United States Department of Agriculture
Natural Resources Conservation Service

Ecological Site Description

Site Type: Rangeland

Site Name: Wetland (WL) 15-19" Foothills and Mountains Southeast Precipitation Zone

Site ID: R049XA178WY

Major Land Resource Area: 49XA – Southern Rocky Mountain Foothills, northern part

Physiographic Features

This site will usually occur on level to nearly level bottomlands near springs, seeps and sloughs.

Landform: drainageways, oxbows, and stream terraces. **Aspect:** N/A

	Minimum	Maximum
Elevation (feet):	6500	8500
Slope (percent):	0	6
Water Table Depth (inches):	0	18
Flooding:		
Frequency:	occasional	frequent
Duration:	very brief	brief
Ponding:		
Depth (inches):	0	12
Frequency:	frequent	frequent
Duration:	brief	very long
Runoff Class:	negligible	medium

Climatic Features

Annual precipitation ranges from 15-19 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.

Prevailing winds are from the southwest and strong winds are less frequent than over other areas of Wyoming. Occasional storms, however, can bring brief periods of high winds with gusts exceeding 50 mph.

Growth of native cool season plants begins about May 1 and continues to about August 1.

The following information is from the "Hecla 1E" climate station:

	Minimum	Maximum	5 yrs. out of 10 between
Frost-free period (days):	93	151	May 20 – September 14
Freeze-free period (days):	106	184	May 9 – September 26
Annual Precipitation (inches):	9.56	24.23	

Mean annual precipitation: 16.04 inches
Mean annual air temperature: 44.7°F (32.1°F Avg. Min. to 57.2°F Avg. Max.)
For detailed information visit the Natural Resources Conservation Service National Water and Climate Center at http://www.wcc.nrcs.usda.gov/ website. Other climate station(s) representative of this precipitation zone include "Glenrock 14 SSE", "Foxpark" and "Horse Creek 2 NW".

Influencing Water Features

Wetland Description:	System	Subsystem	Class	Sub-class
	Palustrine	None	Emergent Wetland	Persistent

Stream Type: C (Rosgen)

Representative Soil Features

This site consists of deep to very deep poorly drained soils formed in alluvium with a water table above the surface for part but not all of the growing season. They are on nearly level to slightly depressed areas with poor surface drainage. In some places the surface layers have high organic matter content. Layers of the soil most influential to the plant community vary from 3 to 6 inches thick.

Major Soil Series correlated to this site include:

Other Soil Series in MLRA 58B correlated to this site include:

Parent Material Kind: alluvium
Parent Material Origin: sandstone, shale
Surface Texture: clay, clay loam, loam, silty clay, silty clay loam, silt loam
Surface Texture Modifier: mucky
Subsurface Texture Group: loam
Surface Fragments ≤ 3" (% Cover): 0
Surface Fragments > 3" (%Cover): 0
Subsurface Fragments ≤ 3" (% Volume): 0
Subsurface Fragments > 3" (% Volume): 0

	Minimum	Maximum
Drainage Class:	very poorly drained	somewhat poor
Permeability Class:	slow	moderate
Depth (inches):	20	>60
Electrical Conductivity (mmhos/cm) ≤20":	0	4
Sodium Absorption Ratio ≤20":	0	5
Soil Reaction (1:1 Water) ≤20":	6.6	7.8
Soil Reaction (0.1M CaCl2) ≤20":	NA	NA
Available Water Capacity (inches) ≤30":	2.2	6.6
Calcium Carbonate Equivalent (percent) ≤20":	0	5

