

United States Department of Agriculture Natural Resources Conservation Service

Ecological Site Description

Site Type: Rangeland

Site Name: Saline Lowland 12-17" Precipitation Zone

Site ID: R067XY138WY

Major Land Resource Area: 67 – North Central High Plains

Physiographic Features

This site normally occurs on land that receives overflow from intermittent streams or runoff from adjacent slopes.

Landform: alluvial fans, drainage ways & stream terraces **Aspect:** N/A

	<u>Minimum</u>	<u>Maximum</u>
Elevation (feet):	3800	6500
Slope (percent):	0	6
Water Table Depth (inches):	None within 60 inches	
Flooding:		
Frequency:	None	None
Duration:	None	None
Ponding:		
Depth (inches):	0	0
Frequency:	None	None
Duration:	None	None
Runoff Class:	negligible	low

Climatic Features

Annual precipitation ranges from 12-17 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, due to the high elevation and dry air, which permits rapid incoming and outgoing radiation. Cold air outbreaks from Canada in winter move rapidly from northwest to southeast and account for extreme minimum temperatures. Chinook winds may occur in winter and bring rapid rises in temperature. Extreme storms may occur during the winter, but most severely affect ranch operations during late winter and spring.

Wind speed averages about 8 mph, ranging from 10 mph during the spring to 7 mph during late summer. Daytime winds are generally stronger than nighttime and occasional strong storms may bring brief periods of high winds with gusts to more than 75 mph.

Growth of native cool-season plants begins about April 1 and continues to about July 1. Native warm-season plants begin growth about May 15 and continue to about August 15. Green up of cool season plants may occur in September and October of most years.

The following information is from the "Lusk 2SW" climate station.

	<u>Minimum</u>	<u>Maximum</u>
Frost-free period (days):	74	148
Freeze-free period (days):	101	181
Mean Annual Precipitation (inches):	12	17

Mean annual precipitation: 15.71 inches

Mean annual air temperature: 45.2 °F (31.0°F Avg. Min. – 59.3°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: “Chugwater, Wheatland 4N, Cheyenne AP, and Scottsbluff WSO AP”.

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 Type)

Representative Soil Features

The soils of this site are deep and very deep well-drained soils formed in alluvium. Layers of the soil most influential to the plant community vary from 3 to 6 inches thick. These soils have moderate to slow permeability and are moderately to strongly saline and/or alkaline. Higher soluble salt concentrations may be found in the subsoil. The surface soil will be highly variable and vary from 2 to 8 inches in thickness. The surface soil will be one or more of the following textures: very fine sandy loam, fine sandy loam, sandy loam, loam, silt loam, clay loam, clay, or silty clay. A fluctuating water table occurs in these areas and ranges from 1 to 5 feet. These areas are subject to occasional overflow.

Major Soil Series correlated to this site include: Rushcreek, Craft, Pathfinder.

Other Soil Series correlated in MLRA 67 to this site include:

Parent Material Kind: alluvium

Parent Material Origin: sandstone, shale

Surface Texture: loam, clay loam, silt loam, clay

Surface Texture Modifier: none

Subsurface Texture Group: loam

Surface Fragments ≤ 3” (% Cover): 0

Surface Fragments > 3” (%Cover): 0

Subsurface Fragments ≤ 3” (% Volume): 0

Subsurface Fragments > 3” (% Volume): 0

	<u>Minimum</u>	<u>Maximum</u>
Drainage Class:	poorly	excessive
Permeability Class:	moderate	rapid
Depth (inches):	20	>60
Electrical Conductivity (mmhos/cm) ≤20”:	4	16
Sodium Absorption Ratio ≤20”:	5	13
Soil Reaction (1:1 Water) ≤20”:	6.6	9.0
Soil Reaction (0.1M CaCl₂) ≤20”:	NA	NA
Available Water Capacity (inches) ≤30”:	1	6.2
Calcium Carbonate Equivalent (percent) ≤20”:	0	10

