

United States Department of Agriculture Natural Resources Conservation Service

Ecological Site Description

Site Type: Rangeland

Site Name: Subirrigated (Sb), 10-14" P.Z., Foothills and Basins West

Site ID: R034AY274WY

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

Physiographic Features

This site will usually occur on level to nearly level land along perennial or intermittent streams near seeps, springs, and sloughs. It is found on all exposures with slopes averaging 3% and elevations mostly over 7000 feet.

Landform: alluvial fans & stream terraces

Aspect: N/A

	<u>Minimum</u>	<u>Maximum</u>
Elevation (feet):	6500	7500
Slope (percent): 1	1	10
Water Table Depth (inches):	12	40
Flooding:		
Frequency:	rare	occasional
Duration:	very brief	very brief
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 May 1 and continues to about September 1.

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

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

Stream Type: C (Rosgen)

Representative Soil Features

The soils of this site are deep and formed from alluvium. They have water tables below the surface for all of the growing season. The water table is non-saline and non-alkaline. They are loamy soils with a seasonal high water table depth of about 1 to 3 feet most years. Mottling or gleying usually occurs within 20 to 40 inches of the surface. These areas may have water over the surface from run-in, but only for short periods of time.

Major Soil Series correlated to this site include: Becks, Canninger, Lander, Pescar, and Turson series.

Other Soil Series in MLRA34A correlated to this site include: Dogiecreek, Gas Creek, and some phases of the Havermom, Heinsaw, Saleratus, and Henrysfork series.

Parent Material Kind: alluvium

Parent Material Origin: mixed

Surface Texture: loam, clay loam, silt loam, fine sandy loam, sandy loam

Surface Texture Modifier: gravelly, cobbly

Subsurface Texture Group: loam, clay loam, sandy loam

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

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

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

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

	<u>Minimum</u>	<u>Maximum</u>
Drainage Class:	somewhat poorly	moderately well
Permeability Class:	moderately slow	medium
Depth (inches):	20	>60
Electrical Conductivity (mmhos/cm) ≤20":	0	8
Sodium Absorption Ratio ≤20":	0	5

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

Subirrigated (Sb) 10-14W
R034AY274WY

Soil Reaction (1:1 Water) $\leq 20''$:	6.6	8.6
Soil Reaction (0.1M CaCl ₂) $\leq 20''$:	NA	NA
Available Water Capacity (inches) $\leq 30''$:	2.5	5.5
Calcium Carbonate Equivalent (percent) $\leq 20''$:	0	40