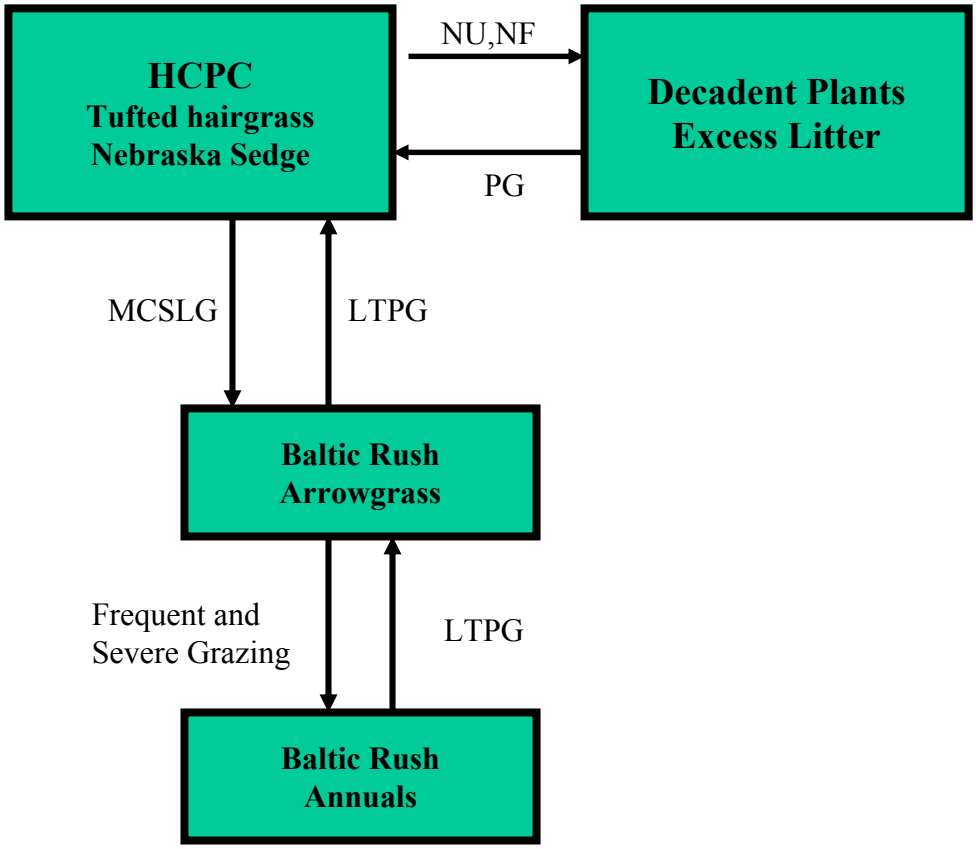
Plant Communities

Ecological Dynamics of the Site:

As this site deteriorates, species such as spike sedge and Baltic rush increase. Grasses and grasslikes such as Nebraska sedge, tufted hairgrass, slough sedge, and northern and bluejoint reedgrass 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.



Freq. & Severe Grazing - Frequent and Severe Utilization of the Cool-season Mid-grasses/grasslikes during the Growing Season
LTPG - Long-tem Prescribed Grazing (proper stocking rates with adequate recovery periods during the growing season)
MCSLG - Moderate, Continuous Season-long Grazing
NU,NF - No Use and No Fire
PG - Prescribed Grazing (proper stocking rates with adequate recovery periods during the growing season)

Plant Community Composition and Group Annual Production

Reference Plant Community (HCPC)

COMMON NAME/GROUP NAME	SCIENTIFIC NAME	SYMBOL	Annual Production (Normal Year) Total: 5500		
			Group	lbs./acre	% Comp.
GRASSES AND GRASS-LIKES					
GRASSES/GRASSLIKES			**1**	**3025 - 4125**	**55 - 75**
tufted hairgrass	Deschampsia caespitosa	DECA18	1	1375 - 2200	25 - 40
Nebraska sedge	Carex nebraskensis	CANE2	1	550 - 1375	10 - 25
slough sedge	Carex atherodes	CAAT2	1	275 - 550	5 - 10
MISC. GRASSES/GRASSLIKES			**2**	**275 - 825**	**5 - 15**
Baltic rush	Juncus balticus	JUBA	2	0 - 275	0 - 5
bluejoint reedgrass	Calamagrostis canadensis	CACA4	2	0 - 275	0 - 5
golden sedge	Carex aurea	CAAU3	2	0 - 275	0 - 5
northern reedgrass	Calamagrostis stricta	CAST13	2	0 - 275	0 - 5
spike sedge	Carex nardina	CANA2	2	0 - 275	0 - 5
tall mannagrass	Glyceria elata (syn. G. striata)	GLEL (GLST)	2	0 - 275	0 - 5
other perennial grasses (native)		2GP	2	0 - 275	0 - 5
FORBS			**3**	**275 - 550**	**5 - 10**
arrowgrass	Triglochin spp.	TRIGL	3	0 - 275	0 - 5
blue-eyed grass	Sisyrinchium spp.	SISYR	3	0 - 275	0 - 5
cinquefoils	Potentilla spp.	POTEN	3	0 - 275	0 - 5
iris	Iris spp.	IRIS	3	0 - 275	0 - 5
scouringrush	Equisetum spp.	EQUIS	3	0 - 275	0 - 5
water hemlock	Cicuta spp.	CICUT	3	0 - 275	0 - 5
waterleaf	Hydrophyllum	HYDRO4	3	0 - 275	0 - 5
wild onion	Allium textile	ALTE	3	0 - 275	0 - 5
other perennial forbs (native)		2FP	3	0 - 275	0 - 5
TREES/SHRUBS			**4**	**275 - 1650**	**5 - 30**
willows	Salix spp.	SALIX	4	55 - 825	1 - 15
bog kalmia	Kalmia microphylla	KAMI	4	55 - 550	1 - 10
water birch	Betula occidentalis	BEOC2	4	55 - 550	1 - 10