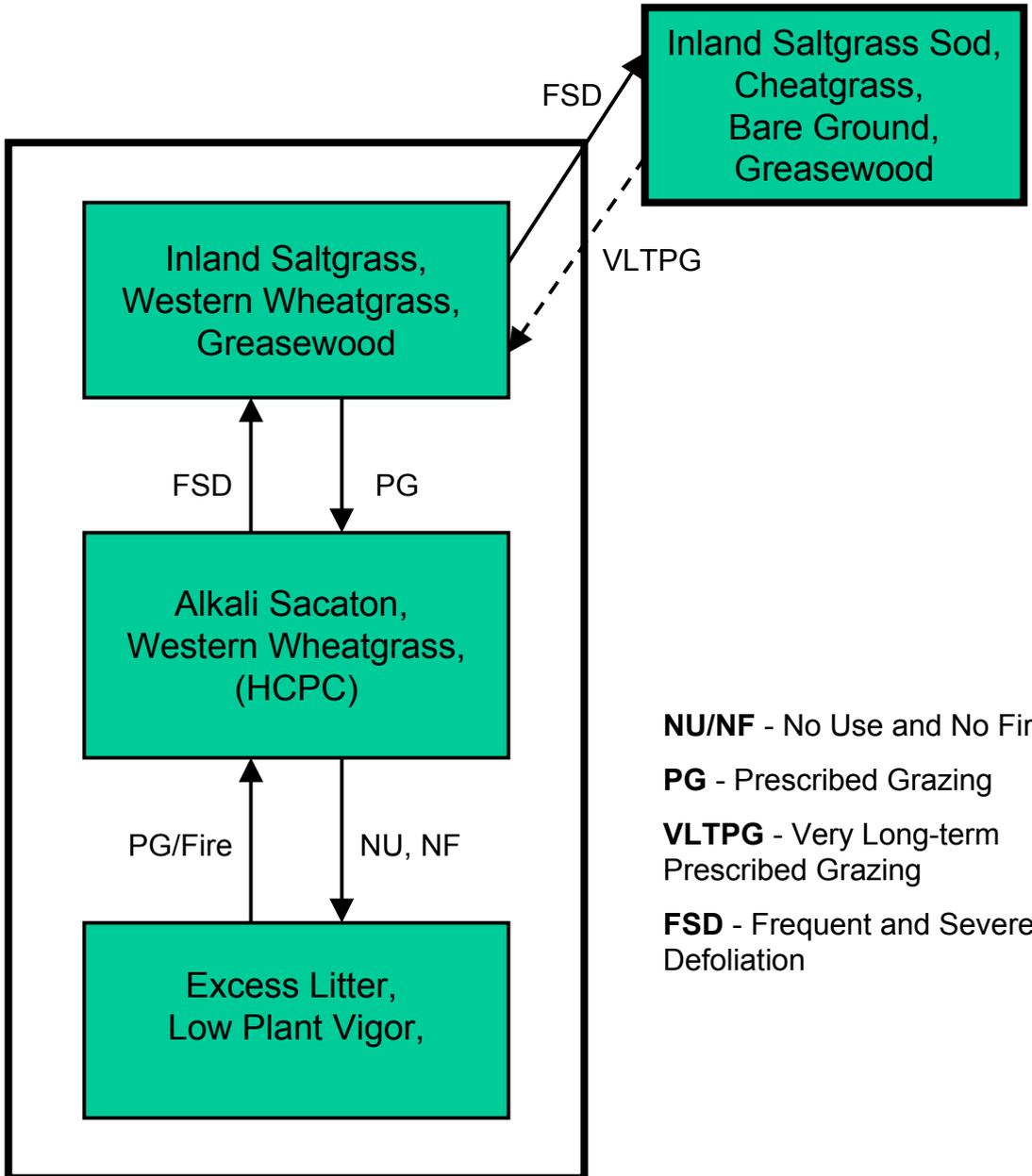
Plant Communities

Ecological Dynamics of the Site

As this site begins to deteriorate from a combination of frequent and severe grazing during the growing season, grasses such as alkali sacaton and western wheatgrass will decrease in both frequency and production. Grasses such as inland saltgrass and blue grama will increase. Under continued frequent and severe defoliation, with no rest periods for the plants to recover, alkali sacaton can eventually be removed from the plant community and greasewood can increase significantly. Over the long-term, continuous use in combination with high stock densities will result in a dense sod of inland saltgrass with areas of bare ground developing. Species such as cheatgrass and broom snakeweed will invade. If this site is not grazed and protected from fire over the long-term, excess litter will build-up resulting in low plant vigor.

The historic climax plant community (description follows the State and Transition Model 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 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.



NU/NF - No Use and No Fire

PG - Prescribed Grazing

VLTPG - Very Long-term Prescribed Grazing

FSD - Frequent and Severe Defoliation

Plant Community Composition and Group Annual Production
Alkali Sacaton, Western Wheatgrass Plant Community (HCPC)

COMMON NAME/GROUP NAME	SCIENTIFIC NAME	SYMBOL	Annual Production (Normal Year)		
			Group	lbs./acre	% Comp.
			Total: 1500		
GRASSES AND GRASS-LIKES					
WARM-SEASON MID-TALL GRASSES			1	375 - 450	25 - 30
alkali sacaton	Sporobolus airoides	SPAI	1	375 - 450	25 - 30