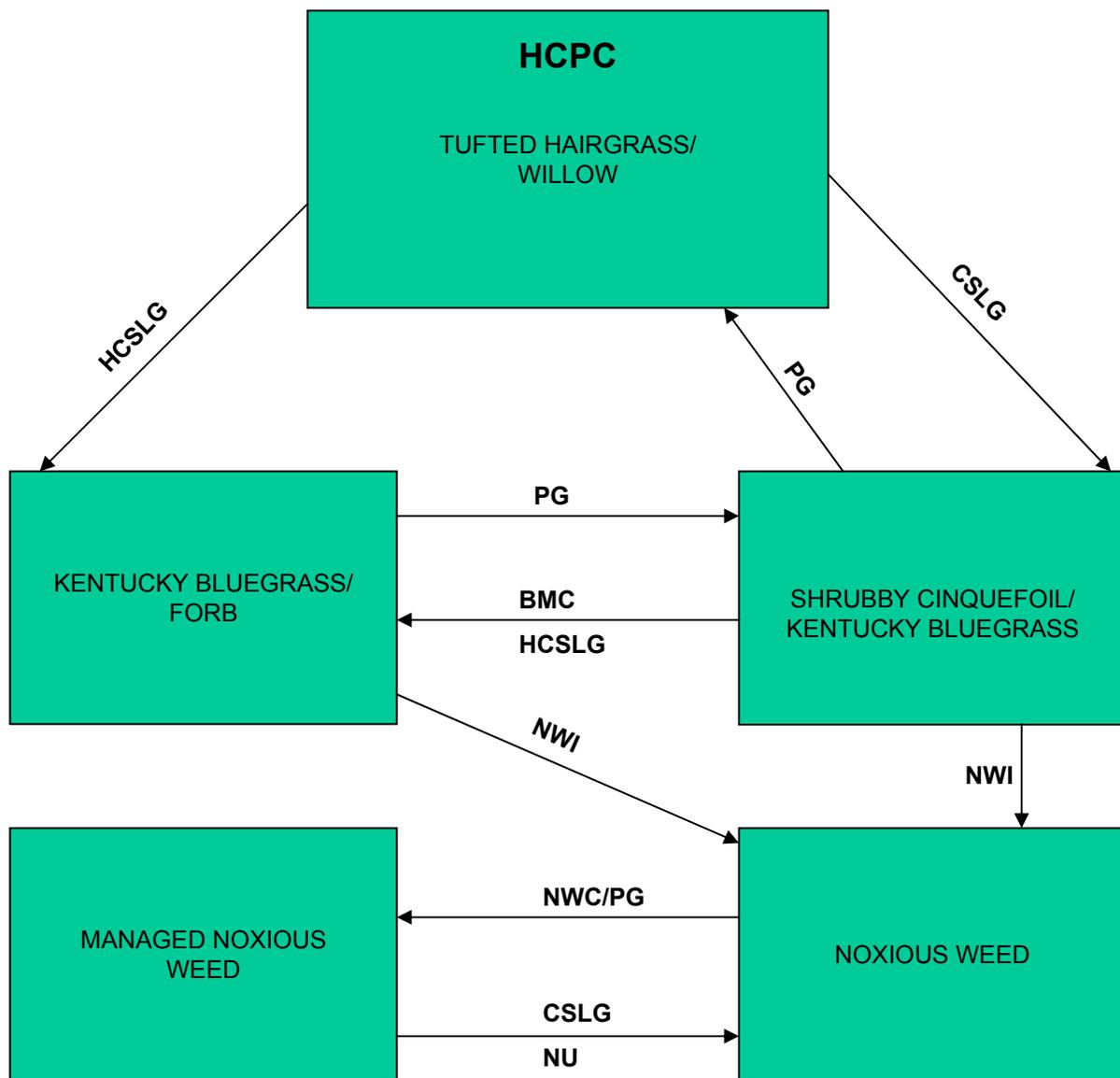
Plant Communities

Ecological Dynamics of the Site:

As this site deteriorates, species such as inland sedge and Baltic rush increase. Grasses such as tufted hairgrass, Nebraska sedge, and basin wildrye will decrease in frequency and production. Willow stands will become decadent with a lack of diverse age classes as site declines. This site is vulnerable to noxious weed invasion by such species as Canada thistle.

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.
			Total: 3700		
GRASSES AND GRASS-LIKES					
GRASSES/GRASSLIKES					
basin wildrye	Leymus cinereus	LECI4	1	555 - 1295	15 - 35
tufted hairgrass	Deschampsia caespitosa	DECA18	2	555 - 1110	15 - 30
Nebraska sedge	Carex nebrascensis	CANE2	3	185 - 370	5 - 10
inland sedge	Carex interior	CAIN11	4	37 - 370	1 - 10
slender wheatgrass	Elymus trachycaulis	ELTR7	5	37 - 370	1 - 10
Rhizomatous wheatgrasses	Pascopyrum smithii	PASM	6	37 - 370	1 - 10
MISC. GRASSES/GRASSLIKES			7	370 - 740	10 - 20
American mannagrass	Glyceria grandis	GLGR	7	0 - 185	0 - 5
Baltic rush	Juncus balticus	JUBA	7	0 - 185	0 - 5
Canby bluegrass	Poa canbyi (syn.P.secunda)	POCA(POSE)	7	0 - 185	0 - 5
mat muhly	Muhlenbergia richarsonis	MURI	7	0 - 185	0 - 5
northern reedgrass	Calamagrostis stricta	CAST13	7	0 - 185	0 - 5
tall mannagrass	Glyceria elata (syn. G. striata)	GLEL (GLST)	7	0 - 185	0 - 5
other perennial grasses (native)		2GP	7	0 - 185	0 - 5
FORBS			8	185 - 555	5 - 15
American bistort	Polygonum bistortoides	POBI6	8	0 - 185	0 - 5
American licorice	Glycyrrhiza lepidota	GLLE3	8	0 - 185	0 - 5
arrowgrass	Triglochin spp.	TRIGL	8	0 - 185	0 - 5
asters	Eucephalus spp.	EUCEP2	8	0 - 185	0 - 5
buttercup	Ranunculus spp.	RANUN	8	0 - 185	0 - 5
cinquefoils	Potentilla spp.	POTEN	8	0 - 185	0 - 5
clover	Trifolium spp.	TRIFO	8	0 - 185	0 - 5
cow parsnip	Heracleum maximum	HEMA80	8	0 - 185	0 - 5
elephanthead	Pedicularis groenlandica	PEGR2	8	0 - 185	0 - 5
flax	Linum spp.	LINUM	8	0 - 185	0 - 5
goldenpea	Thermopsis spp.	THERM	8	0 - 185	0 - 5
goldenrod	Solidago spp.	TEPHR3	8	0 - 185	0 - 5
horsetail	Equisetum hyemale	EQHY	8	0 - 185	0 - 5
iris	Iris spp.	IRIS	8	0 - 185	0 - 5
milkvetch	Astragalus spp.	ASTRA	8	0 - 185	0 - 5
mint	Mentha spp.	MENTH	8	0 - 185	0 - 5
plantain	Plantago major	PLMA2	8	0 - 185	0 - 5
shootingstar	Dodecatheon spp.	DODEC	8	0 - 185	0 - 5
sweetroot	Osmorhiza spp.	OSMOR	8	0 - 185	0 - 5
violets	Viola spp.	VIOLA	8	0 - 185	0 - 5
water hemlock	Cicuta spp.	CICUT	8	0 - 185	0 - 5
waterleaf	Hydrophyllum spp.	HYDRO4	8	0 - 185	0 - 5
western yarrow	Achillea lanulosa	ACHIL	8	0 - 185	0 - 5
other perennial forbs (native)		2FP	8	0 - 185	0 - 5
TREES/SHRUBS					
shrubby cinquefoil	Dasiphora floribunda	DAFL3	9	185 - 370	5 - 10
willows	Salix spp.	SALIX	10	185 - 370	5 - 10
MISC. SHRUBS			11	185 - 370	5 - 10
chokecherry	Prunus virginiana var. virginiana	PRVIV	11	0 - 185	0 - 5
rubber rabbitbrush	Ericameria nauseosa	ERNA10	11	0 - 185	0 - 5
wildrose	Rosa woodsii var. woodsii	ROWOW	11	0 - 185	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.

