

United States Department of Agriculture Natural Resources Conservation Service

Ecological Site Description

Site Type: Rangeland

Site Name: Sandy (Sy), 10-14" P.Z., High Plains Southeast

Site ID: R034AY350WY

Major Land Resource Area: 34A-Cool Central Desertic Basins and Plateaus

Physiographic Features

This site usually occurs in an upland position on relatively flat to moderately sloping land. Slopes commonly range from 1 to 15%.

Landform: Alluvial fans, hillsides, plateaus, ridges & stream terraces

Aspect: N/A

	<u>Minimum</u>	<u>Maximum</u>
Elevation (feet):	5500	7500
Slope (percent):	0	30
Water Table Depth (inches):	none within 60 inches	
Flooding:		
Frequency:	none	none
Duration:	none	none
Ponding:		
Depth (inches):	0	0
Frequency:	none	none
Duration:	none	none
Runoff Class:	negligible	high

Climatic Features

Annual precipitation ranges from 10-14 inches per year. Wide fluctuations may occur in yearly precipitation and result in more dry years than those with more than normal precipitation.

Temperatures show a wide range between summer and winter and between daily maximums and minimums. This is predominantly due to the high elevation and dry air, which permits rapid incoming and outgoing radiation. Cold air outbreaks in winter move rapidly from northwest to southeast and account for extreme minimum temperatures. Extreme storms may occur during the winter, but most severely affect ranch operations during late winter and spring.

Daytime winds are generally stronger than nighttime and occasional strong storms may bring brief periods of high winds with gusts to more than 50 mph.

Growth of native cool season plants begins about April 15 and continues to about June 15. Some green up of cool season plants usually occurs in September.

The following information is from the "Laramie" climate station:

	<u>Minimum</u>	<u>Maximum</u>	<u>5 yrs. out of 10 between</u>
Frost-free period (days):	57	149	June 1 – September 16
Freeze-free period (days):	94	183	May 15 – September 28
Annual Precipitation (inches):	5.8	17.34	

Mean annual precipitation: 11.53 inches

Mean annual air temperature: 42.2°F (30.4°F Avg. Min. to 53.9°F Avg. Max.)
 For detailed information visit the Natural Resources Conservation Service National Water and Climate Center at <http://www.wcc.nrcs.usda.gov/> website. Other climate station(s) representative of this precipitation zone include "Dixon " and "Medicine Bow".

Influencing Water Features

Wetland Description:	<u>System</u>	<u>Subsystem</u>	<u>Class</u>	<u>Sub-class</u>
None	None	None	None	None

Stream Type: None

Representative Soil Features

These soils are mostly deep (greater than 20 inches) and well drained. Surface layers are 5 inches or more thick with sandy loam to sandy clay loam subsoils.

Major Soil Series correlated to this site include:

Parent Material Kind: residuum, alluvium, and aeolian deposits

Parent Material Origin: sedimentary rock, usually sandstone

Surface Texture: fine sandy loam, sandy loam, loamy fine sand

Surface Texture Modifier: none

Subsurface Texture Group: fine sandy loam, sandy clay loam, sandy loam

Surface Fragments ≤ 3" (% Cover): 0-15

Surface Fragments > 3" (%Cover): 0-5

Subsurface Fragments ≤ 3" (% Volume): 0-15

Subsurface Fragments > 3" (% Volume): 0-10

	<u>Minimum</u>	<u>Maximum</u>
Drainage Class:	well	somewhat excessive
Permeability Class:	moderately	rapid
Depth (inches):	20	>60
Electrical Conductivity (mmhos/cm) ≤20":	0	4
Sodium Absorption Ratio ≤20":	0	5
Soil Reaction (1:1 Water) ≤20":	6.6	8.4
Soil Reaction (0.1M CaCl2) ≤20":	NA	NA
Available Water Capacity (inches) ≤30":	2.5	4.5
Calcium Carbonate Equivalent (percent) ≤20":	0	5