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 table shown above has 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 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, Nebraska sedge Community

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 about 75% grasses or grass-like plants, 10% forbs and 15% woody plants. The major grasses/grass-likes include Nebraska sedge, slough sedge, northern and bluejoint reedgrass, and tufted hairgrass. Grasses/grass-likes of lesser importance are Baltic rush and spike sedge.

The total annual production (air-dry weight) of this state is about 5500 pounds per acre, but it can range from about 4000 lbs./acre in unfavorable years to about 6500 lbs./acre in above average years.

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

JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC
0	0	0	0	15	30	35	10	5	5	0	0

(Monthly percentages of total annual growth)

The state is well adapted to the climatic conditions. It is a critical state providing water and habitat for the surrounding area. The diversity in plant species provides a variety of habitats for wildlife. It is resistant to drought due to a dependable water supply. This is a sustainable plant community (site/soil stability, watershed function, and biologic integrity).

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

- Moderate, continuous season-long grazing will convert this plant community to the *Baltic rush/Arrowgrass Vegetation State.*
- Frequent and Severe grazing will convert this plant community to the Baltic rush/Annuals *Vegetation State.*
- No Use and No Fire will convert this plant community to the *Decadent Plants, Excess Litter Plant Community.*

Baltic rush, Arrowgrass Plant Community

This plant community evolved under moderate grazing by domestic livestock. Dominant grasses include spike sedge and Baltic rush. Willows are present near the dryer edges of this state.

When compared to the Historical Climax Plant Community, slough sedge, northern and bluejoint reedgrass, Nebraska sedge, and tufted hairgrass have decreased. Spike sedge and Baltic rush have increased. The abundant production and proximity to water make this state important for livestock and wildlife such as birds, mule deer, and antelope.

The total annual production (air-dry weight) of this state is about 3000 pounds per acre, but it can range from about 2000 lbs./acre in unfavorable years to about 4000 lbs./acre in above average years.

The following is the growth curve expected during a normal year:
Growth curve number:
Growth curve name:
Growth curve description:

JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC
0	0	0	0	15	30	35	10	5	5	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. The watershed is usually functioning.

Transitional pathways leading to other plant communities are as follows:

- Prescribed grazing over the long-term will result in a plant community very similar to the *Historic Climax Plant Community.*
- Frequent and Severe grazing will convert this plant community to *the Baltic rush/Annuals Vegetation State.*

Baltic rush, Annuals Plant Community
This plant community is the result of long-term improper grazing use. Baltic rush and annuals dominate this state.

The total annual production (air-dry weight) of this state is about 1800 pounds per acre, but it can range from about 1200 lbs./acre in unfavorable years to about 2500 lbs./acre in above average years.

The following is the growth curve expected during an average year.
Growth curve number:
Growth curve name:
Growth curve description:

JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC
0	0	0	0	20	35	25	10	5	5	0	0

(Monthly percentages of total annual growth)

Bare ground has increased. The soil of this state is not well protected. Degraded stream banks may erode. The watershed is functioning but may produce excessive runoff. The biotic community is at risk due to invasive plants.

Transitional pathways leading to other plant communities are as follows:

- Prescribed Grazing over the long-term will return this state to near *Historic Climax Plant Community.*

Decadent Plants, Excess Litter Plant Community

This plant community developed under the absence of grazing and fire. Excessive litter is shading out plants. This inhibits photosynthesis and reduces soils temperatures, delaying green-up in the spring. Plants become decadent and exhibit low vigor. Bunch grasses often develop dead centers. Organic matter oxidizes in the air rather than being incorporated into the soil. The dominant plants tend to be somewhat similar to those found in the Historic Climax Plant Community. Weedy species, cool-season grasses, and sedges have increased. Noxious weeds may invade if a seed source is present. Plant diversity is moderate to high.

