

# United States Department of Agriculture Natural Resources Conservation Service

## Ecological Site Description

**Site Type:** Rangeland

**Site Name:** Sandy (Sy), 7-9" P.Z., Green River and Great Divide Basins

**Site ID:** R034AY150WY

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 are generally 1 to 15%.

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

**Aspect:** N/A

	<u>Minimum</u>	<u>Maximum</u>
<b>Elevation (feet):</b>	6000	7200
<b>Slope (percent):</b>	0	30
<b>Water Table Depth (inches):</b>	none within 60 inches	
<b>Flooding:</b>		
<b>Frequency:</b>	none	none
<b>Duration:</b>	none	none
<b>Ponding:</b>		
<b>Depth (inches):</b>	0	0
<b>Frequency:</b>	none	none
<b>Duration:</b>	none	none
<b>Runoff Class:</b>	negligible	low

### Climatic Features

Annual precipitation ranges from 7-9 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 July 15. Some green up of cool season plants may occur in late September if moisture is available.

The following information is from the "Green River" climate station:

	<u>Minimum</u>	<u>Maximum</u>	<u>5 yrs. out of 10 between</u>
Frost-free period (days):	68	121	June 2 – September 5
Freeze-free period (days):	97	132	May 23 – September 19
Annual Precipitation (inches):	<5.32	>9.34 (2 years in 10)	
Average annual precipitation:	7.78 inches		

Average annual air temperature: 41.8°F (25.6°F Avg. Min. to 58.1°F Avg. Max.)

For detailed information visit the Natural Resources Conservation Service National Water and Climate Center at <http://www.wcc.nrcs.usda.gov/cgibin/state.pl?state=wy> website. Other climate stations representative of this precipitation zone include “Bitter Creek”, “Farson”, “Rock Springs FAA AP”, and “Wamsutter” in Sweetwater County; “Church Buttes Gas PLT”, and “Mountain View” in Uinta County; “Fontenelle”, “La Barge”, and “Sage 4 NNW” in Lincoln County; and “Big Piney” in Sublette County.

### Influencing Water Features

<u>Wetland Description:</u>	<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 (at least 15 inches deep) and well drained. Surface layers are 5 inches or more thick in soils with sandy clay loam subsoils.

Major Soil Series correlated to this site include: Cambarge, Leckman, Pepal, Teagulf, and Terada series.

Other Soil Series correlated in MLRA 34 to this site include: Farson, Means, Grieves, Littsan, Koonich, Tresano, and some phases of Edlin, Lupinto, and Otterson series.

Parent Material Kind: Alluvium

Parent Material Origin: Sedimentary Rock

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

Surface Texture Modifier: gravelly

Subsurface Texture Group: Fine Sandy Loam, Sandy Loam

Surface Fragments ≤ 3” (% Cover): 0-20

Surface Fragments > 3” (%Cover): 0

Subsurface Fragments ≤ 3” (% Volume): 0-20

Subsurface Fragments > 3” (% Volume): 0-5

	<u>Minimum</u>	<u>Maximum</u>
Drainage Class:	well	somewhat excessive
Permeability Class:	moderate	moderately rapid
Depth (inches):	15	>60
Electrical Conductivity (mmhos/cm) ≤20”:	0	8
Sodium Absorption Ratio ≤20”:	0	5
Soil Reaction (1:1 Water) ≤20”:	7.4	9
Soil Reaction (0.1M CaCl2) ≤20”:	NA	NA
Available Water Capacity (inches) ≤30”:	2.5	4.4
Calcium Carbonate Equivalent (percent) ≤20”:	0	10

