

## United States Department of Agriculture Natural Resources Conservation Service

### Ecological Site Description

**Site Type:** Rangeland

**Site Name:** Shallow Breaks (SwB), 10-14" P.Z., Foothills and Basins West

**Site ID:** R034AY256WY

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

### Physiographic Features

This site is usually found in an upland position on gently sloping to very steep topography. It may be found on all exposures, but is primarily found on south and west facing slopes. Elevations are mostly above 7000 feet.

**Landform:** Hill sides, ridges & escarpments

**Aspect:** N/A

	<u>Minimum</u>	<u>Maximum</u>
<b>Elevation (feet):</b>	6500	7500
<b>Slope (percent):</b>	1	70
<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	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 August 15. Some green up of cool season plants usually occurs in September depending upon fall moisture occurrences.

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

	<u>Minimum</u>	<u>Maximum</u>	<u>5 yrs. out of 10 between</u>
Frost-free period (days):	18	67	July 5 – August 15
Freeze-free period (days):	53	97	June 15 – August 24
Annual Precipitation (inches):	<7.18	>13.94	(2 years in 10)

Average annual precipitation: 11.29 inches

Average annual air temperature: 35.9°F (20.4°F Avg. Min. to 51.4°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 "Border 3 N " and Kemmerer Wtr Trtmt" in Lincoln County; "Evanston 1 E" in Uinta County; and "Merna" 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

The soils of this site are shallow (less than 20"to bedrock) well-drained soils formed in residuum. These soils have rapid to slow permeability and can be of any texture. This site usually occurs on steep slopes, but may be on any slope. Included in this site are small areas of exposed bedrock and very shallow to deep pockets of soil. This bedrock usually develops large cracks and crevices where junipers can utilize moisture.

Major Soil Series correlated to this site include: Spool and some phases of Rentsac series.

Other Soil Series in MLRA 34A correlated to this site include: Blackhall series.

Parent Material Kind: residuum, colluvium

Parent Material Origin: sedimentary bedrock

Surface Texture: sandy loam, loam, loamy fine sand

Surface Texture Modifier: gravelly, channery

Subsurface Texture Group: loamy sand, loamy fine sand, loam

Surface Fragments ≤ 3" (% Cover): 0 to 20

Surface Fragments > 3" (%Cover): 0 to20

Subsurface Fragments ≤ 3" (% Volume): 0-40

Subsurface Fragments > 3" (% Volume): 0-30

	<u>Minimum</u>	<u>Maximum</u>
Drainage Class:	well	somewhat excessive
Permeability Class:	moderately rapid	rapid
Depth (inches):	10	20
Electrical Conductivity (mmhos/cm) ≤20":	0	8
Sodium Absorption Ratio ≤20":	0	5

Site Type: Rangeland  
MLRA: 34A-Cool Central Desertic Basins and Plateaus

Shallow Breaks (SwB) 10-14W  
R034AY256WY

Soil Reaction (1:1 Water) $\leq 20''$ :	6.6	8.4
Soil Reaction (0.1M CaCl <sub>2</sub> ) $\leq 20''$ :	NA	NA
Available Water Capacity (inches) $\leq 30''$ :	0.5	1.2
Calcium Carbonate Equivalent (percent) $\leq 20''$ :	0	15

