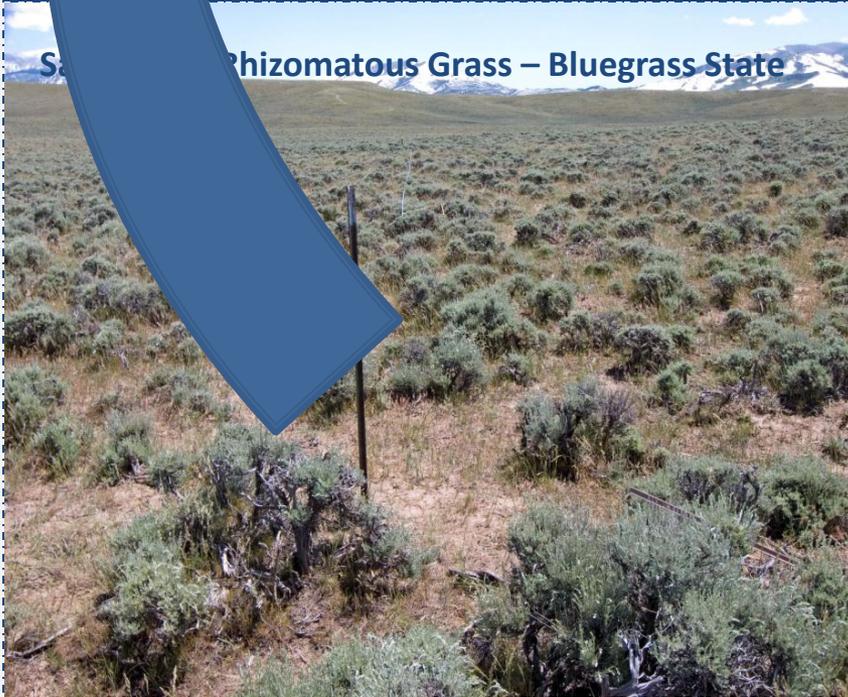
Reference State – Bunchgrass Plant Community



Reference State - Sagebrush/Bunchgrass Plant Community



Sagebrush/Rhizomatous Grass – Bluegrass State



Sagebrush/Bare Ground State



I do not advocate large scale treatment of sagebrush based on this analysis of plant succession.



Reference State – Bunchgrass Plant Community

Reference State - Sagebrush/Bunchgrass Plant Community

Decades

Sprayed: June 1, 1987

Photo: June 11, 2007

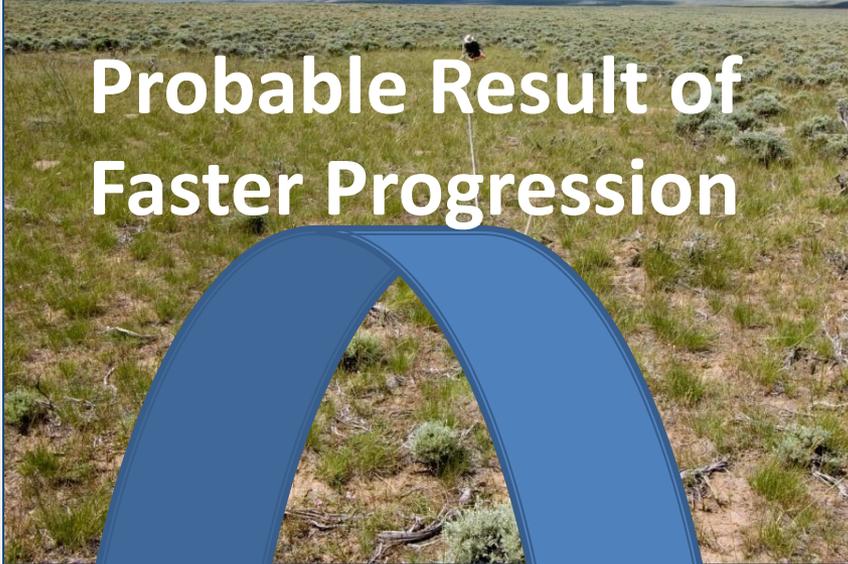
Sagebrush Cover: .2%

Sagebrush/Rhizomatous Grass – Bluegrass State

Sagebrush/Bare Ground State

Office: SARET002
Altitude: 5015.0
Elevation: 5015.0
Transect: GORE_GROUND
Date: 6.12.07