RHIZOMATOUS WHEATGRASSES			2	225 - 300	15 - 20
western wheatgrass	Pascopyrum smithii	PASM	2	225 - 300	15 - 20
WARM-SEASON SOD FORMING GRASS			3	150 - 225	10 - 15
inland saltgrass	Distichlis spicata	DISP	3	150 - 225	10 - 15
MISCELLANEOUS GRASSES/GRASS-LIKES			4	375 - 525	25 - 35
alkali bluegrass	Poa secunda	POSE	4	0 - 75	0 - 5
alkali cordgrass	Spartina gracilis	SPGR	4	0 - 75	0 - 5
blue grama	Bouteloua gracilis	BOGR2	4	0 - 75	0 - 5
bluegrasses	Poa spp.	POA	4	0 - 75	0 - 5
Canada wildrye	Elymus canadensis	ELCA4	4	0 - 75	0 - 5
Nuttall's alkaligrass	Puccinellia nuttalliana	PUNU2	4	0 - 75	0 - 5
sedges	Carex spp.	CAREX	4	0 - 75	0 - 5
slender wheatgrass	Elymus trachycaulus	ELTR7	4	0 - 75	0 - 5
switchgrass	Panicum virgatum	PAVI2	4	0 - 75	0 - 5
other perennial grasses (native)		2GP	4	0 - 75	0 - 5
FORBS			5	0 - 75	0 - 5
cudweed sagewort	Artemisia ludoviciana	ARLU	5	0 - 30	0 - 2
heath aster	Symphyotrichum ericoides	SYERE	5	0 - 30	0 - 2
milkvetches	Astagalus spp.	ASTRA	5	0 - 30	0 - 2
rush skeletonplant	Lygodesmia juncea	LYJU	5	0 - 30	0 - 2
scarlet gaura	Gaura coccinea	GACO5	5	0 - 30	0 - 2
western ragweed	Ambrosia psilostachya	AMPS	5	0 - 30	0 - 2
other perennial forbs (native)		2FP	5	15 - 75	1 - 5
SHRUBS			6	15 - 300	1 - 20
greasewood	Sarcobatus vermiculatus	SAVE4	6	15 - 300	1 - 20
fourwing saltbush	Atriplex canescens	ATCA2	6	0 - 75	0 - 5
silver buffaloberry	Shepherdia argentea	SHAR	6	0 - 75	0 - 5
rubber rabbitbrush	Ericameria nauseosa	ERNA10	6	0 - 30	0 - 2
other shrubs and half-shrubs (native)		2SHRUB	6	15 - 75	1 - 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 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.