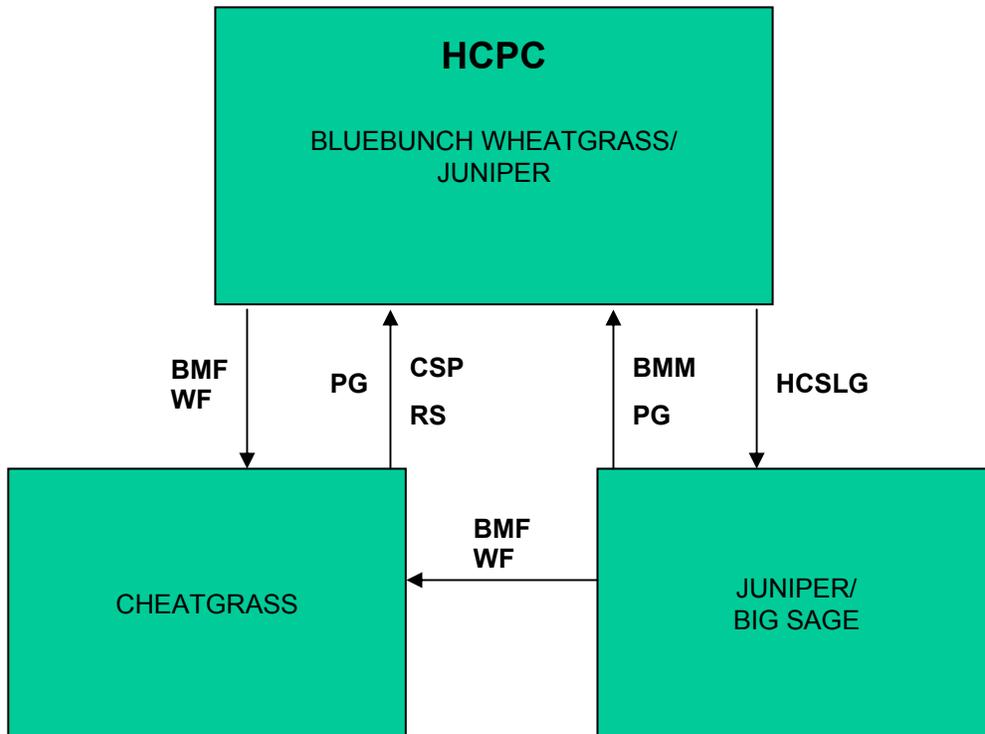
## Plant Communities

### Ecological Dynamics of the Site:

As this site deteriorates, species such as juniper and big sagebrush increase. Cheatgrass and annual forbs often invade. Cool season bunchgrasses such as bluebunch wheatgrass, 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: 1200</b>		
<b>GRASSES AND GRASS-LIKES</b>					
<b>GRASSES/GRASSLIKES</b>					
Griffiths wheatgrass or	Elymus albicans	ELAL7	1	240 - 360	20 - 30
Bluebunch wheatgrass	Pseudoroegneria spicata	PSSP6			
Canby bluegrass	Poa canbyi (syn. P. secunda)	POCA (POSE)	2	60 - 120	5 - 10
Indian ricegrass	Achnatherum hymenoides	ACHY	3	60 - 120	5 - 10
Needle and thread	Hesperostipa comata	HECO26	4	60 - 120	5 - 10
rhizomatous wheatgrass	Pascopyrum smithii	PASM	5	12 - 120	1 - 10
<b>MISC. GRASSES/GRASSLIKES</b>			<b>6</b>	<b>180 - 300</b>	<b>15 - 25</b>
bottlebrush squirreltail	Elymus elymoides	ELEL5	6	0 - 60	0 - 5
Letterman needlegrass	Achnatherum nelsonii	ACLE9	6	0 - 60	0 - 5
mutton bluegrass	Poa fendleriana	POFE	6	0 - 60	0 - 5
Needleleaf sedge	Carex duriuscula	CADU6	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
Sandberg bluegrass	Poa secunda	POSE	6	0 - 60	0 - 5
other perennial grasses (native)		2GP	6	0 - 60	0 - 5
<b>FORBS</b>			<b>7</b>	<b>12 - 120</b>	<b>1 - 10</b>
asters	Eucephalus spp.	EUCEP2	7	0 - 60	0 - 5
buckwheats	Eriogonum spp.	ERIOG	7	0 - 60	0 - 5
clovers	Trifolium spp.	TRIFO	7	0 - 60	0 - 5
fleabane	Erigeron spp.	ERIGE2	7	0 - 60	0 - 5
goldenweed	Stenotus acaulis	STAC	7	0 - 60	0 - 5
Hoods phlox	Phlox hoodii	PHHO	7	0 - 60	0 - 5
milkvetches	Astragalus spp.	ASTRA	7	0 - 60	0 - 5
paintbrushes	Castilleja spp.	CAST	7	0 - 60	0 - 5
penstemons	Penstemon spp.	PENST	7	0 - 60	0 - 5
phacelias	Phacelia spp.	PHACE	7	0 - 60	0 - 5
pussytoes	Antennaria rosea	ANRO2	7	0 - 60	0 - 5
onion	Allium textile	ALTE	7	0 - 60	0 - 5
scarlet globemallow	Sphaeralcea coccinea	SPCO	7	0 - 60	0 - 5
stonecrop	Sedum spp.	SEDUM	7	0 - 60	0 - 5
western yarrow	Achillea lanulosa	ACHIL	7	0 - 60	0 - 5
other perennial forbs (native)		2FP	7	0 - 60	0 - 5
<b>TREES/SHRUBS</b>					
junipers	Juniperus scopulorum	JUSC2	8	240 - 480	20 - 40
big sagebrush	Artemisia tridentata	ARTR2	9	60 - 120	5 - 10
<b>MISC. SHRUBS</b>			<b>10</b>	<b>60 - 120</b>	<b>5 - 10</b>
bitterbrush	Purshia tridentata	PUTR2	10	0 - 60	0 - 5
black sagebrush	Artemisia nova	ARNO4	10	0 - 60	0 - 5
green rabbitbrush	Chrysothamnus viscidiflorus	CHV18	10	0 - 60	0 - 5
mountainmahogany	Cercocarpus spp.	CERCO	10	0 - 60	0 - 5
limber pine	Pinus flexilis	PIFL2	10	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.