Reference State – Bunchgrass Plant Community

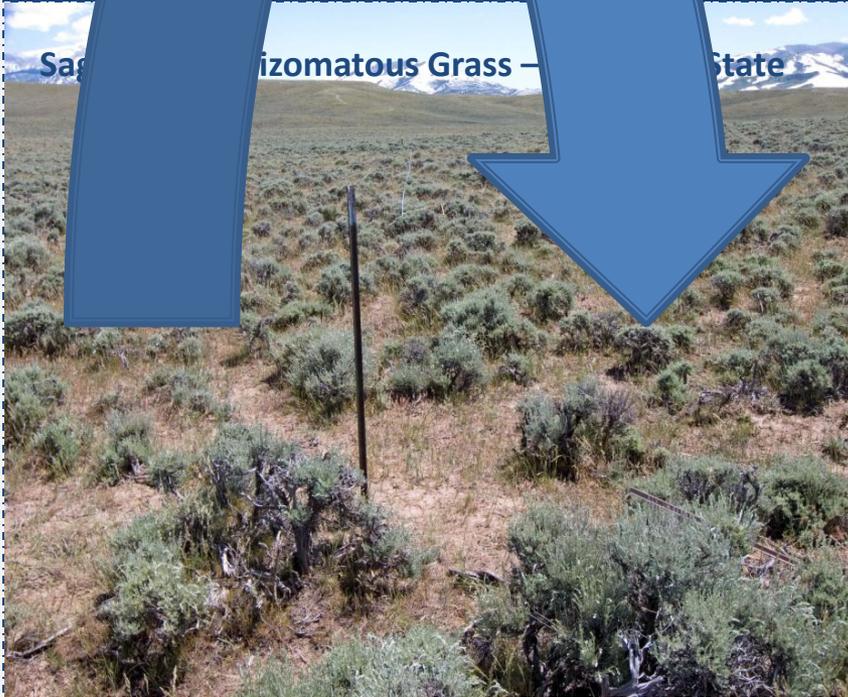


Probable Result of
Faster Progression

Reference State - Sagebrush/Bunchgrass Plant Community



Sagebrush/Perennial Grass – Reference State



Sagebrush/Bare Ground State



Grazing Management is about timing and intensity

If you have one pasture you can control the timing and intensity once.

If you have three pastures you can control the timing and intensity three times.

Timing

Grazing Management Seasons*

Upland Season	Winter			Early	Critical Growing	Late					Winter	
Month	J	F	M	April	May	June	July	Aug	Sep	Oct	N	D
Riparian Season	Winter			Early		Hot			Late	Winter		