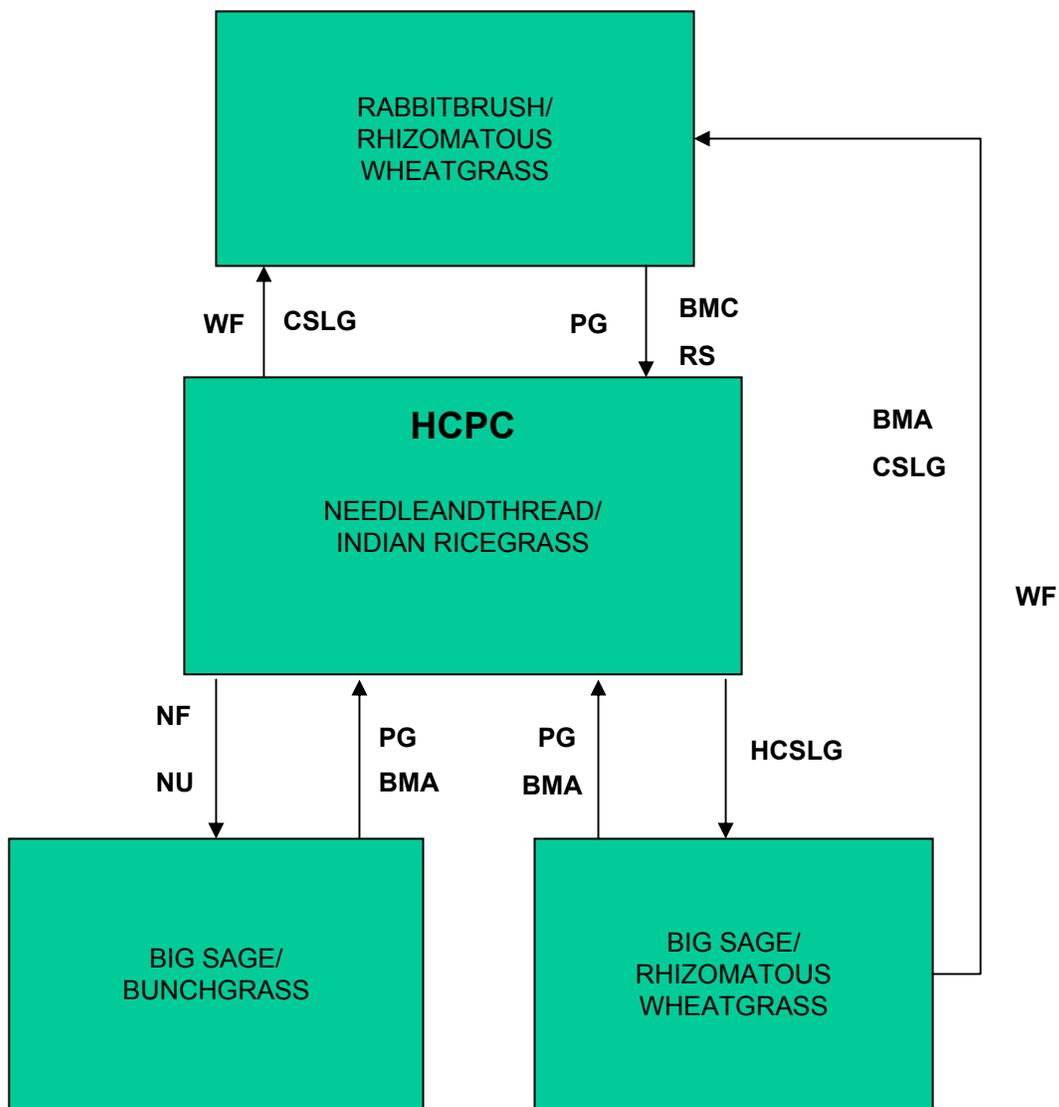
## Plant Communities

### Ecological Dynamics of the Site:

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

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)