**Bluebunch Wheatgrass/Juniper 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 suited for grazing by domestic livestock. Potential vegetation is about 50% grasses or grass-like plants, 10% forbs, and 40% woody plants. The major grasses include bluebunch wheatgrass, Canby bluegrass, rhizomatous wheatgrass, Indian ricegrass, and needleandthread. Other grasses include Sandberg and mutton bluegrass, prairie junegrass, Letterman needlegrass, bottlebrush squirreltail, plains reedgrass, and needleleaf sedge. Junipers and Wyoming big sagebrush are the dominant woody plants. Other woody plants include bitterbrush, limber pine, black sagebrush, and green rabbitbrush.

A typical plant composition for this state consists of bluebunch wheatgrass 20-30%, rhizomatous wheatgrass 1-10%, Canby bluegrass 5-10%, Indian ricegrass 5-10%, needleandthread 5-10%, other grasses and grass-like plants 15-25%, perennial forbs 5-10%, junipers 20-40%, Wyoming big sagebrush 5-10%, and 5-10% other woody species. Ground cover, by ocular estimate, varies from 10-25%.

The total annual production (air-dry weight) of this state is about 1200 pounds per acre, but it can range from about 900 lbs./acre in unfavorable years to about 1400 lbs./acre in above average years.

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

Growth curve number: WY0301

Growth curve name: 10-14W, UPLAND SITES

Growth curve description: ALL UPLAND SITES

JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC
0	0	0	5	15	40	30	10	0	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:

- Heavy Continuous Season-Long Grazing will convert this plant community to the *Juniper/Big Sage State*.
- Wildfire or Prescribed Fire will convert this plant community to the *Cheatgrass State*.

**Juniper/Big Sage Plant Community**

This plant community is a result of frequent and severe grazing in the absence of fire or brush management. Juniper, Wyoming big sagebrush, and other woody species dominate this community,

often exceeding 80% of the annual production. Rhizomatous wheatgrass and annual forbs make up the majority of the understory.

The total annual production (air-dry weight) of this state is about 800 pounds per acre, but it can range from about 400 lbs./acre in unfavorable years to about 1000 lbs./acre in above average years.

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

Growth curve number: WY0301

Growth curve name: 10-14W, UPLAND SITES

Growth curve description: ALL UPLAND SITES

JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC
0	0	0	5	15	40	30	10	0	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:

- Mechanical 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 (Bluebunch Wheatgrass/Juniper State)*. Care should be taken when planning brush management to consider wildlife habitat and critical winter ranges.
- Wildfire or Prescribed Fire will convert this plant community to the *Cheatgrass State*.