Alkali Sacaton, Western Wheatgrass Plant Community

This is the interpretive plant community and is considered to be the Historic Climax Plant Community (HCPC). This plant community evolved with grazing by large herbivores and is well suited for grazing by domestic livestock and can be found on areas that are grazed and where the grazed plants receive adequate periods of rest during the growing season in order to recover. Historically, fires likely occurred infrequently.

The potential vegetation is about 75-90% grasses, 0-20% woody plants, and 0-5% forbs. Plant composition (based on total annual production) is approximately 35-55% warm season grasses, with the remainder made up of cool season grasses and sedges. Only about 5% is made up of forbs. Shrubs can be present up to 20%. The principal grasses are alkali sacaton, western wheatgrass, and inland saltgrass. Greasewood is the most commonly occurring shrub and is characteristic of this site.

The total annual production (lb./ac., air-dry weight) of this plant community during an average year is:

	LOW	AVG	HIGH
GRASS/GRASSLIKE	960	1310	1660
FORB	30	40	50
SHRUB	110	150	190
TREE	0	0	0
TOTAL	1100	1500	1900

The following is the growth curve of this plant community 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	2	8	15	35	20	15	5	0	0	0

(monthly percentages of total annual growth)

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

- Frequent and severe defoliation of mid-grasses will move this plant community to the *Inland Saltgrass, Western Wheatgrass, Greasewood Plant Community*.
- No Use and No Fire will move this plant community to the *Excess Litter, Low Plant Vigor Plant Community*. The build-up of litter reduces photosynthesis and prevents the soil from warming up. Plants become less vigorous, resulting in lower production.

Inland Saltgrass, Western Wheatgrass, Greasewood Plant Community

This plant community developed with frequent and severe defoliation during the growing season. The dominant grasses include inland saltgrass and western wheatgrass. Remnant amounts of alkali sacaton are still present in scattered clumps. The greasewood plants are becoming more vigorous and the amount of new seedlings may be increasing if not exposed to severe browsing.

Management changes can move this plant community towards the Alkali Sacaton, Western Wheatgrass Plant Community (HCPC), since all plant species are still present. This transition can be slowed or made more difficult if greasewood has increased significantly. Soil erosion is low because of slope. Infiltration is moderate and slightly reduced.

Total annual production (air-dry weight) is about 1300 pounds per acre during an average year, but it can range from about 1000 pounds per acre in unfavorable years to about 1600 pounds per acre in above average years.

The following is the growth curve of this plant community 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	2	8	15	40	15	15	5	0	0	0

(monthly percentages of total annual growth)

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

- Continued Frequent and severe defoliation of the mid-tall grasses will eventually move this plant community to the *Inland Saltgrass Sod, Cheatgrass, Bare Ground, Greasewood Plant Community*. Weedy species begin to invade and mid-grasses begin to disappear.
- Prescribed grazing will shift this plant community toward the *Alkali Sacaton, Western Wheatgrass Plant Community (HCPC)*.

Excess Litter, Low Plant Vigor Plant Community

This plant community developed under many years with no defoliation and no fire. Excessive amounts of litter have built up. In advanced stages, plant vigor can become greatly reduced. Organic matter tends to oxidize in the air rather than being incorporated into the soil. Shading reduces soil temperature, delaying spring green-up. The amount of sunlight available for photosynthesis is reduced. Bunchgrasses typically develop dead centers and rhizomatous wheatgrasses form small communities because of a lack of stimulation by grazers. Plant species, similar to those found in the HCPC, are present. However, frequency and production will be reduced.

Management changes can easily shift this plant community. Soil erosion is low because of the high amount of ground cover.

The total annual production (air-dry weight) is about 1,200 pounds per acre during an average year, but it can range from about 1,000 pounds per acre in unfavorable years to about 1,400 pounds per acre in above average years.