The total annual production (air-dry weight) is about 5000 pounds per acre during an average year, but it can range from about 4500 pounds per acre in unfavorable years to about 5500 pounds per acre in above average years.

The following is the growth curve expected during an average year.
Growth curve number:
Growth curve name:
Growth curve description:

JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC
0	0	0	0	10	30	35	15	5	5	0	0

(monthly percentages of total annual growth)

This plant community is not resistant to change. The introduction of grazing quickly changes the plant community. It is somewhat more vulnerable to severe disturbance than the HCPC. Bare ground has increased. The soil is not well protected. The watershed is functioning but may produce excessive runoff. The biotic community is at risk due to invasive plants.

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

- Prescribed Grazing over the long-term will return this plant community to near *Historic Climax Plant Community.*

Ecological Site Interpretations

Animal Community – Wildlife Interpretations

Tufted hairgrass, Nebraska sedge Community: The predominance of grasses in this plant community favors grazers and mixed-feeders, such as bison, elk, and antelope. Suitable thermal and escape cover for deer may be limited due to the low quantities of woody plants. Birds that would frequent this plant community include red-wing blackbirds, sandhill cranes, Wilson snipe, western meadowlarks, and golden eagles. Many small mammals would occur here.

Baltic rush/Arrowgrass 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. Good grasshopper habitat equals good foraging for birds.

Baltic rush/Annuals 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. Good grasshopper habitat equals good foraging for birds.

Decadent Plants, Excess Litter 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. Good grasshopper habitat equals good foraging for birds.

Animal Preferences (Quarterly - 1,2,3,4) for commonly occuring plants in MLRA 49XA, 15-19 inch Foothills & Mtns. Southeast