### Cheatgrass Plant Community

This plant community is the result of wildfire or a hot prescribed fire. Dominant species include green rabbitbrush and rhizomatous wheatgrass. Cheatgrass often invades, on south and west facing slopes in particular, effectively increasing the fire frequency and preventing the re-establishment of non-sprouting woody species.

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: WY0301

Growth curve name: 10-14W, UPLAND SITES

Growth curve description: ALL UPLAND SITES

JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC
0	0	0	5	15	40	30	10	0	0	0	0

(Monthly percentages of total annual growth)

The state is vulnerable to excessive erosion. The biotic integrity of this plant community is at risk depending on how far a shift has occurred in plant composition toward green rabbitbrush, cheatgrass, and annual forbs. The watershed is at risk as bare ground increases.

Transitional pathways leading to other plant communities are as follows:

- Chemical Seedbed Preparation 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 (Bluebunch Wheatgrass/Juniper State)* although cheatgrass will remain a part of

the plant community. Additional deferment may be necessary and should be prescribed on an individual site basis.

## Ecological Site Interpretations

### Animal Community – Wildlife Interpretations

**Bluebunch Wheatgrass/Juniper Plant Community (HCPC):** This plant community provides excellent thermal and escape cover for wintering mule deer and elk. Year-round habitat is provided for mule deer, bobcat, cottontail rabbits, jackrabbits, sage grouse and many other birds such as the black-throated sparrow, lark sparrow, green-tailed towhee, and neotropical migrants. Juniper provides good thermal cover and nesting habitat for many bird species.

**Juniper/Big Sage Plant Community:** This plant community may be useful 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 Plant Community:** This plant community exhibits a low level of plant species diversity. In most cases it is not a desirable plant community to select as a wildlife habitat management objective.

Animal Preferences (Quarterly - 1,2,3,4) for commonly occurring plants in MLRA34A, 10-14 inch West