Plant Communities

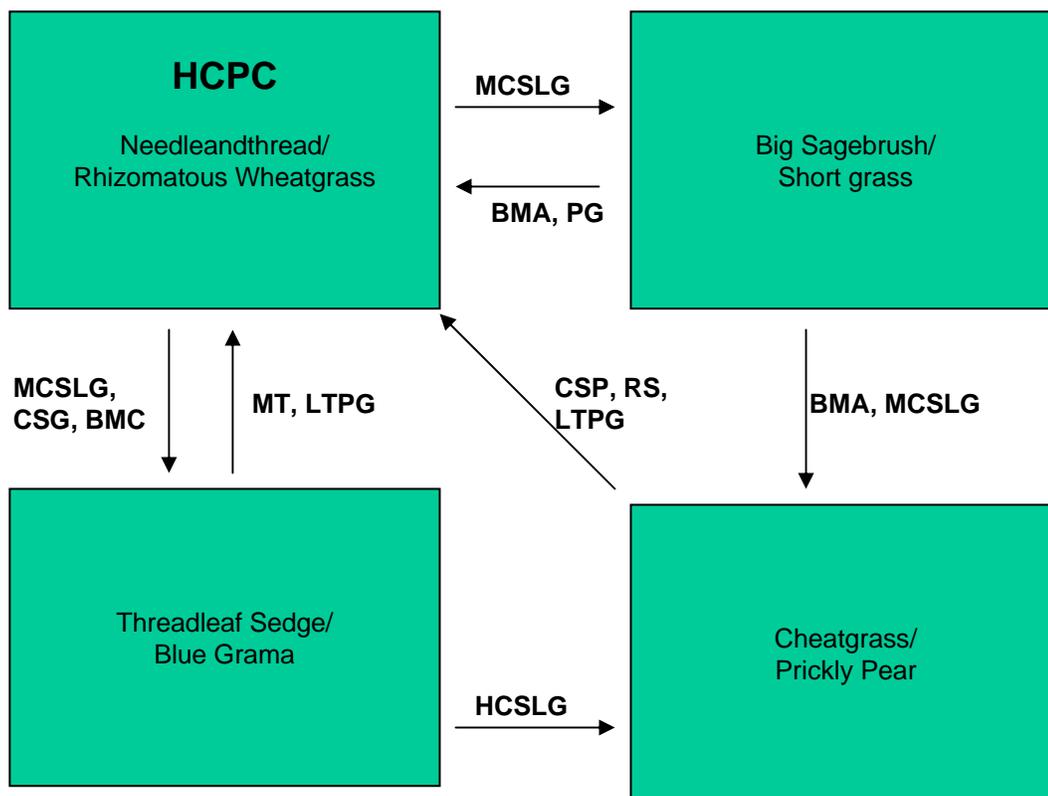
Ecological Dynamics of the Site:

As this site deteriorates from improper grazing management, woody species such as big sagebrush and silver sagebrush will increase. Bunchgrasses such as Indian ricegrass and needleandthread will decrease in frequency and production.

Big sagebrush will become dominant on some areas with an absence of fire. Wildfires are often actively controlled so chemical control using herbicides has replaced the historic role of fire on this site. Recently, prescribed burning has regained some popularity.

The Historic Climax Plant Community (description follows the plant community diagram) has been determined by study of rangeland relic areas, or areas protected from excessive disturbance. Trends in plant communities going from heavily grazed areas to lightly grazed areas, seasonal use pastures, and historical accounts have also been used.

The following is a State and Transition Model Diagram that illustrates the common plant communities (states) that can occur on the site and the transitions between these communities. The ecological processes will be discussed in more detail in the plant community narratives following the diagram.



BMA – Brush Management (all methods)
 BMC – Brush Management (chemical)
 BMF – Brush Management (fire)
 BMM – Brush Management (mechanical)
 CSP – Chemical Seedbed Preparation
 CSLG – Continuous Season-long Grazing
 DR – Drainage
 CSG – Continuous Spring Grazing
 HB – Heavy Browse
 HCSLG – Heavy Continuous Season-long Grazing
 HI – Heavy Inundation
 LPG – Long-term Prescribed Grazing
 MT – Mechanical Treatment (chiseling, ripping, pitting)
 MCSLG – Moderate Continuous Season Long Grazing

NF – No Fire
 NS – Natural Succession
 NWC – Noxious Weed Control
 NWI – Noxious Weed Invasion
 NU – Nonuse
 P&C – Plow & Crop (including hay)
 PG – Prescribed Grazing
 RPT – Re-plant Trees
 RS – Re-seed
 SGD – Severe Ground Disturbance
 SHC – Severe Hoof Compaction
 WD – Wildlife Damage (Beaver)
 WF – Wildfire

Plant Community Composition and Group Annual Production
Reference Plant Community (HCPC)