Monthly Percentages of Cool Season Bunchgrass Growth

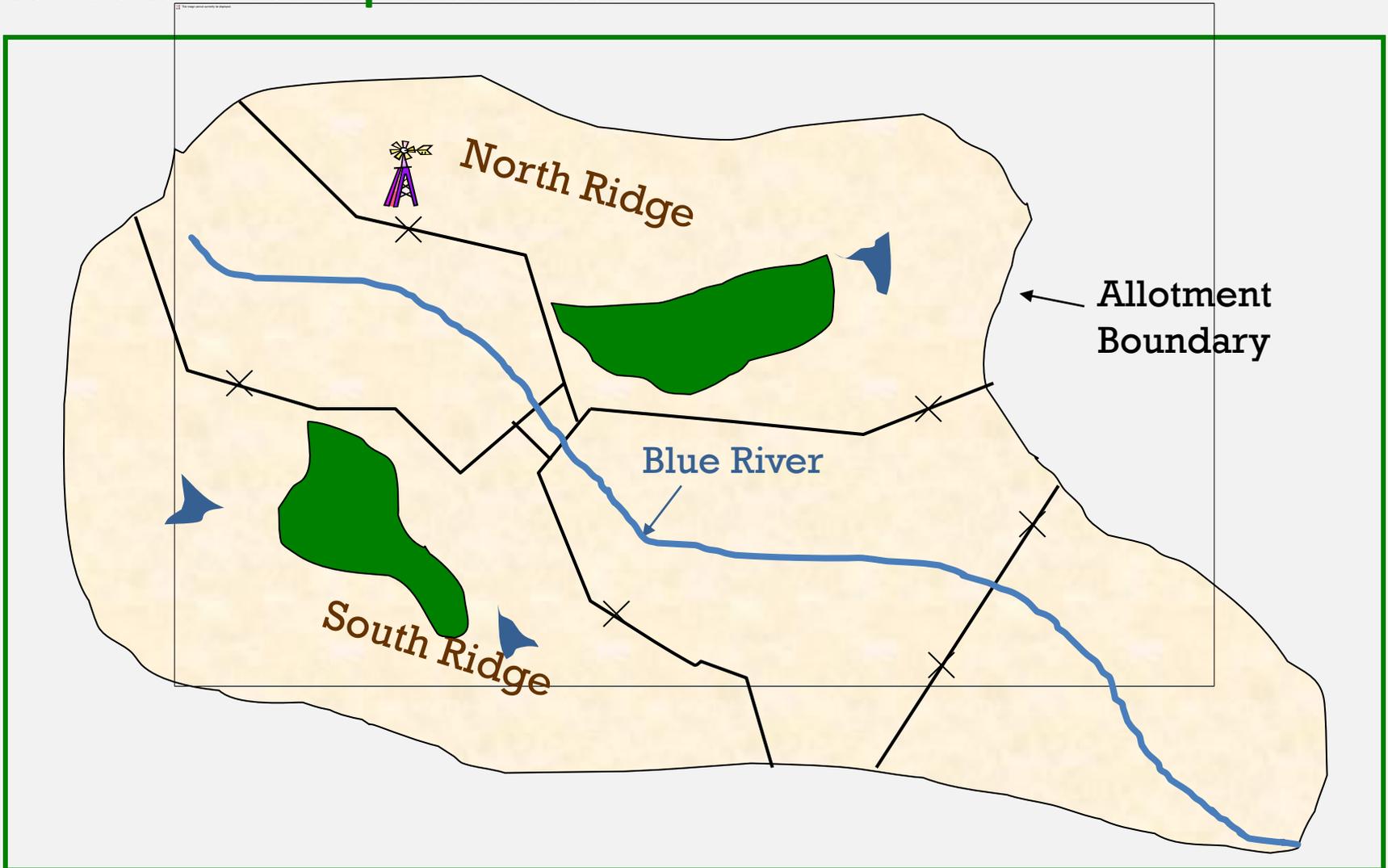
Month	J	F	M	April	May	June	July	Aug	Sep	Oct	N	D
				15	60	25						

* Upland seasons prepared for Cool Season Bunchgrasses on a Sandy Site in SE Wyoming with 10-14 inches of precipitation. Riparian Seasons are generalized for the region.

**To maintain the Sagebrush/Cool
Season Bunchgrass Plant
community you need 1 year in
three during the Critical Growing
Season and Moderate Utilization.**

This configuration can deliver the recommended 1 in 3 rules for the:

- Critical Growing Season for Uplands
- Hot Season for Riparian Areas



Range Projects are increasingly controversial





Range Managers have to work hard at making projects wildlife and aesthetics friendly.