COMMON NAME/ GROUP NAME	SCIENTIFIC NAME	SCIENTIFIC SYMBOL	Cattle	Sheep	Horses	Mule Deer	Antelope	Elk
<b>GRASSES/GRASSLIKES</b>								
alkali bluegrass (aka Sandberg)	Poa secunda (syn. Poa juncifolia)	POSE (POJU)	UDUD	NDNU	UDUD	UDUU	UDUU	DPDD
alkali muhly	Muhlenbergia asperifolia	MUAS	UUUU	UUUU	UUUU	UUUU	UUUU	UUUU
alkali sacaton	Sporobolus airoides	SPA1	UPDU	UPDU	UPDU	UUUU	UUUU	UPDU
American mannegrass	Glyceria grandis	GLGR	DDDD	DDDD	DDDD	UUUU	UUUU	DDDD
Baltic rush	Juncus balticus	JUBA	NNNN	NNNN	NNNN	NNNN	NNNN	NNNN
basin wildrye	Leymus cinereus	LEC14	DPDD	UPDU	DPDD	UDUU	UDUU	DPDD
bluebunch wheatgrass	Pseudoroegneria spicata	PSSP4	DPDD	UPDD	DPDD	UDUU	UDUU	DPDD
bluejoint reedgrass (aka bluejoint)	Calamagrostis canadensis	CACA4	UPDU	UDUU	UPDU	UDUU	UDUU	UPDU
bottlebrush squirreltail	Elymus elymoides	ELELE	DDDD	DDDD	DDDD	UUUU	UUUU	DDDD
Canby bluegrass (aka Sandberg)	Poa secunda (syn. Poa canbyi)	POSE (POCA)	PPPP	PPPP	PPPP	PPPP	PPPP	PPPP
Indian ricegrass	Achnatherum hymenoides	ACHY	DPPD	UPDU	DPPD	UDUU	UDUU	DPPD
inland saltgrass	Distichlis spicata	DISP	UUUN	UUUN	UUUN	UUUN	UUUN	UUUN
inland sedge	Carex interior	CAIN11	DDDD	DDDD	DDDD	UUUU	UUUU	DDDD
Letterman needlegrass	Achnatherum lettermanii	ACLE9	PPPP	PPPP	PPPP	PPPP	PPPP	PPPP
mat muhly	Muhlenbergia richardsonis	MURI	UUUU	UUUU	UUUU	UUUU	UUUU	UUUU
muttongrass	Poa fendleriana	POFE	PPPP	PPPP	PPPP	PPPP	PPPP	PPPP
Nebraska sedge	Carex nebrascensis	CANE2	UDUD	UPND	UDUD	UPND	UPND	UDUD
needleandthread	Hesperostipa comata ssp. comata	HECO8	DPDD	UPDU	DPDD	UDUU	UDUU	DPDD
needleleaf sedge	Carex duriuscula	CADU6	UUUU	UUUU	UUUU	UUUU	UUUU	UUUU
northern reedgrass	Calamagrostis stricta ssp. inexpansa	CAST13	UPDU	UDUU	UPDU	UDUU	UDUU	UPDU
Nuttall's alkaligrass	Puccinellia nuttalliana	PUNU2	DPUD	NPND	DPUD	UDUU	UDUU	DPPD
plains reedgrass	Calamagrostis montanensis	CAMO	UPDU	UDUU	UPDU	UDUU	UDUU	UPDU
prairie junegrass	Koeleria macrantha	KOMA	UDUU	NDNU	UDUU	UDUU	UDUU	UDUU
sand dropseed	Sporobolus cryptandrus	SPCR	UUUN	UUUN	UUUN	UUUN	UUUN	UUUN
Sandberg bluegrass	Poa secunda	POSE	NPUN	NPUN	NPUN	NDUN	NDUN	NPUN
slender wheatgrass	Elymus trachycaulus	ELTR7	DPDD	UPDD	DPDD	UDUU	UDUU	DPDD
tall mannegrass (aka fowl)	Glyceria striata (syn. G. elata)	GLST (GLEL)	DDDD	UUUU	DDDD	UUUU	UUUU	DDDD
thickspike wheatgrass (aka streambank)	Elymus lanceolatus ssp. lanceolatus	LELL4	DPDD	UPDD	DPDD	UDUU	UDUU	DPDD
threeawn	Aristida spp.	ARIS1	NNNN	NNNN	NNNN	NNNN	NNNN	NNNN
tufted hairgrass	Deschampsia caespitosa	DECA18	PPPP	PPPP	PPPP	PPPP	PPPP	PPPP
western wheatgrass	Pascopyrum smithii	PASM	DPDD	UPDD	DPDD	UDUU	UDUU	DPDD
<b>FORBS</b>								
agoseris (pale)	Agoseris glauca	AGGL	DDDD	DDDD	PPPP	DDDD	DDDD	DDDD
American bistort	Polygonum bistortoides	POB16	DDDD	DDDD	DDDD	DDDD	DDDD	DDDD
American licorice	Glycyrrhiza lepidota	GLLE3	NNNN	UUUN	NNNN	UUUN	UUUN	UUUN
American vetch	Vicia americana	VIAM	UPPU	UPPU	UPPU	UPPU	UPPU	UPPU
arrowgrass	Triglochin spp.	TRIGL	TTTT	TTTT	TTTT	TTTT	TTTT	TTTT
aster	Eucephalus spp.	EUCEP2	NNNN	NNNN	NNNN	NNNN	NNNN	NNNN
biscuitroot (aka desertparsley)	Lomatium spp.	LOMAT	UUUU	UUUU	UUUU	UUUU	UUUU	UUUU
bluebells	Mertensia	MERTE	DDDD	PPPP	DDDD	DDDD	DDDD	DDDD
blue-eyed grass	Sisyrinchium spp.	SISYR	UUUU	UUUU	UUUU	UUUU	UUUU	UUUU
buckwheat	Eriogonum spp.	ERIOG	UUUU	UUUU	UUUU	UUUU	UUUU	UUUU
buttercup	Ranunculus spp.	RANUN	DDDD	DDDD	DDDD	DDDD	DDDD	DDDD
chickweed	Cerastium spp.	CERAS	UUUU	UUUU	UUUU	UUUU	UUUU	UUUU
clover	Trifolium spp.	TRIFO	PPPP	PPPP	PPPP	PPPP	PPPP	PPPP