COMMON NAME/GROUP NAME	SCIENTIFIC NAME	SYMBOL	Annual Production (Normal Year)		
			Group	lbs./acre	% Comp.
			Total: 1200		
GRASSES AND GRASS-LIKES					
GRASSES/GRASSLIKES					
Needleandthread	Hesperostipa comata	HECO26	1	240 - 600	20 - 50
Thickspike wheatgrass	Elymus lanceolatus ssp. lanceolatus	ELLAL	2	180 - 300	15 - 25
Indian ricegrass	Achnatherum hymenoides	ACHY	3	120 - 240	10 - 20
Bottlebrush squirreltail	Elymus elymoides	ELEL5	4	60 - 120	5 - 10
Threadleaf sedge	Carex filifolia	CAFI	5	60 - 120	5 - 10
MISC. GRASSES/GRASSLIKES			6	60 - 180	5 - 15
Bloomer's ricegrass	Achnatherum bloomeri	ACBL	6	0 - 60	0 - 5
Blue grama	Bouteloua gracilis	BOGR2	6	0 - 60	0 - 5
Bluebunch wheatgrass	Pseudoroegneria spicata	PSSP6	6	0 - 60	0 - 5
Canby bluegrass	Poa canbyi (syn. P. secunda)	POCA (POSE)	6	0 - 60	0 - 5
Mountain muhly	Muhlenbergia montana	MUMO	6	0 - 60	0 - 5
Mutton grass	Poa fendleriana	POFE	6	0 - 60	0 - 5
Plains reedgrass	Calamagrostis montanensis	CAMO	6	0 - 60	0 - 5
Prairie junegrass	Koeleria macrantha	KOMA	6	0 - 60	0 - 5
Prairie sandreed	Calamovilfa longifolia	CALO	6	0 - 60	0 - 5
Sand dropseed	Sporobolus cryptandrus	SPCR	6	0 - 60	0 - 5
Sandberg bluegrass	Poa secunda	POSE	6	0 - 60	0 - 5
other perennial grasses (native)		2GP	6	0 - 60	0 - 5
FORBS			7	60 - 120	5 - 10
Aster	Eucephalus spp.	EUCEP2	7	0 - 60	0 - 5
Buckwheats	Eriogonum spp.	ERIOG	7	0 - 60	0 - 5
Deathcamas	Zigadenus spp.	ZIGAD	7	0 - 60	0 - 5
Fringed sagewort	Artemisia frigida	ARFR4	7	0 - 60	0 - 5
Hoods phlox	Phlox hoodii	PHHO	7	0 - 60	0 - 5
Penstemons	Penstemon spp.	PENST	7	0 - 60	0 - 5
Rush skeleton plant	Lygodesmia juncea	LYJU	7	0 - 60	0 - 5
Sagebrush gilia	Leptodactylon pungens	LEPU	7	0 - 60	0 - 5
Scarlet globemallow	Sphaeralcea coccinea	SPCO	7	0 - 60	0 - 5
Scurfpeas	Psoralea spp.	PSORA2	7	0 - 60	0 - 5
Toadflax	Comandra umbellata	COUM	7	0 - 60	0 - 5
other perennial forbs (native)		2FP	7	0 - 60	0 - 5
TREES/SHRUBS			8	60 - 120	5 - 10
Silver Sagebrush	Artemisa cana	ARCA13	8	60 - 120	5 - 10
Wyoming Big Sagebrush	Artemisa tridentata ssp. wyomingensis	ARTRW8	8	60 - 120	5 - 10
MISC. SHRUBS			9	60 - 120	5 - 10
Antelope bitterbrush	Purshia tridentata	PUTR2	9	0 - 60	0 - 5
Black sage	Artemisia nova	ARNO4	9	0 - 60	0 - 5
Green rabbitbrush	Chrysothamnus viscidiflorus	CHVI8	9	0 - 60	0 - 5
Shadscale	Atriplex confertifolia	ATCO	9	0 - 60	0 - 5
Spineless horsebrush	Tetradymia canescens	TECA2	9	0 - 60	0 - 5
Winterfat	Krascheninnikovia lanata	KRLA2	9	0 - 60	0 - 5
other shrubs & half shrubs (native)		2SHRUB	9	0 - 60	0 - 5

This list of plants and their relative proportions are based on near normal years. Fluctuations in species composition and relative production may change from year to year dependent upon precipitation or other climatic factors.

Plant Community Narratives

Following are the narratives for each of the described plant communities. These plant communities may not represent every possibility, but they probably are the most prevalent and repeatable plant communities. The plant composition tables shown above have been developed from the best available knowledge at the time of this revision. As more data is collected, some of these plant communities may be revised or removed, and new ones may be added. None of these plant communities should necessarily be thought of as “Desired Plant Communities”. According to the USDA NRCS National Range and Pasture Handbook, Desired Plant Communities (DPC’s) will be determined by the decision-makers and will meet minimum quality criteria established by the NRCS. The main purpose for including any description of a plant community here is to capture the current knowledge and experience at the time of this revision.

Needleandthread/Rhizomatous Wheatgrass Plant Community (HCPC)

The interpretive plant community for this site is the Historic Climax Plant Community. Potential vegetation is estimated at 75% grasses or grass-like plants, 10% forbs and 15% woody plants. The major grasses include needleandthread, Indian ricegrass, and rhizomatous wheatgrass. Big and silver sagebrush are the major woody plants.

A typical plant composition for this state consists of needleandthread 20-50%, rhizomatous wheatgrass 15-25%, Indian ricegrass 10-20%, perennial forbs 5-10%, and shrubs 5-10%. Ground cover, by ocular estimate, varies from 35-45%.

The total annual production (air-dry weight) of this state is about 1200 pounds per acre, but it can range from about 700 lbs/acre in unfavorable years to about 1500 lbs/acre in above average years.

The following is the growth curve of this plant community expected during a normal year:

Growth curve number: WY0901

Growth curve name: 10-14SE, UPLAND SITES

Growth curve description: ALL UPLAND SITES

JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC
0	0	0	10	35	40	10	0	5	0	0	0

(Monthly percentages of total annual growth)

This state is extremely stable and well adapted to the Cool Central Desertic Basins and Plateaus climate. The diversity in plant species allows for high drought resistance. This is a sustainable plant community (site/soil stability, watershed function, and biologic integrity).