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.
			<b>Total: 550</b>		
<b>GRASSES AND GRASS-LIKES</b>					
<b>GRASSES/GRASSLIKES</b>					
needleandthread	Hesperostipa comata	HECO26	1	55 - 165	10 - 30
Indian ricegrass	Achnatherum hymenoides	ACHY	2	55 - 165	10 - 30
thickspike wheatgrass	Elymus macrourus	ELMA7	3	55 - 138	10 - 25
bottlebrush squirreltail	Elymus elymoides	ELEL5	4	28 - 83	5 - 15
Griffiths wheatgrass or Bluebunch wheatgrass	Elymus albicans Pseudoroegneria spicata	ELAL7 PSSP6	5	28 - 55	5 - 10
<b>MISC. GRASSES/GRASSLIKES</b>			<b>6</b>	<b>28 - 83</b>	<b>5 - 15</b>
Canby bluegrass	Poa canbyi (syn. P. secunda)	POCA (POSE)	6	0 - 28	0 - 5
galleta	Pleuraphis spp.	PLEUR12	6	0 - 28	0 - 5
Letterman needlegress	Achnatherum nelsonii	ACLE9	6	0 - 28	0 - 5
needleleaf sedge	Carex duriuscula	CADU6	6	0 - 28	0 - 5
plains reedgrass	Calamagrostis montanensis	CAMO	6	0 - 28	0 - 5
prairie junegrass	Koeleria macrantha	KOMA	6	0 - 28	0 - 5
sand dropseed	Sporobolus cryptandrus	SPCR	6	0 - 28	0 - 5
Sandberg bluegrass	Poa secunda	POSE	6	0 - 28	0 - 5
threeawn	Aristida spp.	ARIST	6	0 - 28	0 - 5
other perennial grasses (native)		2GP	6	0 - 28	0 - 5
<b>FORBS</b>			<b>7</b>	<b>28 - 55</b>	<b>5 - 10</b>
asters	Eucephalus spp.	EUCEP2	7	0 - 28	0 - 5
buckwheats	Eriogonum spp.	ERIOG	7	0 - 28	0 - 5
clovers	Trifolium spp.	TRIFO	7	0 - 28	0 - 5
deathcamas	Zigadenus spp.	ZIGAD	7	0 - 28	0 - 5
evening primrose	Oenothera caespitosa	OECA10	7	0 - 28	0 - 5
fleabane	Erigeron spp.	ERIGE2	7	0 - 28	0 - 5
fringed sagewort	Artemisia frigida	ARFR4	7	0 - 28	0 - 5
goldenweed	Stenotus acaulis	STAC	7	0 - 28	0 - 5
hawksbeard	Crepis acuminata	CRAC2	7	0 - 28	0 - 5
Hoods phlox	Phlox hoodii	PHHO	7	0 - 28	0 - 5
larkspur	Delphinium spp.	DELPH	7	0 - 28	0 - 5
milkvetches	Astragalus spp.	ASTRA	7	0 - 28	0 - 5
paintbrushes	Castilleja spp.	CAST	7	0 - 28	0 - 5
penstemons	Penstemon spp.	PENST	7	0 - 28	0 - 5
phacelias	Phacelia spp.	PHACE	7	0 - 28	0 - 5
pussytoes	Antennaria rosea	ANRO2	7	0 - 28	0 - 5
sagebrush gilia	Leptodactylon pungens	LEPU	7	0 - 28	0 - 5
scarlet globemallow	Sphaeralcea coccinea	SPCO	7	0 - 28	0 - 5
toadflax	Linaria spp.	LINAR	7	0 - 28	0 - 5
western yarrow	Achillea lanulosa	ACHIL	7	0 - 28	0 - 5
woody aster	Xylorhiza spp.	XYLOR	7	0 - 28	0 - 5
other perennial forbs (native)		2FP	7	0 - 28	0 - 5
<b>TREES/SHRUBS</b>					
big sagebrush	Artemisia tridentata	ARTR2	8	28 - 55	5 - 10
<b>MISC. SHRUBS</b>			<b>9</b>	<b>28 - 55</b>	<b>5 - 10</b>
green rabbitbrush	Chrysothamnus viscidiflorus	CHV18	9	0 - 28	0 - 5
rubber rabbitbrush	Ericameria nauseosa	ERNA10	9	0 - 28	0 - 5
shadscale	Atriplex confertifolia	ATCO	9	0 - 28	0 - 5
spineless horsebrush	Tetradymia canescens	TECA2	9	0 - 28	0 - 5
spiny hopsage	Grayia spinosa	GRSP	9	0 - 28	0 - 5
spiny horsebrush	Tetradymia spp.	TETRA3	9	0 - 28	0 - 5
winterfat	Krascheninnikovia lanata	KRAL2	9	0 - 28	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/Indian Ricegrass Plant Community (HCPC)

The interpretive plant community for this site is the Historic Climax Plant Community. This state evolved with grazing by large herbivores and is well suited for grazing by domestic livestock. Potential vegetation is estimated at 70% grasses or grass-like plants, 10% forbs, and 20% woody plants. The major grasses include needleandthread, Indian ricegrass, thickspike wheatgrass, bluebunch wheatgrass, and bottlebrush squirreltail. Other grasses occurring in the state may include Sandberg bluegrass, prairie junegrass, needleleaf sedge, Canby bluegrass, plains reedgrass, threeawn, and galleta. Wyoming big sagebrush is the dominant woody plant. Other woody species include green and rubber rabbitbrush, spiny hopsage, spineless and spiny horsebrush, bitterbrush, and winterfat.

A typical plant composition for this state consists of needleandthread 10-30%, Indian ricegrass 10-30%, thickspike wheatgrass 10-25%, bottlebrush squirreltail 5-15%, bluebunch wheatgrass 5-10%, other grasses and grass-like plants 5-10%, perennial forbs 5-10%, Wyoming big sagebrush 5-10%, and 5-10% other woody species. Ground cover, by ocular estimate, varies from 20-30%.