Tufted Hairgrass/Willow 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 estimated at 70% grasses or grass-like plants, 15% forbs and 15% woody plants. The major grasses and grass-like plants include basin wildrye, tufted hairgrass, Nebraska sedge, inland sedge, slender wheatgrass and rhizomatous wheatgrasses. Other grasses and grass-like species that may occur on this site include Baltic rush, Canby bluegrass, mat muhly, northern reedgrass, and American and tall mannagrass. Woody plants are mainly willows and shrubby cinquefoil, but may also include chokecherry, wild rose, and rubber rabbitbrush.

A typical plant composition for this state consists of Basin wildrye 15-35%, tufted hairgrass 15-30%, Nebraska sedge 5-10%, inland sedge 1-10%, slender wheatgrass 1-10%, rhizomatous wheatgrass 1-10%, other grasses and grass-like plants 10-20%, perennial forbs 5-15%, willows 5-10%, shrubby cinquefoil 5-10%, and 5-10% other woody plants. Ground cover, by ocular estimate, varies from 85-100%.

The total annual production (air-dry weight) of this state is about 3700 pounds per acre, but it can range from about 3000 lbs./acre in unfavorable years to about 4300 lbs./acre in above average years.

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

Growth curve number: WY0303

Growth curve name: 10-14W, FREE WATER SITES

Growth curve description: WL, SB, SS FREE WATER SITES

JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC
0	0	0	0	20	40	20	15	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 and the reliable water table, allow 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:

- Continuous Season-long Grazing will convert this plant community to the *Shrubby Cinquefoil/Kentucky Bluegrass State*.
- Heavy Continuous Season-long Grazing will convert this plant community to the *Kentucky Bluegrass/Forb State*.

Managed Noxious Weed Plant Community

This plant community is the result of noxious weed control and prescribed grazing. Grazing is used as a tool to control introduced and noxious weeds by selecting livestock type and timing use during the flowering of the identified weed such as Canada thistle. Other weed control efforts such as chemical, mechanical, or biological methods are employed in conjunction with a grazing management scheme. The native plant community responds to this management by increasing in production and vigor, however it is very sensitive to any management change that allows the seed production and increase of noxious weeds such as nonuse or overuse. Noxious weeds are still present, but in smaller amounts and may be isolated to exposed or bare ground areas such as sandbars.

The total annual production (air-dry weight) of this state is about 3500 pounds per acre, but it can range from about 2800 lbs./acre in unfavorable years to about 4200 lbs./acre in above average years.