common tansy	Tanacetum vulgare	TAVU	UUUU	UUUU	UUUU	UUUU	UUUU	UUUU
cowparnsip, common	Heracleum	HERAC	PPPP	PPPP	PPPP	PPPP	PPPP	PPPP
deathcamas	Zigadenus venenosus	ZIVE	TTTT	TTTT	TTTT	TTTT	TTTT	TTTT
dock	Rumex spp.	RUMEX	UUUU	UUUU	UUUU	UUUU	UUUU	UUUU
elephanthead lousewort	Pedicularis groenlandica	PEGR2	UUUU	DDDD	UUUU	DDDD	UUUU	UUUU
flax	Linum spp.	LINUM	UUUU	UUUU	UUUU	UUUU	UUUU	UUUU
fleabane	Erigeron spp.	ERIGE2	UUUU	UUUU	UUUU	UUUU	UUUU	UUUU
fringed sagewort	Artemisia frigida	ARFR4	UUUU	UUUU	UUUU	UUUU	UUUU	UUUU
goldenpea	Thermopsis spp.	THERM	UUUU	UUUU	UUUU	UUUU	UUUU	UUUU
goldenrod	Solidago spp.	SOLID	NUNN	NUNN	NNNN	NUNN	NUNN	NUNN
goldenweed	Pyrocoma	PYRRO	UUUU	UUUU	UUUU	UUUU	UUUU	UUUU
gromwell, com	Buglossoides arvensis	BUAR3	UUUU	UUUU	UUUU	UUUU	UUUU	UUUU
groundsel	Senecio spp.	SENEC	NNNN	NNNN	NNNN	NNNN	NNNN	NNNN
hawksbeard	Crepis acuminata	CRAC2	UUUU	PPPP	UUUU	DDDD	DDDD	UUUU
Hoods phlox	Phlox hoodii	PHHO	UUUU	UUUU	UUUU	UUUU	UUUU	UUUU
horsetail	Equisetum spp.	EQUIS	UUUU	UUUU	UUUU	UUUU	UUUU	UUUU
iris, Rocky Mountain	Iris missouriensis	IRMI	UUUN	UUUN	NNNN	UUUN	UUUN	UUUN
larkspur	Delphinium spp.	DELPH	TTTT	TTTT	TTTT	TTTT	TTTT	TTTT
lupine (toxic at certain times)	Lupinus spp.	LUPIN	DDDD	DDDD	DDDD	DDDD	DDDD	DDDD
milkvetch	Astragalus spp.	ASTRA	UUUU	UUUU	UUUU	UUUU	UUUU	UUUU
mint, wild	Menthan arvensis	MEAR4	UUUU	UUUU	UUUU	UUUU	UUUU	UUUU
hailwort	Paronychia spp.	PARON	NNNN	NNNN	NNNN	NNNN	NNNN	NNNN
paintbrush	Castilleja spp.	CASTI2	DDDD	DDDD	DDDD	DDDD	DDDD	DDDD
penstemon	Penstemon spp.	PENST	UPPU	UPPU	UPPU	UPPU	UPPU	UPPU
phacelia	Phacelia spp.	PHACE	DDDD	DDDD	DDDD	DDDD	DDDD	DDDD
phlox	Phlox spp.	PHLOX	NNNN	NNNN	NNNN	NNNN	NNNN	NNNN
plaintain	Plantago spp.	PLANT	UUUU	UUUU	UUUU	UUUU	UUUU	UUUU
povertyweed	Iva axillaris	IVAX	UUUU	UUUU	UUUU	UUUU	UUUU	UUUU
primrose	Primula spp.	PRIMU	UUUU	UUUU	UUUU	UUUU	UUUU	UUUU
princesplume	Stanleya spp.	STANL	TTTT	TTTT	TTTT	TTTT	TTTT	TTTT
pussytoes	Antennaria spp.	ANTEN	NNNN	NNNN	NNNN	NNNN	NNNN	NNNN
sagebrush gilia (granite prickly phlox)	Leptodactylon pungens	LEPU	UUUU	UUUU	UUUU	UUUU	UUUU	UUUU
sandwort	Arenaria spp.	ARENA	NNNN	NNNN	NNNN	NNNN	NNNN	NNNN
scarlet globemallow	Sphaeralcea coccinea	SPCO	UUUU	UUUU	UUUU	UPPU	UUUU	UUUU
shooting star	Dodecatheon spp.	DODEC	DDDD	DDDD	UUUU	DDDD	UUUU	DDDD
starwort	Stellaria spp.	STELL	UUUU	UUUU	UUUU	UUUU	UUUU	UUUU
stonecrop	Sedum spp.	SEDUM	UUUU	UUUU	UUUU	UUUU	UUUU	UUUU
stoneseed	Lithospermum spp.	LITHO3	UUUU	UUUU	UUUU	UUUU	UUUU	UUUU
sweetroot	Osmorhiza	OSMOR	DDDD	DDDD	DDDD	DDDD	DDDD	DDDD
toadflax, pale bastard	Comandra umbellata	COUMP	UUUU	UUUU	UUUU	UUUU	UUUU	UUUU
violet	Viola spp.	VIOLA	DDDD	DDDD	DDDD	DDDD	DDDD	DDDD
water hemlock	Cicuta spp.	CICUT	TTTT	TTTT	TTTT	TTTT	TTTT	TTTT
waterleaf	Hydrophyllum	HYDRO4	DDDD	PPPP	DDDD	PPPP	PPPP	DDDD
western yarrow	Achillea millefolium	ACMI2	UUUN	UUUN	NNNN	UUUN	UUUN	UUUN
wild onion	Allium spp.	ALLIU	UUUU	UUUU	UUUU	UUUU	UUUU	UUUU
woodyaster, smooth	Xylorhiza glabruscula	XYGL	TTTT	TTTT	TTTT	TTTT	TTTT	TTTT
<b>TREES, SHRUBS &amp; HALF-SHRUBS</b>								
alkali sagebrush (aka early or little)	Artemisia arbuscula ssp. longiloba	ARARL	UUUU	UUUU	UUUU	UUUU	UUUU	UUUU
antelope bitterbrush	Purshia tridentata	PUTR2	PDDP	PDDP	DDDD	PDDP	PDDP	PDDP
big sagebrush	Artemisia tridentata	ARTR2	UUUU	UUUU	UUUU	PPPP	UUUU	UUUU
birdfoot sagebrush	Artemisia pedatifida	ARPE6	UUUU	UUUU	UUUU	UUUU	UUUU	UUUU
black sagebrush	Artemisia nova	ARNO4	UUUU	PPPP	UUUU	PPPP	PPPP	UUUU
boxelder	Acer negundo	ACNE2	UUUU	UUUU	UUUU	UUUU	UUUU	UUUU