The total annual production (air-dry weight) of this state is about 550 pounds per acre, but it can range from about 350 lbs./acre in unfavorable years to about 750 lbs./acre in above average years.

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

Growth curve number: WY0401

Growth curve name: 7-9GR, 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 state is stable and well adapted to the Cool Central Desertic Basins and Plateaus climatic conditions. 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:

- Nonuse and No Fire will convert this plant community to the *Big Sage/Bunchgrass State*.
- Heavy Continuous Season-Long Grazing will convert this plant community to the *Big Sage/Rhizomatous Wheatgrass State*.
- Wildfire followed by Continuous Season-long Grazing will convert this plant community to the *Rabbitbrush/Rhizomatous Wheatgrass State*.

#### Big Sage/Bunchgrass Plant Community

This plant community is the result of nonuse and the absence of fire. Wyoming big sagebrush dominates the site, lowering herbaceous forage production. Bunchgrasses such as needleandthread and Indian ricegrass dominate the understory.

The total annual production (air-dry weight) of this state is about 400 pounds per acre, but it can range from about 200 lbs./acre in unfavorable years to about 600 lbs./acre in above average years.

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

Growth curve number: WY0401

Growth curve name: 7-9GR, 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 state is stable and protected from excessive erosion. The biotic integrity of this plant community is usually intact, however forage value will decrease and wildlife values will shift toward different species. The watershed is functioning.

Transitional pathways leading to other plant communities are as follows:

- Brush Management followed by deferment for 1 to 2 years as part of a Prescribed Grazing plan will return this state to near *Historic Climax Plant Community (Needleandthread/Indian Ricegrass State)*. Care should be taken when planning brush management to consider wildlife habitat and critical winter ranges.

### Big Sage/Rhizomatous Wheatgrass Plant Community

This plant community is the result of frequent and severe grazing. A thick canopy of Wyoming big sagebrush and rabbitbrush dominate. Thickspike wheatgrass dominates the understory with decreased amounts of Indian ricegrass and needleandthread. Common forbs include phlox and sagebrush gilia.

The total annual production (air-dry weight) of this state is about 250 pounds per acre, but it can range from about 100 lbs./acre in unfavorable years to about 400 lbs./acre in above average years.

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

Growth curve number: WY0401

Growth curve name: 7-9GR, 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)

Soil erosion is accelerated because of increased bare ground. The biotic community has been compromised, but is relatively stable. The watershed is functioning, but is at risk of further degradation. Water flow patterns and pedestals are obvious. Infiltration is reduced and runoff is increased.

Transitional pathways leading to other plant communities are as follows:

- Brush Management followed by deferment for 1 to 2 years as part of a Prescribed Grazing plan will return this state to near *Historic Climax Plant Community (Needleandthread/Indian Ricegrass State)*. Care should be taken when planning brush management to consider wildlife habitat and critical winter ranges.
- Wildfire OR Brush Management followed by Continuous Season-long Grazing will convert this plant community to the *Rabbitbrush/Rhizomatous Wheatgrass State*.

### Rabbitbrush/Rhizomatous Wheatgrass Plant Community

This plant community is the result of severe disturbance such as brush management or wildfire followed by improper grazing. With sagebrush removed, it is dominated by sprouting shrubs such as

rubber and green rabbitbrush. Thickspike wheatgrass and unpalatable annual and perennial forbs dominate the herbaceous understory. There is a substantial amount of bare ground.

The total annual production (air-dry weight) of this state is about 150 pounds per acre, but it can range from about 50 lbs./acre in unfavorable years to about 350 lbs./acre in above average years.

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

Growth curve number: WY0401

Growth curve name: 7-9GR, 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 not protected and erosion will increase if management is not changed. The biotic integrity may be reduced due to low vegetative production and blowing sand. The watershed is functioning at risk.

Transitional pathways leading to other plant communities are as follows:

- Brush Management (chemical) and Re-seeding followed by deferment for 1 to 2 years as part of a Prescribed Grazing plan will return this plant community to near *Historic Climax Plant Community (Needleandthread/Indian Ricegrass State)*. Additional deferment may be necessary and should be prescribed on an individual site basis.