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

Growth curve number: WY0303

Growth curve name: 10-14W, FREE WATER SITES

Growth curve description: WL, SB, SS FREE WATER SITES

JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC
0	0	0	0	20	40	20	15	5	0	0	0

(Monthly percentages of total annual growth)

Bare ground has decreased. The soil of this state is moderately protected. Degraded stream banks may still erode, but increased amounts of deep-rooting sedges provide adequate stability to the system. The biotic community has been compromised, but is relatively stable and at risk due to invasive plants. The watershed is functioning, but is at risk of degrading rapidly with the introduction of improper management techniques.

Transitional pathways leading to other plant communities are as follows:

- Nonuse OR Continuous Season-long Grazing will convert this plant community to the *Noxious Weed State*.

Shrubby Cinquefoil/Kentucky Bluegrass Plant Community

This plant community is the result of frequent and severe grazing. Kentucky bluegrass and Baltic rush are the dominant species with other grasses including rhizomatous wheatgrass and bearded wheatgrass. The site overall has dried due to downcutting associated with soil erosion from overgrazing. Common forbs include herbaceous cinquefoils, elephanthead, arrowgrass, and Rocky Mountain iris. Cinquefoil often dominates the landscape and produces more than 10-15% of the annual production on the site. Willow communities will lack a diversity of age classes.

The total annual production (air-dry weight) of this state is about 3000 pounds per acre, but it can range from about 2300 lbs./acre in unfavorable years to about 3600 lbs./acre in above average years.

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

Growth curve number: WY0303

Growth curve name: 10-14W, FREE WATER SITES

Growth curve description: WL, SB, SS FREE WATER SITES

JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC
0	0	0	0	20	40	20	15	5	0	0	0

(Monthly percentages of total annual growth)

The state is moderately stable and protected from excessive erosion. The biotic integrity of this plant community is intact. The watershed is functioning.

Transitional pathways leading to other plant communities are as follows:

- Prescribed Grazing will result in a plant community very similar to the *Historic Climax Plant Community (Tufted Hairgrass/Willow State)* although Kentucky bluegrass will remain a part of the plant community.
- Continued Heavy Continuous Season-long Grazing and Brush Management will convert this plant community to the *Kentucky Bluegrass/Forb State*.
- Noxious Weed Invasion will convert this plant community to the *Noxious Weed State*.

Kentucky Bluegrass/Forb Plant Community

This plant community evolved under continuous heavy grazing pressure by domestic livestock. Kentucky bluegrass dominates as the site dries out. Shrubby cinquefoil remnants provide little protection for the herbaceous understory. American licorice and herbaceous cinquefoils are dominant forbs. Willows and other woody species are rare to nonexistent.

The total annual production (air-dry weight) of this state is about 2000 pounds per acre, but it can range from about 1300 lbs./acre in unfavorable years to about 2600 lbs./acre in above average years.

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

Growth curve number: WY0303

Growth curve name: 10-14W, FREE WATER SITES

Growth curve description: WL, SB, SS FREE WATER SITES

JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC
0	0	0	0	20	40	20	15	5	0	0	0

(Monthly percentages of total annual growth)

The state is unstable and vulnerable to excessive erosion. The biotic integrity of this plant community and watershed is nonfunctioning.

Transitional pathways leading to other plant communities are as follows:

- Prescribed Grazing will convert this plant community to the *Shrubby Cinquefoil/Kentucky Bluegrass State* and over the long term, can result in a plant community very similar to the *Historic Climax Plant Community (Tufted Hairgrass/Willow State)*.
- Noxious Weed Invasion will convert this plant community to the *Noxious Weed State*.

Noxious Weed Plant Community

This plant community is the result of long-term improper grazing use and subsequent downcutting of watercourses resulting in a lowered water table. Bare ground has allowed the invasion of noxious weeds such as Canada thistle. The site has dried out, and most plants requiring additional moisture have disappeared. Rhizomatous wheatgrass and Kentucky bluegrass are dominant grasses. Rubber rabbitbrush and woods rose are the dominant woody plants. Willows may have disappeared although remnants may still exist.

The total annual production (air-dry weight) of this state is about 1000 pounds per acre, but it can range from about 500 lbs./acre in unfavorable years to about 1600 lbs./acre in above average years.

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

Growth curve number: WY0303
 Growth curve name: 10-14W, FREE WATER SITES
 Growth curve description: WL, SB, SS FREE WATER SITES

JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC
0	0	0	0	20	40	20	15	5	0	0	0

(Monthly percentages of total annual growth)

Bare ground has increased. The soil of this state is not well protected. Degraded stream banks erode due to the lack of deep-rooted riparian plants. The watershed is nonfunctioning and usually produces excessive runoff. The biotic community is nonfunctioning due to invasive plants.