Transitions or pathways leading to other plant communities are as follows:

- Moderate Continuous Season-long Grazing will convert the plant community to the *Big Sagebrush/Shortgrass Plant Community* if big sagebrush is present at 5-10%.
- Moderate Continuous Season-long Grazing or Continuous Spring Grazing with Brush Management (chemical) will convert the plant community to the *Threadleaf Sedge/Blue grama Plant Community*.

Big Sagebrush/Shortgrass Plant Community

This plant community is the result of moderate continuous season long grazing of the HCPC. Big sagebrush dominates the site with an understory of prairie junegrass, threadleaf sedge, blue grama, and other short grass and grasslike plants. When compared to the HCPC, needleandthread and Indian ricegrass have decreased, rhizomatous wheatgrasses remain.

The total annual production (air-dry weight) of this state is about 900 pounds per acre, but it can range from about 700 lbs./acre in unfavorable years to about 1100 lbs./acre in above average years.

The following is the growth curve of this plant community expected during a normal year:

Growth curve number: WY0901

Growth curve name: 10-14SE, UPLAND SITES

Growth curve description: ALL UPLAND SITES

JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC
0	0	0	10	35	40	10	0	5	0	0	0

(Monthly percentages of total annual growth)

The soil is somewhat protected and erosion may increase if management is not changed. The biotic integrity may be reduced due to loss of mid grasses and diversity. The watershed is functioning but nearing at risk stage.

Transitional pathways leading to other plant communities are as follows:

- Brush Management and Prescribed Grazing will return this state to near *Historic Climax Plant Community (Needleandthread/Rhizomatous Wheatgrass Plant Community)*.
- Brush Management with Moderate Continuous Season-long Grazing will convert the plant community to the *Cheatgrass/Prickly Pear Plant Community*.

Threadleaf Sedge/Blue grama

This plant community is a result of moderate continuous season-long grazing or continuous spring grazing in the absence of big sagebrush. Needleandthread and Indian ricegrass give way to shorter stature grasses such as prairie junegrass, Sandberg bluegrass, and threadleaf sedge. Rhizomatous wheatgrasses have also decreased. Forbs such as Hoods phlox, aster, and fringed sagewort are common.

The total annual production (air-dry weight) of this state is about 700 pounds per acre, but it can range from about 400 lbs./acre in unfavorable years to about 900 lbs./acre in above average years.

The following is the growth curve of this plant community expected during a normal year:

Growth curve number: WY0901

Growth curve name: 10-14SE, UPLAND SITES

Growth curve description: ALL UPLAND SITES

JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC
0	0	0	10	35	40	10	0	5	0	0	0

(Monthly percentages of total annual growth)

This state is somewhat stable but vulnerable to excessive erosion. The biotic integrity of this plant community is at risk or non-functioning. The watershed is usually at risk or non-functioning as bare ground increases.

Transitional pathways leading to other plant communities are as follows:

- Mechanical Treatment (Chiseling, etc.) followed by Prescribed Grazing or Long-term Prescribed Grazing may eventually return this state to near *Historic Climax Plant Community (Needleandthread/Rhizomatous Wheatgrass Plant Community)*.
- Heavy Continuous Season Long Grazing will lead this community to the *Cheatgrass/Prickly Pear Plant Community*.

Cheatgrass/Prickly Pear

This plant community is a result of moderate to heavy continuous season-long grazing and brush management practices. Most desirable species have been removed allowing establishment of

cheatgrass and other annuals. Prickly pear cactus is a large component of this community and provides refuge and seed source for blue grama, needleandthread, and other species.

The total annual production (air-dry weight) of this state is about 200 pounds per acre, but it can range from about 50 lbs./acre in unfavorable years to about 300 lbs./acre in above average years.

The following is the growth curve of this plant community expected during a normal year:

Growth curve number: WY0901

Growth curve name: 10-14SE, UPLAND SITES

Growth curve description: ALL UPLAND SITES

JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC
0	0	0	10	35	40	10	0	5	0	0	0

(Monthly percentages of total annual growth)

This state is unstable and vulnerable to excessive erosion. The biotic integrity of this plant community is at risk or non-functioning. The watershed is usually at risk or non-functioning as bare ground increases.

Transitional pathways leading to other plant communities are as follows:

Chemical Seedbed Preparation and Reseeding followed by Prescribed Grazing or Long-term Prescribed Grazing may eventually return this state to near *Historic Climax Plant Community (Needleandthread/Rhizomatous Wheatgrass Plant Community)*.