## Ecological Site Interpretations

### Animal Community – Wildlife Interpretations

**Needleandthread/Indian Ricegrass Plant Community (HCPC):** Suitable thermal and escape cover for mule deer may be limited due to the low height of woody plants. However, sagebrush, which can approach 15% protein and 40-60% digestibility, provides important winter forage for mule deer and antelope. Year-round habitat is provided for sage grouse and many other sagebrush obligate species such as the sage sparrow, Brewer's sparrow, sage thrasher, pygmy rabbit, sagebrush vole, horned lizard, and pronghorn antelope. Other birds that would frequent this plant community include horned larks and golden eagles.

**Big Sage/Bunchgrass Plant Community:** This plant community may be useful for the same wildlife that would use the Historic Climax Plant Community.

**Big Sage/Rhizomatous Wheatgrass 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.

**Rabbitbrush/Rhizomatous Wheatgrass Plant Community:** These communities provide limited forage for antelope and mule deer due to low production and lack of sagebrush. They may be used as a foraging site by sage grouse if proximal to woody cover.

Animal Preferences (Quarterly - 1,2,3,4) for commonly occurring plants in MLRA34A, 7-9 inch Green River & Great Divide Basins

COMMON NAME/ GROUP NAME	SCIENTIFIC NAME	SCIENTIFIC SYMBOL	Cattle	Sheep	Horses	Mule Deer	Antelope	Elk
<b>GRASSES/GRASSLIKES</b>								
Alkali bluegrass	<i>Poa juncea</i> (syn. <i>P. secunda</i> )	POJU (POSE)	DDDD	PPPP	DDDD	PPPP	PPPP	DDDD
Alkali muhly	<i>Muhlenbergia asperifolia</i>	MUAS	DDDD	DDDD	DDDD	DDDD	DDDD	DDDD
Alkali sacaton	<i>Sporobolus airoides</i>	SPA1	PPPP	DDDD	PPPP	DDDD	DDDD	PPPP
Baltic rush	<i>Juncus balticus</i>	JUBA	DDDD	UUUU	DDDD	UUUU	UUUU	DDDD
Basin wildrye	<i>Leymus cinereus</i>	LEC4	PPPP	PPPP	PPPP	DDDD	DDDD	PPPP
Bluebunch wheatgrass	<i>Pseudoroegneria spicata</i>	PSSP6	PPPP	PPPP	PPPP	DDDD	DDDD	PPPP
Bluejoint reedgrass	<i>Calamagrostis canadensis</i>	CACAM	PPPP	DDDD	PPPP	DDDD	UUUU	PPPP
Bottlebrush squirreltail	<i>Elymus elymoides</i>	ELELE	PPPP	DDDD	PPPP	DDDD	DDDD	PPPP
Canada wildrye	<i>Elymus canadensis</i>	ELCA4	PPPP	PPPP	PPPP	DDDD	DDDD	PPPP
Canby bluegrass	<i>Poa canbyi</i> (syn. <i>P. secunda</i> )	POCA (POSE)	PPPP	PPPP	PPPP	PPPP	PPPP	PPPP
Indian ricegrass	<i>Achnatherum hymenoides</i>	ACHY	PPPP	PPPP	PPPP	PPPP	PPPP	PPPP
Inland saltgrass	<i>Distichlis spicata</i>	DISP	UUUU	UUUU	UUUU	UUUU	UUUU	UUUU
Inland sedge	<i>Carex interior</i>	CAIN11	DDDD	DDDD	DDDD	UUUU	UUUU	DDDD
James' galleta	<i>Pleuraphis jamesii</i>	PLJA	DDDD	DDDD	DDDD	UUUU	UUUU	DDDD