Animal Preferences (Quarterly - 1,2,3,4) for commonly occurring plants in MLRA34A, 10-14 inch West

bud sagewort	Picrothamnus desertorum	PIDE4	PPPP	PPPP	DDDD	PPPP	PPPP	PPPP
chokecherry (toxic in large amounts)	Prunus virginiana	PRVI	DDDD	DDDD	DDDD	PPPP	DDDD	DDDD
dogwood	Cornus spp.	CORNU	DDDD	DDDD	DDDD	DDDD	UUUU	DDDD
fourwing saltbush	Atriplex canescens var. canescens	ATCAC	PDDP	PDDP	PDDP	PDDP	PDDP	PDDP
Gardner's saltbush	Atriplex gardneri	ATGA	PDDP	PDDP	DUUD	PDDP	PDDP	PDDP
greasewood (toxic in large amounts)	Sarcobatus vermiculatus	SAVE4	DUUD	DUUD	DUUD	DUUD	DUUD	DUUD
green rabbitbrush (aka low or douglas)	Chrysothamnus viscidiflorus	CHVI8	DUUD	DUUD	UNNU	PUDD	PUDD	DUUD
greenmolly summercypress	Kochia americana	KOAM	UUUU	DDDD	UUUU	UUUU	UUUU	UUUU
juniper	Juniperus spp.	JUNIP	UUUU	UUUU	UUUU	UUUU	UUUU	UUUU
limber pine	Pinus flexilis	PIFL2	NNNN	NNNN	NNNN	NNNN	NNNN	NNNN
low sagebrush (aka little)	Artemisia arbuscula	ARAR8	DDDD	DDDD	UUUU	DDDD	DDDD	DDDD
poplar-cottonwood & aspen(sprouts)	Populus spp.	POPUL	PPPP	PPPP	PPPP	PPPP	UUUU	PPPP
rubber rabbitbrush	Ericameria nauseosa	ERNA10	UUUU	DUUD	UUUU	UDDU	DUUD	DUUU
serviceberry (aka saskatoon)	Amelanchier alnifolia	AMAL2	DDDD	PPPP	DDDD	PPPP	DDDD	DDDD
shadscale saltbush	Atriplex confertifolia	ATCO	UUUU	DDDD	UUUU	DDDD	UUUU	UUUU
shrubby cinquefoil	Dasiphora floribunda	DAFL3	UUUU	UUUU	UUUU	UUUU	UUUU	UUUU
silver buffaloberry	Shepherdia argentea	SHAR	DUUU	DUUU	UUUU	UUUU	PUDP	DUUU
silver sagebrush	Artemisia cana	ARCA13	DUUD	DUUD	UNNU	PPPP	PDDP	DUUD
skunkbush sumac	Rhus trilobata var. trilobata	RHTRT	DUUD	DUUD	UUUU	DUUD	DUUD	DUUD
spineless horsebrush	Tetradymia canescens	TECA2	UUUU	UUUU	UUUU	UUUU	UUUU	UUUU
spiny hopsage	Grayia spinosa	GRSP	UUUU	DDDD	DDDD	UUUU	DDDD	UUUU
spiny horsebrush (aka shortspine)	Tetradymia spinosa	TESP2	UUUU	UUUU	UUUU	UUUU	UUUU	UUUU
true mountainmahogany (aka alderleaf)	Cercocarpus montanus var. montanus	CEMOM4	DDDD	PDDD	DDDD	UNNU	PDDP	PDDD
water birch	Betula occidentalis	BECC2	UUUU	UUUU	UUUU	UUUU	UUUU	UUUU
western snowberry	Symphoricarpos occidentalis	SYOC	UUUU	UUUU	UUUU	UUUU	UDDU	DUUU
wildrose	Rosa woodsii var. woodsii	ROWOW	UDDU	UDDU	NUUN	UDDU	UDDU	UDDU
willow	Salix spp.	SALIX	PUDP	PUDP	DUUD	UUUU	PUDP	PUDP
winterfat	Krascheninnikovia lanata	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.