Ecological Site Interpretations

Animal Community – Wildlife Interpretations

Needleandthread/Rhizomatous Wheatgrass Plant Community (HCPC): The predominance of grasses in this plant community favors grazers and mixed feeders such as antelope and elk. Suitable thermal and escape cover is limited to topographical variances. When found adjacent to sagebrush dominated sites, this plant community may provide brood rearing and foraging opportunities for sage grouse, as well as lek sites. Other birds and mammals visit this site and may include meadow larks, raptors, rabbits, and ground squirrels.

Big Sagebrush/Short Grass Plant Community: This plant community may be useful for the same wildlife that would use the Historic Climax Plant Community. Additional cover is available in this community but foraging resources have been reduced.

Threadleaf Sedge/Blue Grama Plant Community: This plant community may be beneficial for the same wildlife that would use the Historic Climax Plant Community. However, the plant community composition is less diverse, and thus, less apt to meet the seasonal needs of these animals.

Cheatgrass/Prickly Pear Plant Community: This plant community provides very little wildlife habitat. Early season forage is available from cheatgrass.

Animal Preferences (Quarterly - 1,2,3,4) for commonly occurring plants in MLRA 34A, 10-14 inch High Plains Southeast

COMMON NAME/ GROUP NAME	SCIENTIFIC NAME	SCIENTIFIC SYMBOL	Cattle	Sheep	Horses	Mule Deer	Antelope	Elk
GRASSES/GRASSLIKES								
alkali bluegrass	<i>Poa junifolia</i>	POJU	UDUD	NDNU	UDUD	UDUU	UDUU	DPDD
alkali sacaton	<i>Sporobolus airoides</i>	SPA1	DDPU	UPDU	UPDU	UDUU	UDUU	UDPU
American mannegrass	<i>Glyceria grandis</i>	GLGR	DDDD	DDDD	DDDD	UUUU	UUUU	DDDD
Baltic rush	<i>Juncus balticus</i>	JUBA	NNNN	NNNN	NNNN	NNNN	NNNN	NNNN
basin wildrye	<i>Leymus cinereus</i>	LEC4	DPDD	UPDU	DPDD	UDUU	UDUU	DPDD
Bloomer's ricegrass	<i>Oryzopsis bloomeri</i>	ORBL	PPPP	PPPP	PPPP	PPPP	PPPP	PPPP
blowout grass	<i>Redfieldia flexuosa</i>	REFL	UUUU	UUUU	UUUU	UUUU	UUUU	UUUU
blue grama	<i>Bouteloua gracilis</i>	BOGR2	UDPU	UDPU	UDPU	UDUU	UDUU	UDUU
bluebunch wheatgrass	<i>Pseudoroegneria spicata</i>	PSSP6	DPDD	UPDD	DPDD	UDUU	UDUU	DPDD
bluejoint reedgrass	<i>Calamagrostis canadensis</i>	CACA4	UPDU	UDUU	UDUU	UDUU	UDUU	UPDU
bottlebrush squirreltail	<i>Elymus elymoides</i>	ELELE	DDDD	DDDD	DDDD	UUUU	UUUU	DDDD
Canada wildrye	<i>Elymus canadensis</i>	ELCA4	UDUU	NUNN	UDUU	NUNN	NUNN	UDUU
Canby bluegrass	<i>Poa canbyi</i> (syn. to <i>Poa secunda</i>)	POCA (POSE)	PPPP	PPPP	PPPP	PPPP	PPPP	PPPP
green needlegrass	<i>Nassella viridula</i>	NAV4	DPDD	UPDU	DPDD	UDUU	UDUU	DPDD
Indian ricegrass	<i>Achnatherum hymenoides</i>	ACHY	DPDD	UPDU	DPDD	UDUU	UDUU	DPDD
inland saltgrass	<i>Distichlis spicata</i>	DISP	NUUN	NUUN	NUUN	NUUN	NUUN	NUUN
little bluestem	<i>Schizachyrium scoparium</i>	SCSC	UDPU	UPDU	UDPU	UDUU	UDUU	UDPU
mat muhly	<i>Muhlenbergia richardsonis</i>	MURI	UUUU	UUUU	UUUU	UUUU	UUUU	UUUU
mountain muhly	<i>Muhlenbergia montana</i>	MUMO	DDDD	DDDD	DDDD	DDDD	DDDD	DDDD
muttongrass	<i>Poa fendleriana</i>	POFE	PPPP	PPPP	PPPP	PPPP	PPPP	PPPP
Nebraska sedge	<i>Carex nebrascensis</i>	CANE2	UDUD	UPND	UDUD	UPND	UPND	UDUD