Letterman needlegrass	<i>Achnatherum lettermanii</i>	ACLE9	PPPP	PPPP	PPPP	DDDD	DDDD	PPPP
Mat muhly	<i>Muhlenbergia richardsonis</i>	MURI	UUUU	UUUU	UUUU	UUUU	UUUU	UUUU
Nebraska sedge	<i>Carex nebrascensis</i>	CANE2	PPPP	PPPP	PPPP	DDDD	DDDD	PPPP
Needleandthread	<i>Hesperostipa comata</i>	HECO26	PPPP	PPPP	PPPP	PPPP	PPPP	PPPP
Needleleaf sedge	<i>Carex durivula</i>	CADU6	UUUU	UUUU	UUUU	UUUU	UUUU	UUUU
Northern reedgrass	<i>Calamagrostis stricta</i> ssp. <i>inexpansa</i>	CAST13	PPPP	DDDD	PPPP	DDDD	UUUU	PPPP
Nuttall's alkaligrass	<i>Puccinellia nuttalliana</i>	PUNU2	PPPP	PPPP	PPPP	PPPP	PPPP	PPPP
Plains reedgrass	<i>Calamagrostis montanensis</i>	CAMO	DDDD	DDDD	DDDD	DDDD	DDDD	DDDD
Prairie junegrass	<i>Koeleria macrantha</i>	KOMA	DDDD	DDDD	DDDD	DDDD	DDDD	DDDD
Reed canarygrass	<i>Phalaris arundinacea</i>	PHAR3	PPPP	UUUU	UUUU	UUUU	UUUU	PPPP
Saline wildrye	<i>Leymus salinus</i>	LESA4	PPPP	PPPP	PPPP	PPPP	PPPP	PPPP
Sandberg bluegrass	<i>Poa secunda</i>	POSE	DDDD	DDDD	DDDD	DDDD	DDDD	DDDD
Sand dropseed	<i>Sporobolus cryptandrus</i>	SPCR	DDDD	DDDD	DDDD	UUUU	UUUU	DDDD
Slender wheatgrass	<i>Elymus trachycaulis</i>	ELTR7	PPPP	DDDD	PPPP	DDDD	DDDD	PPPP
Tall mangrass	<i>Glyceria elata</i> (syn. <i>G. striata</i> )	GLEL (GLST)	DDDD	UUUU	DDDD	UUUU	UUUU	DDDD
Thickspike wheatgrass	<i>Elymus lanceolatus</i> ssp. <i>lanceolatus</i>	ELLAL	DDDD	DDDD	DDDD	DDDD	DDDD	DDDD
Threadleaf sedge	<i>Carex filifolia</i>	CAFI	DDDD	DDDD	DDDD	DDDD	PPPP	DDDD
Threeawns	<i>Aristida</i> spp.	ARIS	UUUU	UUUU	UUUU	UUUU	UUUU	UUUU
Tufted hairgrass	<i>Deschampsia caespitosa</i>	DECA18	PPPP	PPPP	PPPP	DDDD	DDDD	PPPP
Western wheatgrass	<i>Pascopyrum smithii</i>	PASM	DDDD	DDDD	DDDD	DDDD	DDDD	DDDD
<b>FORBS</b>								
American licorice	<i>Glycyrrhiza lepidota</i>	GLLE3	UUUU	UUUU	UUUU	UUUU	UUUU	UUUU
Arrowgrass	<i>Triglochin</i> spp.	TRIGL	TTTT	TTTT	TTTT	TTTT	TTTT	TTTT
Asters	<i>Eucephalus</i> spp.	EUCEP2	UUUU	UUUU	UUUU	UUUU	UUUU	UUUU
Biscuitroot	<i>Lomatium</i> spp.	LOMAT	DDDD	DDDD	UUUU	DDDD	DDDD	DDDD
Blue-eyed grass	<i>Sisyrinchium</i> spp.	SISYR	DDDD	PPPP	DDDD	DDDD	DDDD	DDDD
Buckwheats	<i>Eriogonum</i> spp.	ERIOG	UUUU	DDDD	UUUU	UUUU	UUUU	UUUU
Buttercup	<i>Ranunculus</i> spp.	RANUN	DDDD	DDDD	DDDD	DDDD	DDDD	DDDD
Clovers	<i>Trifolium</i> spp.	TRIFO	PPPP	PPPP	PPPP	PPPP	PPPP	PPPP
Deathcamas	<i>Zigadenus</i> spp.	ZIGAD	TTTT	ZIGAD	TTTT	TTTT	TTTT	TTTT
Docks	<i>Rumex</i> spp.	RUMEX	UUUU	UUUU	UUUU	UUUU	UUUU	UUUU
Elephanthead lousewort	<i>Pedicularis groenlandica</i>	PEGR2	UUUU	DDDD	UUUU	DDDD	UUUU	UUUU
Flax	<i>Linum</i> spp.	LINUM	UUUU	UUUU	UUUU	UUUU	UUUU	UUUU
Fleabanes	<i>Erigeron</i> spp.	ERIGE2	UUUU	UUUU	UUUU	UUUU	UUUU	UUUU
Fringed sagewort	<i>Artemisia frigida</i>	ARFR4	UUUU	UUUU	UUUU	UUUU	UUUU	UUUU