Plant Community	Production (lb./ac)	Carrying Capacity* (AUM/ac)
Bluebunch Wheatgrass/Juniper (HCPC)	900-1400	.15
Juniper/Big Sage	400-1000	.12
Cheatgrass	200-600	.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 highly variable and is dominated by soils in hydrologic group B and C, with localized areas in hydrologic group D. Infiltration ranges from slow to very rapid. Runoff potential for this site varies from moderate to high depending on soil hydrologic group, depth to and permeability of bedrock, slope, and ground cover (refer to Part 630, NRCS National Engineering Handbook for detailed hydrology information).

Rills and gullies may be present, but should be small. Water flow patterns should be barely distinguishable. Pedestals are only slightly present in association with bunchgrasses such as bluebunch wheatgrass. 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. Variable topography, rock outcrop, and juniper trees appeal to hikers.

### Wood Products

Limber pine and juniper may be used for firewood and very limited use for fence posts.

### Other Products

None noted.

## Supporting Information

### Associated Sites

Shallow Loamy	R034AY262WY
Shallow Clayey	R034AY258WY
Very Shallow	R034AY276WY

### Similar Sites

R034AY156WY – Shallow Breaks (SwB) 7-9GR has lower production.

R034AY276WY – Very Shallow (VS) 10-14W has lower production, and junipers are limited to higher elevations.

### 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	15	1966-1988	WY	Sublette & others

### State Correlation

### Type Locality

### Field Offices

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

### Relationship to Other Established Classifications

### Other References

### Site Description Approval

\_\_\_\_\_  
State Range Management Specialist

\_\_\_\_\_  
Date