needleandthread	<i>Hesperostipa comata</i> ssp. <i>comata</i>	HECO8	DPDD	UPDU	DPDD	UDUU	UDUU	DPDD
needleleaf sedge	<i>Carex duriuscula</i>	CADU6	UUUU	UUUU	UUUU	UUUU	UUUU	UUUU
northern reedgrass	<i>Calamagrostis stricta</i> ssp. <i>inexpansa</i>	CAST13	UPDU	UDUU	UPDU	UDUU	UDUU	UPDU
Nuttall's alkaligrass	<i>Puccinellia nuttalliana</i>	PUNU2	DPUD	NPND	DPUD	UDUU	UDUU	DPDD
plains reedgrass	<i>Calamagrostis montanensis</i>	CAMO	UPDU	UDUU	UPDU	UDUU	UDUU	UPDU
prairie junegrass	<i>Koeleria macrantha</i>	KOMA	UUUU	NDNU	UUUU	UDUU	UDUU	UUUU
sand dropseed	<i>Sporobolus cryptandrus</i>	SPCR	NUUN	NUUN	NUUN	NUUN	NUUN	NUUN
Sandberg bluegrass	<i>Poa secunda</i>	POSE	NPUN	NPUN	NPUN	NDUN	NDUN	NPUN
slender wheatgrass	<i>Elymus trachycaulus</i>	ELTR7	DPDD	UPDD	DPDD	UDUU	UDUU	DPDD
thickspike wheatgrass	<i>Elymus lanceolatus</i> ssp. <i>lanceolatus</i>	ELLAL	DPDD	UPDD	DPDD	UDUU	UDUU	DPDD
threadleaf sedge	<i>Carex filifolia</i>	CAFI	UDUD	UPND	UDUD	UPND	UPND	UDUD
tufted hairgrass	<i>Deschampsia caespitosa</i>	DECA18	PPPP	PPPP	PPPP	DDDD	DDDD	PPPP
western wheatgrass	<i>Pascopyrum smithii</i>	PASM	DPDD	UPDD	DPDD	UDUU	UDUU	DPDD
FORBS								
American bistort	<i>Polygonum bistortoides</i>	POBI6	DDDD	DDDD	DDDD	DDDD	DDDD	DDDD
arrowgrass	<i>Triglochin</i> spp.	TRIGL	TTTT	TTTT	TTTT	TTTT	TTTT	TTTT
aster	<i>Eucephalus</i> spp.	EUCEP2	NNNN	NNNN	NNNN	NNNN	NNNN	NNNN
biscuitroot	<i>Lomatium</i> spp.	LOMAT	UUUU	UUUU	UUUU	UUUU	UUUU	UUUU
blue-eyed grass	<i>Sisyrinchium</i> spp.	SISYR	UUUU	UUUU	UUUU	UUUU	UUUU	UUUU
buckwheats	<i>Eriogonum</i> spp.	ERIOG	UUUU	UUUU	UUUU	UUUU	UUUU	UUUU
clovers	<i>Trifolium</i> spp.	TRIFO	PPPP	PPPP	PPPP	PPPP	PPPP	PPPP
deathcamas	<i>Zigadenus venenosus</i>	ZIVE	TTTT	TTTT	TTTT	TTTT	TTTT	TTTT
desert princesplume	<i>Stanleya pinnata</i>	STPI	TTTT	TTTT	TTTT	TTTT	TTTT	TTTT
dock	<i>Rumex</i> spp.	RUMEX	UUUU	UUUU	UUUU	UUUU	UUUU	UUUU
fleabanes	<i>Erigeron</i> spp.	ERIGE2	DDDD	DDDD	DDDD	DDDD	DDDD	DDDD
fringed sagewort	<i>Artemisia frigida</i>	ARFR4	UUUU	UUUU	UUUU	UUUU	UUUU	UUUU
hawksbeard	<i>Crepis acuminata</i>	CRAC2	UUUU	PPPP	UUUU	DDDD	DDDD	UUUU
Hoods phlox	<i>Phlox hoodii</i>	PHHO	UUUU	UUUU	UUUU	UUUU	UUUU	UUUU
horsetails	<i>Equisetum</i> spp.	EQUIS	UUUU	UUUU	UUUU	UUUU	UUUU	UUUU
iris	<i>Iris</i> spp.	IRIS	NUUN	NUUN	NNNN	NUUN	NUUN	NUUN
larkspur	<i>Delphinium</i> spp.	DELPH	TTTT	TTTT	TTTT	TTTT	TTTT	TTTT
milkvelch	<i>Astragalus</i> spp.	ASTRA	UDUU	UDUU	UDUU	UDUU	UDUU	UDUU
navelwort	<i>Paronychia</i> spp.	PARON	NNNN	NNNN	NNNN	NNNN	NNNN	NNNN
paintbrushes	<i>Castilleja</i> spp.	CAST	DDDD	DDDD	DDDD	DDDD	DDDD	DDDD
penstemons	<i>Penstemon</i> spp.	PENST	UPPU	UPPU	UPPU	UPPU	UPPU	UPPU
phlox	<i>Phlox</i> spp.	PHLOX	NNNN	NNNN	NNNN	NNNN	NNNN	NNNN
primrose	<i>Primula</i> spp.	PRIMU	UUUU	UUUU	UUUU	UUUU	UUUU	UUUU
pussytoes	<i>Antennaria</i> spp.	ANTEN	NNNN	NNNN	NNNN	NNNN	NNNN	NNNN
Rush skeletonplant	<i>Lygodesmia juncea</i>	LYJU	UUUU	UUUU	UUUU	UUUU	UUUU	UUUU
sagebrush gilia (granite prickly phlox)	<i>Leptodactylon pungens</i>	LEPU	UUUU	UUUU	UUUU	UUUU	UUUU	UUUU
sandwort	<i>Arenaria</i> spp.	ARENA	NNNN	NNNN	NNNN	NNNN	NNNN	NNNN
scarlet globemallow	<i>Sphaeralcea coccinea</i>	SPCO	UUUU	UDUU	UDUU	UPPU	UDDD	UDDU