COMMON NAME/	SCIENTIFIC NAME	SCI. SYMBOL	*Cattle*	*Sheep*	*Horses*	*Mule Deer*	*Antelope*
GRASSES/GRASSLIKES							
Baltic rush	Juncus balticus	JUBA	DDDD	UUUU	DDDD	UUUU	UUUU
basin wildrye	Leymus cinereus	LECI4	PPPP	PPPP	PPPP	DDDD	DDDD
big bluegrass	Poa ampla (syn. to Poa secunda)	POAM (POSE)	PPPP	PPPP	PPPP	DDDD	DDDD
blue grama	Bouteloua gracilis	BOGR2	DDDD	DDDD	DDDD	DDDD	DDDD
bluebunch wheatgrass	Pseudoroegneria spicata	PSSP6	PPPP	PPPP	PPPP	DDDD	DDDD
bluejoint reedgrass	Calamagrostis canadensis	CACA4	PPPP	DDDD	PPPP	UUUU	UUUU
Canada wildrye	Elymus canadensis	ELCA4	PPPP	PPPP	PPPP	DDDD	DDDD
Canby bluegrass	Poa canbyi (syn. to Poa secunda)	POCA (POSE)	PPPP	PPPP	PPPP	PPPP	PPPP
Columbia needlegrass	Achnatherum nelsonii	ACNE3	PPPP	PPPP	DDDD	DDDD	DDDD
Fendler's threeawn	Aristida purpurea var. fendleriana	ARPUF	UUUU	UUUU	UUUU	UUUU	UUUU
golden sedge	Carex aurea	CAAU3	DDDD	DDDD	DDDD	UUUU	UUUU
Idaho fescue	Festuca idahoensis	FEID	PPPP	PPPP	PPPP	PPPP	PPPP
Indian ricegrass	Achnatherum hymenoides	ACHY	PPPP	PPPP	PPPP	PPPP	PPPP
Letterman needlegrass	Achnatherum lettermanii	ACLE9	PPPP	PPPP	DDDD	DDDD	DDDD
mat muhly	Muhlenbergia richardsonis	MURI	UUUU	UUUU	UUUU	UUUU	UUUU
Montana wheatgrass	Elymus albicans	ELAL7	DDDD	DDDD	DDDD	DDDD	DDDD
mountain brome	Bromus marginatus	BRMA4	PPPP	PPPP	DDDD	DDDD	UUUU
mountain muhly	Muhlenbergia montana	MUMO	DDDD	DDDD	DDDD	DDDD	UUUU
muttongrass	Poa fendleriana	POFE	PPPP	PPPP	PPPP	PPPP	PPPP
Nebraska sedge	Carex nebraskensis	CANE2	PPPP	PPPP	PPPP	DDDD	DDDD
needleandthread	Hesperostipa comata	HECO26	PPPP	PPPP	PPPP	PPPP	PPPP
nodding brome	Bromus anomalus (syn. B. porteri)	BRAN13 (BRPO2)	PPPP	PPPP	DDDD	DDDD	UUUU
northern reedgrass	Calamagrostis stricta	CAST13	PPPP	DDDD	PPPP	UUUU	UUUU
onespike oatgrass	Danthonia unispicata	DAUN	DDDD	PPPP	DDDD	PPPP	DDDD
Parry's oatgrass	Danthonia parryii	DAPA2	DDDD	PPPP	DDDD	DDDD	DDDD
plains reedgrass	Calamagrostis montanensis	CAMO	DDDD	DDDD	DDDD	DDDD	DDDD
prairie junegrass	Koeleria macrantha	KOMA	DDDD	DDDD	DDDD	DDDD	DDDD
Sandberg bluegrass	Poa secunda	POSE	DDDD	DDDD	DDDD	DDDD	DDDD
slender wheatgrass	Elymus trachycaulus	ELTR7	PPPP	DDDD	PPPP	DDDD	DDDD
slimstem muhly	Muhlenbergia filiculmis	MUFI	DDDD	DDDD	DDDD	UUUU	UUUU
slough sedge	Carex atherodes	CAAT2	DDDD	DDDD	DDDD	DDDD	DDDD
spike fescue	Leucopoa kingii	LEKI2	PPPP	DDDD	PPPP	PPPP	DDDD
spike sedge	Carex nardina	CANA2	DDDD	DDDD	DDDD	UUUU	UUUU
spike trisetum	Trisetum spicatum	TRSP2	PPPP	DDDD	PPPP	PPPP	DDDD
squirreltail	Elymus elymoides	ELELE	DDDD	DDDD	DDDD	UUUU	UUUU
tall mannagrass	Glyceria elata (syn. G. striata)	GLEL (GLST)	DDDD	UUUU	DDDD	UUUU	UUUU
threadleaf sedge	Carex filifolia	CAFI	DDDD	DDDD	DDDD	DDDD	PPPP
tufted hairgrass	Deschampsia caespitosa	DECA18	PPPP	PPPP	PPPP	DDDD	DDDD
western wheatgrass	Pascopyrum smithii	PASM	DDDD	DDDD	DDDD	DDDD	DDDD
FORBS							
American bistort	Polygonum bistortoides	POBI6	DDDD	DDDD	DDDD	DDDD	DDDD
arrowgrass	Triglochin spp.	TRIGL	T	T	T	T	T
biscuitroots	Lomatium spp.	LOMAT	DDDD	DDDD	UUUU	DDDD	DDDD