Goldenpea	<i>Thermopsis</i> spp.	THERM	UUUU	UUUU	UUUU	UUUU	UUUU	UUUU
Goldenweed	<i>Stenotus acaulis</i>	STAC	UUUU	UUUU	UUUU	UUUU	UUUU	UUUU
Gromwell	<i>Buglossoides arvensis</i>	BUAR3	UUUU	UUUU	UUUU	UUUU	UUUU	UUUU
Groundsel	<i>Tephrosia</i> spp.	TEPHR3	TTTT	UUUU	TTTT	UUUU	UUUU	TTTT
Hawksbeard	<i>Crepis acuminata</i>	CRAC2	UUUU	PPPP	UUUU	DDDD	DDDD	UUUU
Horsetails	<i>Equisetum</i> spp.	EQUIS	UUUU	UUUU	TTTT	UUUU	UUUU	UUUU
Iris	<i>Iris</i> spp.	IRIS	UUUU	UUUU	UUUU	UUUU	UUUU	UUUU
Milkvetch (locoweed)	<i>Astragalus</i> spp.	ASTRA	DDDD	DDDD	DDDD	DDDD	DDDD	DDDD
Miners candle	<i>Cryptantha virgata</i>	CRV14	UUUU	UUUU	UUUU	UUUU	UUUU	UUUU
Paintbrush	<i>Castilleja</i> spp.	CAST	DDDD	DDDD	DDDD	DDDD	DDDD	DDDD
Penstemons	<i>Penstemon</i> spp.	PENST	PPPP	PPPP	PPPP	PPPP	PPPP	PPPP
Phlox	<i>Phlox</i> spp.	PHLOX	UUUU	UUUU	UUUU	UUUU	UUUU	UUUU
Povertyweed	<i>Monolepis</i> spp.	MONOL	UUUU	UUUU	UUUU	UUUU	UUUU	UUUU
Primrose	<i>Oenothera</i>	OENOT	UUUU	UUUU	UUUU	UUUU	UUUU	UUUU
Princesplume	<i>Stanleya</i> spp.	STANL	TTTT	TTTT	TTTT	TTTT	TTTT	TTTT
Pussytoes	<i>Antennaria</i> spp.	ANTEN	UUUU	UUUU	UUUU	UUUU	UUUU	UUUU
Sagebrush gilia	<i>Leptodactylon pungens</i>	LEPU	UUUU	UUUU	UUUU	UUUU	UUUU	UUUU
Sandwort	<i>Arenaria</i> spp.	ARENA	UUUU	UUUU	UUUU	UUUU	UUUU	UUUU
Scarlet globemallow	<i>Sphaeralcea coccinea</i>	SPCO	DDDD	DDDD	DDDD	DDDD	DDDD	DDDD
Scurfpeas	<i>Psoralea</i> spp.	PSORA2	UUUU	UUUU	UUUU	UUUU	UUUU	UUUU
Stoncrop	<i>Sedum</i> spp.	SEDUM	UUUU	UUUU	UUUU	UUUU	UUUU	UUUU
Tansy	<i>Tanacetum</i> spp.	TANAC	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> spp.	HYDRO4	DDDD	DDDD	DDDD	PPPP	DDDD	DDDD
Western yarrow	<i>Achillea millefolium</i>	ACHMIO	UUUU	UUUU	UUUU	UUUU	UUUU	UUUU
Wild onion	<i>Allium textile</i>	ALTE	DDDD	DDDD	DDDD	DDDD	DDDD	DDDD
Woody aster	<i>Xylorhiza</i> spp.	XYLOR	TTTT	TTTT	TTTT	TTTT	TTTT	TTTT
<b>TREES, SHRUBS &amp; HALF-SHRUBS</b>								
Antelope bitterbrush	<i>Purshia tridentata</i>	PUTR2	PPPP	PPPP	DDDD	PPPP	PPPP	PPPP
Big sagebrush	<i>Artemisia tridentata</i>	ARTR2	DDDD	DDDD	UUUU	DDDD	DDDD	DDDD
Birdfoot sagebrush	<i>Artemisia pedatifida</i>	ARPE6	UUUU	UUUU	UUUU	UUUU	UUUU	UUUU
Bud sagewort	<i>Artemisia spinescens</i>	ARSP5	PPPP	PPPP	DDDD	PPPP	PPPP	PPPP
Buffalobery	<i>Shepherdia</i> spp.	SHEPH	UUUU	UUUU	UUUU	UUUU	UUUU	UUUU
Cottonwood (sprouts only)	<i>Populus angustifolia</i>	POAN3	PPPP	PPPP	PPPP	PPPP	UUUU	PPPP
Currant	<i>Ribes</i> spp.	RIBES	DDDD	DDDD	DDDD	DDDD	UUUU	DDDD
Early (alkali) sagebrush	<i>Artemisia arbuscula</i> ssp. <i>longiloba</i>	ARARL	UUUU	UUUU	UUUU	UUUU	UUUU	UUUU
Fourwing saltbush	<i>Atriplex canescens</i>	ATCA2	PPPP	PPPP	PPPP	PPPP	PPPP	PPPP