Intensity

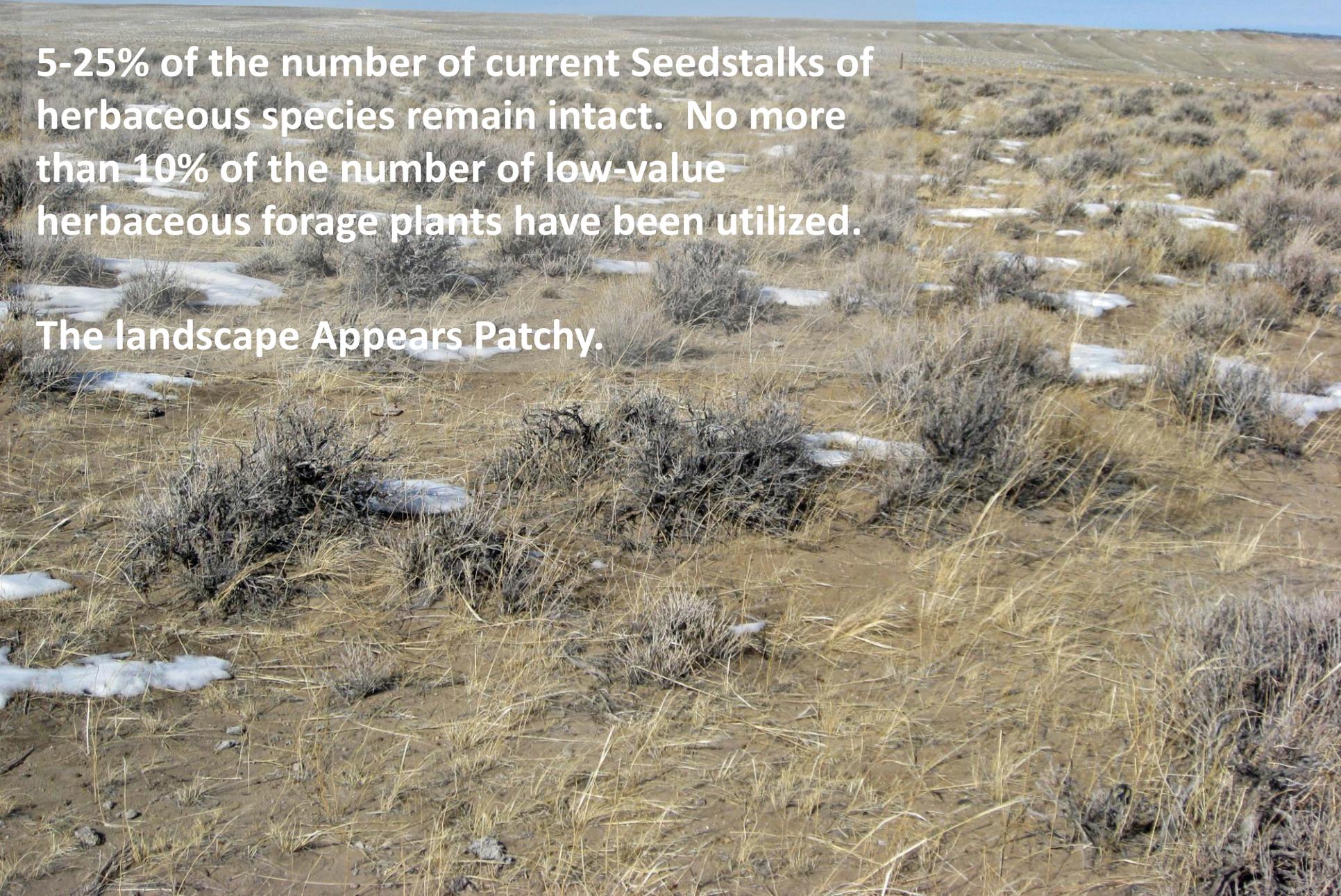


Both sides of the fence are in the same “condition.” The only difference is utilization. Even a well considered strategy will not adequately compensate for repeated heavy utilization.

Moderate Utilization:

5-25% of the number of current Seedstalks of herbaceous species remain intact. No more than 10% of the number of low-value herbaceous forage plants have been utilized.

The landscape Appears Patchy.