blue-eyed grass	Sisyrinchium spp.	SISYR	DDDD	PPPP	DDDD	DDDD	DDDD
buckwheats	Eriogonum spp.	ERIOG	UUUU	UUUU	UUUU	UUUU	UUUU
cinquefoils, herbaceous	Potentilla spp.	POTEN	UUUU	UUUU	UUUU	UUUU	UUUU
clovers	Trifolium spp.	TRIFO	PPPP	PPPP	PPPP	PPPP	PPPP
cudweed sagewort	Artemisia ludoviciana	ARLU	UUUU	UUUU	UUUU	UUUU	UUUU
fleabanes	Erigeron spp.	ERIGE2	DDDD	DDDD	DDDD	DDDD	DDDD
fringed sagewort	Artemisia frigida	ARFR4	UUUU	UUUU	UUUU	UUUU	UUUU
hairy goldenaster	Heterotheca villosa	HEVI4	UUUU	UUUU	UUUU	UUUU	UUUU
hawksbeard	Crepis acuminata	CRAC2	UUUU	PPPP	UUUU	DDDD	DDDD
Hoods phlox	Phlox hoodii	PHHO	UUUU	UUUU	UUUU	UUUU	UUUU
horsetails	Equisetum spp.	EQUIS	UUUU	UUUU	UUUU	UUUU	UUUU
iris	Iris spp.	IRIS	UUUU	UUUU	UUUU	UUUU	UUUU
larkspurs	Delphinium spp.	DELPH	T	T	T	T	T
lupines (toxic at certain times)	Lupinus spp.	LUPIN	DDDD	DDDD	DDDD	DDDD	DDDD
milkvetches	Astragalus	ASTRA	DDDD	DDDD	DDDD	DDDD	DDDD
paintbrushes	Castilleja spp.	CAST	DDDD	DDDD	DDDD	DDDD	DDDD
penstemons	Penstemon spp.	PENST	PPPP	PPPP	PPPP	PPPP	PPPP
rosy pussytoes	Antennaria rosea	ANRO2	UUUU	UUUU	UUUU	UUUU	UUUU
scarlet globemallow	Sphaeralcea coccinea	SPCO	DDDD	DDDD	DDDD	DDDD	DDDD
stonecrop	Sedum spp.	SEDUM	UUUU	UUUU	UUUU	UUUU	UUUU
violets	Viola spp.	VIOLA	DDDD	DDDD	DDDD	DDDD	DDDD
water hemlocks	Cicuta spp.	CICUT	T	T	T	T	T
waterleaf	Hydrophyllum	HYDRO4	DDDD	PPPP	DDDD	PPPP	DDDD
western yarrow	Achillea lanulosa	ACHIL	UUUU	UUUU	UUUU	UUUU	UUUU
TREES, SHRUBS & HALF-SHRUBS							
Antelope bitterbrush	Purshia tridentata	PUTR2	PPPP	PPPP	DDDD	PPPP	PPPP
big sagebrush	Artemisia tridentata	ARTR2	UUUU	DDDD	UUUU	DDDD	DDDD
black sagebrush	Artemisia nova	ARNO4	UUUU	PPPP	UUUU	PPPP	PPPP
bog kalmia	Kalmia microphylla	KAMI	T	T	T	T	T
currant	Ribes spp.	RIBES	DDDD	DDDD	DDDD	PPPP	DDDD
junipers	Juniperus scopulorum	JUSC2	UUUU	UUUU	UUUU	DDDD	UUUU
green rabbitbrush	Chrysothamnus viscidiflorus	CHVI8	DDDD	DDDD	DDDD	DDDD	DDDD
ponderosa pine (abortion in cattle)	Pinus ponderosa	PIPO	UUUU	UUUU	UUUU	UUUU	UUUU
rubber rabbitbrush	Ericameria nauseosa	ERNA10	UUUU	DDDD	UUUU	DDDD	DDDD
serviceberry	Amelanchier alnifolia	AMAL2	DDDD	PPPP	DDDD	PPPP	DDDD
shrubby cinquefoil	Dasiphora floribunda	DAFL3	UUUU	UUUU	UUUU	UUUU	UUUU
silver sagebrush	Artemisia cana	ARCAC5	DDDD	DDDD	DDDD	PPPP	PPPP
snowbrush ceanothus	Ceanothus velutinus	CEVE	PPPP	DDDD	DDDD	DDDD	UUUU
threetip sagebrush	Artemisia tripartita	ARTR4	UUUU	DDDD	UUUU	UUUU	DDDD
true mountainmahogany	Cercocarpus montanus	CEMO2	DDDD	PPPP	DDDD	PPPP	DDDD
water birch	Betula occidentalis	BEOC2	UUUU	UUUU	UUUU	UUUU	UUUU
western snowberry	Symphoricarpos occidentalis	SYOC	UUUU	UUUU	UUUU	DDDD	UUUU
wildrose	Rosa woodsii var. woodsii	ROWOW	DDDD	DDDD	UUUU	DDDD	DDDD
willows	Salix L.	SALIX	PPPP	PPPP	DDDD	PPPP	UUUU
winterfat	Krascheninnikovia lanata	KRLA2	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)
Tufted hairgrass, Nebraska sedge	5500	3.0
Baltic rush/Arrowgrass	3000	2.0
Baltic rush/Annuals	1800	1.0
Decadent Plants, Excess Litter	5000	2.5