scurfpea	<i>Psoraleum</i> spp.	PSORA2	NNNN	NUUN	NNNN	NUUN	NUUN	NUUN
stemless goldenweed	<i>Stenotus acaulis</i>	STAC	UUUU	UUUU	UUUU	UUUU	UUUU	UUUU
stonecrop	<i>Sedum</i> spp.	SEDUM	UUUU	UUUU	UUUU	UUUU	UUUU	UUUU
toadflax	<i>Comandra umbellata</i>	COUMP	UUUU	UUUU	UUUU	UUUU	UUUU	UUUU
violets	<i>Viola</i> spp.	VIOLA	DDDD	DDDD	DDDD	DDDD	DDDD	DDDD
water hemlock	<i>Cicuta</i> spp.	CICUT	TTTT	TTTT	TTTT	TTTT	TTTT	TTTT
waterleaf	<i>Hydrophyllum</i>	HYDR04	DDDD	PPPP	DDDD	PPPP	DDDD	DDDD
western ragweed	<i>Ambrosia psilostachya</i>	AMPS	NNNN	NNNN	NNNN	NNNN	NNNN	NNNN
western yarrow	<i>Achillea millefolium</i>	ACMI2	NUUN	NUUN	NNNN	NUUN	NUUN	NUUN
wild onion	<i>Allium textile</i>	ALTE	UDUU	UDUU	UDUU	UDUU	UDUU	UDUU
woodyaster	<i>Xylorhiza</i> spp.	XYLOR	TTTT	TTTT	TTTT	TTTT	TTTT	TTTT
TREES, SHRUBS & HALF-SHRUBS								
antelope bitterbrush	<i>Purshia tridentata</i>	PUTR2	PDDD	PDDD	DDUD	PDDP	PDDP	PDDP
big sagebrush	<i>Artemisia tridentata</i>	ARTR2	UUUU	UUUU	UNNU	PPPP	PUPD	DUUU
birdfoot sagebrush	<i>Artemisia pedatifida</i>	ARPE6	UUUU	UUUU	UUUU	UUUU	UUUU	UUUU
black sagebrush	<i>Artemisia nova</i>	ARNO4	UUUU	PPPP	UUUU	PPPP	PPPP	UUUU
chokecherry (toxic in large amounts)	<i>Prunus virginiana</i>	PRVI	DDDD	DDDD	DDDD	PPPP	DDDD	DDDD
currant	<i>Ribes</i> spp.	RIBES	DDDD	DDDD	DDDD	PPPP	DDDD	DDDD
dogwood	<i>Cornus</i> spp.	CORNU	DDDD	DDDD	DDDD	DDDD	UUUU	DDDD
fourwing saltbush	<i>Atriplex canescens</i>	ATCA2	PDDP	PDDP	PDDP	PDDP	PDDP	PDDP
Gardner's saltbush	<i>Atriplex gardneri</i>	ATGA	PDDP	PDDP	DUUD	PDDP	PDDP	PDDP
greasewood (toxic in large amounts)	<i>Sarcobatus vermiculatus</i>	SAVE4	DUUD	DUUD	DUUD	DUUD	DUUD	DUUD
green rabbitbrush	<i>Chrysothamnus viscidiflorus</i>	CHVI8	DUUD	DUUD	UNNU	PUPD	PUPD	DUUD
greennolly summercypress	<i>Kochia americana</i>	KOAM	UUUU	DDDD	UUUU	UUUU	UUUU	UUUU
junipers	<i>Juniperus scopulorum</i>	JUSC2	UUUU	UUUU	UUUU	UUUU	UUUU	UUUU
limber pine	<i>Pinus flexilis</i>	PIFL2	NNNN	NNNN	NNNN	NNNN	NNNN	NNNN
plains cottonwood	<i>Populus deltoides</i> ssp. <i>monilifera</i>	PODEM	DUUD	DUUD	DUUD	DUUD	DUUD	DUUD
rubber rabbitbrush	<i>Ericameria nauseosa</i>	ERNA10	UUUU	DUUD	UUUU	UDUU	DUUD	DUUU
serviceberry	<i>Amelanchier alnifolia</i>	AMAL2	DDDD	PPPP	DDDD	PPPP	DDDD	DDDD
shadscale saltbush	<i>Atriplex confertifolia</i>	ATCO	UUUU	DDDD	UUUU	DDDD	UUUU	UUUU
shrubby cinquefoil	<i>Dasiphora floribunda</i>	DAFL3	UUUU	UUUU	UUUU	UUUU	UUUU	UUUU
silver buffaloberry	<i>Shepherdia argentea</i>	SHAR	DUUU	DUUU	UUUU	UUUU	PUPD	DUUU
silver sagebrush	<i>Artemisia cana</i>	ARCA13	DUUD	DUUD	UNNU	PPPP	PDDP	DUUD
skunkbush sumac	<i>Rhus trilobata</i>	RHTR	DUUD	DUUD	UUUU	DUUD	DUUD	DUUD
spineless horsebrush	<i>Tetradymia canescens</i>	TECA2	UUUU	UUUU	UUUU	UUUU	UUUU	UUUU
spiny horsebrush	<i>Tetradymia spinosa</i>	TESP2	UUUU	UUUU	UUUU	UUUU	UUUU	UUUU
true mountainmahogany	<i>Cercocarpus montanus</i>	CEMO2	DDDD	PDDP	DDDD	UNNU	PDDP	PDDP
western snowberry	<i>Symphoricarpos occidentalis</i>	SYOC	UUUU	UUUU	UUUU	UUUU	DUUD	DUUU
wildrose	<i>Rosa woodsii</i> var. <i>woodsii</i>	ROWOW	UDUU	UDUU	NUUN	UDUU	UDUU	UDUU
willows	<i>Salix</i> spp.	SALIX	PUPD	PUPD	DUUD	UUUU	PUPD	PUPD
winterfat	<i>Krascheninnikovia lanata</i>	KRLA2	PPPP	PPPP	PPPP	PPPP	PPPP	PPPP