Gardners saltbush	<i>Atriplex gardneri</i>	ATGA	PPPP	PPPP	PPPP	PPPP	PPPP	PPPP
Greasewood (toxic in large amounts)	<i>Sarcobatus vermiculatus</i>	SAVE4	DDDD	DDDD	UUUU	DDDD	DDDD	DDDD
Greenmolly summercypress	<i>Kochia americana</i>	KOMA	UUUU	UUUU	UUUU	UUUU	UUUU	UUUU
Green rabbitbrush	<i>Chrysothamnus viscidiflorus</i>	CHV18	DDDD	DDDD	UUUU	PPPP	PPPP	DDDD
Hawhorn	<i>Crataegus</i> spp.	CRATA	UUUU	UUUU	UUUU	UUUU	UUUU	UUUU
Junipers	<i>Juniperus scopulorum</i>	JUSC2	UUUU	UUUU	UUUU	DDDD	UUUU	UUUU
Limber pine	<i>Pinus flexilis</i>	PIFL2	UUUU	UUUU	UUUU	UUUU	UUUU	UUUU
Low sagebrush	<i>Artemisia arbuscula</i>	ARAR8	DDDD	DDDD	UUUU	DDDD	DDDD	DDDD
Rubber rabbitbrush	<i>Ericameria nauseosa</i>	ERNA10	UUUU	DDDD	UUUU	DDDD	PPPP	UUUU
Shadscale	<i>Atriplex confertifolia</i>	ATCO	UUUU	UUUU	UUUU	UUUU	UUUU	UUUU
Shrubby cinquefoil	<i>Dasiphora floribunda</i>	DAFL3	UUUU	UUUU	UUUU	UUUU	UUUU	UUUU
Silver sagebrush	<i>Artemisia cana</i>	ARCA13	DDDD	DDDD	DDDD	PPPP	PPPP	DDDD
Skunkbush sumac	<i>Rhus trilobata</i>	RHTR	DDDD	DDDD	UUUU	DDDD	DDDD	DDDD
Spineless horsebrush	<i>Tetradymia canescens</i>	TECA2	UUUU	TTTT	UUUU	UUUU	UUUU	UUUU
Spiny hopsage	<i>Grayia spinesa</i>	GRSP	UUUU	UUUU	UUUU	UUUU	UUUU	UUUU
Spiny horsebrush	<i>Tetradymia spinosa</i>	TESP2	UUUU	DDDD	UUUU	UUUU	DDDD	UUUU
Wildrose	<i>Rosa woodsii</i> var. <i>woodsii</i>	ROWOW	DDDD	DDDD	DDDD	DDDD	DDDD	DDDD
Willows	<i>Salix</i> spp.	SALIX	DDDD	DDDD	DDDD	PPPP	UUUU	DDDD
Winterfat	<i>Krascheninnikovia lanata</i>	KRAL2	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/Indian Ricegrass (HCPC)	350-750	.16
Big Sage/Bunchgrass	200-600	.11
Big Sage/Rhizomatous Wheatgrass	100-400	.06
Rabbitbrush/Rhizomatous Wheatgrass	50-350	.04

\* - 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 variety 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

Shallow Sandy	R034AY166WY
Loamy	R034AY122WY

### Similar Sites

R034AY250WY – Sandy (Sy) 10-14W has higher production.  
R034AY146WY – Sands (Sa) 7-9GR has higher production and taller shrub height.

### 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. Those involved in developing this site include: Bill Christensen, Range Management Specialist, NRCS; Karen Clause, Range Management Specialist, NRCS; and Everet Bainter, Range Management Specialist, NRCS. 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	50	1966-1985	WY	Sweetwater & others

### State Correlation

### Type Locality

### Field Offices

Baggs, Cokeville, Rock Springs/Farson, Lyman, Pinedale, Saratoga

### Relationship to Other Established Classifications

### Other References

### Site Description Approval

---

State Range Management Specialist

---

Date