* - 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 B and C, with localized areas in hydrologic group D. Infiltration and runoff potential for this site varies from moderate to high depending on soil hydrologic group and water table. Runoff will be high on this site since the soil may be saturated. (Refer to Part 630, NRCS National Engineering Handbook for detailed hydraulic information.

Rills and gullies should not typically be present. Water flow patterns should be barely distinguishable if at all present. Litter typically falls in place, and signs of movement are not common. Chemical and physical crusts are rare to non-existent. Cryptogamic 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 an esthetic value that appeals to visitors.

Wood Products

No appreciable wood products are present on the site.

Other Products

None noted.

Supporting Information

Associated Sites

Subirrigated	049XA174WY
Loamy Overflow	049XA126WY

Similar Sites

Subirrigated, R049XA174WY is less productive

Inventory Data References (narrative)

Information presented here has been derived from NRCS clipping data and other inventory data. Field observations from range trained personnel was also used.

Inventory Data References

Data Source	Number of Records	Sample Period	State	County
SCS-RANGE-417	24	1963 -1987	WY	Albany & others

State Correlation

This site occurs entirely within Wyoming.

Type Locality

Field Offices

Wyoming: Baggs, Casper, Cheyenne, Douglas, Lander, Laramie, Riverton, Saratoga, and Wheatland

Relationship to Other Established Classifications

Other References

Other sources used as references include: High Plains Regional Climate Center, USDA NRCS Water and Climate Center, USDA NRCS National Range and Pasture Handbook, and USDA NRCS Soil Surveys from various counties.

Site Description Approval

_____ _____

State Range Management Specialist Date

Ecological Reference Worksheet

Author(s)/participant(s):_____

Contact for lead author: _____ **Reference site used? Yes/No**

Date: __3/05_ ___ **MLRA:** _ __49_ **Ecological Site:** R049XA178WY Wetland (WL)

__ This *must* be verified based on soils and climate (see Ecological Site Description). Current plant community *cannot* be used to identify the ecological site.

Indicators. For each indicator, describe the potential for the site. Where possible, (1) use numbers, (2) include expected range of values for above- and below-average years for **each** community within the reference state, when appropriate & (3) cite data. Continue descriptions on separate sheet.

1. Number and extent of rills: Rills should not be present

2. Presence of water flow patterns: Barely observable

3. Number and height of erosional pedestals or terracettes: Essentially non-existent

4. Bare ground from Ecological Site Description or other studies (rock, litter, lichen, moss, plant canopy are *not* bare ground): Bare ground is less than 5%

5. Number of gullies and erosion associated with gullies: Active gullies should not be present

6. Extent of wind scoured, blowouts and/or depositional areas: None

7. Amount of litter movement (describe size and distance expected to travel): Little to no plant litter movement. Plant litter remains in place and is not moved by erosional forces.

8. Soil surface (top few mm) resistance to erosion (stability values are averages – most sites will show a range of values for both plant canopy and interspaces, if different): Plant cover and litter is at 95% or greater of soil surface and maintains soil surface integrity. Soil Stability class is anticipated to be 5 or greater.

9. Soil surface structure and SOM content (include type and strength of structure, and A-horizon color and thickness for both plant canopy and interspaces, if different): Use Soil Series description for depth and color of A-horizon

10. Effect of plant community composition (relative proportion of different functional groups) & spatial distribution on infiltration & runoff: Grass canopy and basal cover should reduce raindrop impact and slow overland flow providing increased time for infiltration to occur. Healthy deep rooted native grasses enhance infiltration and reduce runoff. Infiltration varies from moderate to low and runoff is high since the soil is usually saturated.

11. Presence and thickness of compaction layer (usually none; describe soil profile features which may be mistaken for compaction on this site): No compaction layer or soil surface crusting should be present.

12. Functional/Structural Groups (list in order of descending dominance by above-ground weight using symbols: >>, >, = to indicate much greater than, greater than, and equal to): Cool Season Mid stature Grasses > Tall and Mid Stature Grasslike > Forbs > Shrubs/Trees

13. Amount of plant mortality and decadence (include which functional groups are expected to show mortality or decadence): Very Low

14. Average percent litter cover and depth : Average litter cover is 50-55% with depths of 0.75 to 1.5 inches

15. Expected annual production (this is all above-ground production, not just forage production):
5500 lbs/ac

16. Potential invasive (including noxious) species (native and non-native). List species which characterize degraded states and which, after a threshold is crossed, "can, and often do, continue to increase regardless of the management of the site and may eventually dominate the site": Baltic Rush, Arrowgrass and Species found on Noxious Weed List

17. Perennial plant reproductive capability: All species are capable of reproducing