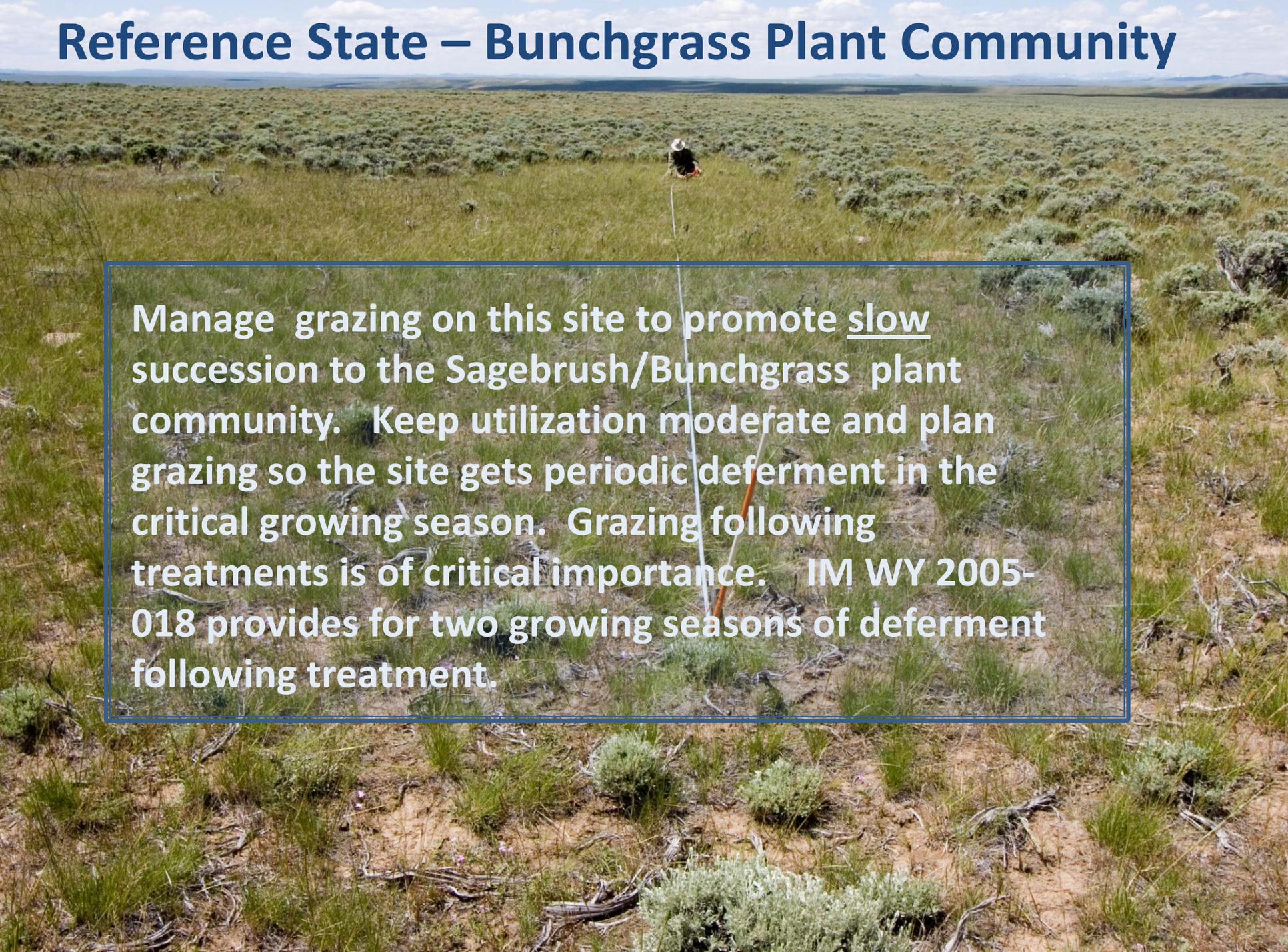


Heavy Utilization:

The Rangeland has the appearance of complete search. Herbaceous species are almost complete used with less than 10% of the seedstalks remaining.



Reference State – Bunchgrass Plant Community



Manage grazing on this site to promote slow succession to the Sagebrush/Bunchgrass plant community. Keep utilization moderate and plan grazing so the site gets periodic deferment in the critical growing season. Grazing following treatments is of critical importance. IM WY 2005-018 provides for two growing seasons of deferment following treatment.

Reference State - Sagebrush/Bunchgrass Plant Community



Recognize that this site is the product of long term success. Identify the grazing management that has produced this community. Carefully consider any changes to grazing management. Schedule some very targeted treatments to keep the reference state cycle intact.

Sagebrush/Rhizomatous Grass – Bluegrass State



Manage this site to promote health and vigor of the plant community. Avoid supplemental feeding or concentrating animals on these sites to avoid sliding to a Sagebrush Bare Ground State.

Sagebrush - Bare Ground State

Restrict grazing on this site in conjunction with restoration

Office: SARP/TOGA
Allotment: SAGE
Pasture: SY 10-14
Transect: BARE GROUND
Date: 6-12-07

Improvement here is Low Priority!