N = not used; U = undesirable; D = desirable; P = preferred; T = toxic

Animal Community – Grazing Interpretations

The following table lists suggested stocking rates for cattle under continuous season-long grazing under normal growing conditions. These are conservative estimates that should be used only as guidelines in the initial stages of the conservation planning process. Often, the current plant composition does not entirely match any particular plant community (as described in this ecological site description). Because of this, a field visit is recommended, in all cases, to document plant composition and production. More precise carrying capacity estimates should eventually be calculated using this information along with animal preference data, particularly when grazers other than cattle are involved. Under more intensive grazing management, improved harvest efficiencies can result in an increased carrying capacity. If distribution problems occur, stocking rates must be reduced to maintain plant health and vigor.

Plant Community	Production (lb./ac)	Carrying Capacity* (AUM/ac)
Needleandthread/Rhizomatous Wheatgrass (HCPC)	700-1500	0.4
Big Sagebrush/Short Grass	700-1100	0.3
Threadleaf Sedge/Blue Grama	400-900	0.2
Cheatgrass/Prickly Pear	50-300	0.06

* - Continuous, season-long grazing by cattle under average growing conditions.

Grazing by domestic livestock is one of the major income-producing industries in the area. Rangeland in this area may provide yearlong forage for cattle, sheep, or horses. During the dormant period, the forage for livestock use needs to be supplemented with protein because the quality does not meet minimum livestock requirements.

Hydrology Functions

Water is the principal factor limiting forage production on this site. This site is dominated by soils in hydrologic group B, with localized areas in hydrologic group C. Infiltration potential for this site varies from moderately rapid to rapid depending on soil hydrologic group and ground cover. Runoff varies from low to moderate. In many cases, areas with greater than 75% ground cover have the greatest potential for high infiltration and lower runoff. Areas where ground cover is less than 50% have the greatest potential to have reduced infiltration and higher runoff (refer to Part 630, NRCS National Engineering Handbook for detailed hydrology information).

Rills and gullies should not typically be present. Water flow patterns should be barely distinguishable if at all present. Pedestals are only slightly present in association with bunchgrasses. Litter typically falls in place, and signs of movement are not common. Chemical and physical crusts are rare to non-existent. Cryptogammic crusts are present, but only cover 1-2% of the soil surface.

Recreational Uses

This site provides hunting opportunities for upland game species. The wide varieties of plants which bloom from spring until fall have esthetic values that appeal to visitors.

Wood Products

No appreciable wood products are present on the site.

Other Products

None noted.

Supporting Information

Associated Sites

Similar Sites

Inventory Data References (narrative)

Information presented here has been derived from NRCS clipping data and other inventory data. Field observations from range trained personnel were also used. Other sources used as references include: USDA NRCS Water and Climate Center, USDA NRCS National Range and Pasture Handbook, and USDA NRCS Soil Surveys from various counties.

Inventory Data References

<u>Data Source</u>	<u>Number of Records</u>	<u>Sample Period</u>	<u>State</u>	<u>County</u>
SCS-RANGE-417	69	1967-1988	WY	Carbon & others

State Correlation

Type Locality

Field Offices

Baggs, Casper, Lander, Laramie, Medicine Bow, Riverton, Saratoga

Relationship to Other Established Classifications

Other References

Site Description Approval

State Range Management Specialist

Date