Transitional pathways leading to other plant communities are as follows:

- Noxious Weed Control in conjunction with Prescribed Grazing will convert this state to the *Managed Noxious Weed State*.

Ecological Site Interpretations

Animal Community – Wildlife Interpretations

Tufted Hairgrass/Willow Plant Community (HCPC): This plant community is very important for most wildlife in the area. Over 80% of all wildlife use this site to fulfill some part of their habitat needs. It provides forage and thermal and hiding cover for mule deer and moose. It provides nesting habitat for shorebirds, songbirds, and waterfowl as well as ground nesting birds such as harriers. The lush herbaceous material produces insects for sage grouse brood rearing and foraging. Dense ground cover provides escape cover, forage, and breeding areas for small mammals which draw predators such as raptors, red fox and coyote. Other birds that would frequent this plant community include red-wing blackbirds, sandhill cranes, western meadowlarks, neotropical migrants, and golden eagles.

Managed Noxious Weed 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. It may provide some foraging opportunities for sage grouse when it occurs proximal to woody cover due to enhanced insect populations.

Shrubby Cinquefoil/Kentucky Bluegrass Plant Community: This plant community may be useful for the same large grazers 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. It may provide some foraging opportunities for sage grouse when it occurs proximal to woody cover.

Kentucky Bluegrass/Forb Plant Community: This plant community may be beneficial for some of the same wildlife that would use the Historic Climax Plant Community. However, the woody component is typically less productive and unable to support large browsers such as moose. As woody plants decrease, structural diversity is lost for neotropical migrants, cover decreased for deer, and nesting for shrub-nesting birds is impacted. It may provide some brood rearing and foraging opportunities for sage grouse when it occurs proximal to woody cover.

Noxious Weed Plant Community: This plant community is less diverse, and thus, less able to meet the habitat needs of many wildlife. Herbaceous forage and cover is not as dense and will aid in successful predation of nesting birds, therefore improving habitat for predators such as raptors, red fox, and coyote. It may provide some brood rearing and foraging opportunities for sage grouse when it occurs proximal to woody cover.

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
GRASSES/GRASSLIKES								
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 mangrass	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 mangrass (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
FORBS								
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
TREES, SHRUBS & HALF-SHRUBS								
alkali sagebrush (aka early or little)	Artemisia arbuscula ssp. longiloba	ARARL	UUUU	UUUU	UUUU	UUUU	UUUU	UUUU
antelope bitterbrush	Purshia tridentata	PUTR2	PDDD	PDDD	DDDD	PDDP	PDDP	PDDP
big sagebrush	Artemisia tridentata	ARTR2	UUUU	UUUU	UUUU	PPPP	PDDP	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 sawewort	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	DUUD	DUUD	UUUU	UUUU	PUDP	DUUD
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)
Tufted Hairgrass/Willow (HCPC)	3000-4300	1.2
Managed Noxious Weed	2800-4200	1.1
Shrubby Cinquefoil/Kentucky Bluegrass	2300-3600	.8
Kentucky Bluegrass/Forb	1300-2600	.6
Noxious Weed	500-1600	.3

* - 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

Climate is the principal factor limiting forage production on this site. This site is dominated by soils in hydrologic group C. Infiltration rate is slow when soils are thoroughly wet. These soils have a slow rate of water transmission due to moderately fine to fine textures and/or high water table conditions. However, high forage production on this site diminishes runoff potential as long as site is managed for maintaining adequate residual vegetation. (Refer to Part 630, NRCS National Engineering Handbook for detailed hydraulic information).

Rills and gullies should not typically be present. Water flow patterns may be present if associated with a perennial flowing stream. Litter typically falls in place, and signs of movement are not common unless associated with a perennial flowing stream. Chemical and physical crusts are rare to non-existent.

Recreational Uses

This site provides a variety of hunting opportunities as well as providing popular camping areas for recreationists. This site has a wide variety of forbs which bloom throughout spring and summer, providing 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

Lowland	R034AY228WY
Wetland	R034AY278WY
Saline Subirrigated	R034AY242WY
Saline Lowland	R034AY238WY

Similar Sites

R034AY174WY – Subirrigated (Sb) 7-9GR has lower production

R034AY278WY – Wetland (WL) 10-14W has a higher water table and higher production.

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