The following is the growth curve of this plant community 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	5	10	40	25	15	5	0	0	0

(monthly percentages of total annual growth)

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

- Prescribed grazing or fire will shift this plant community towards the *Alkali Sacaton, Western Wheatgrass Plant Community (HCPC)*.

Inland Saltgrass, Cheatgrass, Bare Ground, Greasewood Plant Community

This plant community develops under long-term frequent and severe defoliation during the growing season. Inland saltgrass sod dominates this plant community. The sod can become broken with invasion of plants such as broom snakeweed, cheatgrass, and sixweeks fescue. Other grasses can include blue grama, Kentucky bluegrass, and threeawns. Mid-grasses that flourished in the HCPC have been removed. Only a few, weedy forbs occur. Greasewood can dominate this plant community if it hasn't been subjected to severe browsing. Pricklypear cactus will also tend to increase.

Management changes cannot easily move this plant community toward HCPC. Soil erosion is only limited by the flat topography. Infiltration is severely reduced because of bare ground and the sod-bound condition.

The total annual production (air-dry weight) is about 900 pounds per acre during an average year, but it can range from about 600 pounds per acre in unfavorable years to about 1200 pounds per acre in above average years.

The following is the growth curve of this plant community 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	5	20	40	20	10	5	0	0	0

(monthly percentages of total annual growth)

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

- Very long-term prescribed grazing will move this plant community toward the *Inland Saltgrass, Western Wheatgrass, Greasewood Plant Community*. This transition, however, could take generations. Brush control, grazing land mechanical treatment, and/or reseeding could return this plant community into a more productive condition, in a shorter time frame. However, these treatments may not be economically feasible.

Ecological Site Interpretations

Animal Community – Wildlife Interpretations

Alkali Sacaton/Western Wheatgrass (HCPC): 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. However, topographical variations could provide some escape cover. Other birds that would frequent this plant community include western meadowlarks, horned larks, and golden eagles. Many grassland obligate small mammals would occur here.

Inland Saltgrass/Western wheatgrass/Greasewood: This plant community exhibits a low level of plant species diversity due to the accumulation of salts in the soil. It may provide some thermal and escape cover for deer and antelope if no other woody community is nearby, but in most cases it is not a desirable plant community to select as a wildlife habitat management objective.

Inland saltgrass Sod/Cheatgrass/Bare Ground/Greasewood: 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.

Excess Litter/Low Plant Vigor: 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.

Animal Preferences (Quarterly - 1,2,3,4) for commonly occurring plants in MLRA 67 North

Common Name	Scientific Name	Symbol	Cattle	Sheep	Horses	Antelope	Deer	Elk
GRASSES/GRASSLIKES								
alkali bluegrass	<i>Poa juncifolia</i>	POJU	UDUD	NDNU	UDUD	UDUU	UDUU	DPDD
alkali cordgrass	<i>Spartina gracilis</i>	SPGR	UDPU	UPDU	UPDU	UDUU	UDUU	UDPU
alkali muhly	<i>Muhlenbergia asperifolia</i>	MUAS	UUUU	UUUU	UUUU	UUUU	UUUU	UUUU
alkali sacaton	<i>Sporobolus airoides</i>	SPAI	UDPU	UPDU	UPDU	UDUU	UDUU	UDPU
Baltic rush	<i>Juncus balticus</i>	JUBA	NNNN	NNNN	NNNN	NNNN	NNNN	NNNN
basin wildrye	<i>Leymus cinereus</i>	LECI4	DPDD	UPDU	DPDD	UDUU	UDUU	DPDD
big bluestem	<i>Andropogon gerardii</i>	ANGE	UDPD	UDDU	UDPD	UDUU	UDUU	UDPD
blowout grass	<i>Redfieldia flexuosa</i>	REFL	UUUU	UUUU	UUUU	UUUU	UUUU	UUUU
blue grama	<i>Bouteloua gracilis</i>	BOGR2	UDPU	UDPU	UDPU	UDUU	UDUU	UDUU
bluebunch wheatgrass	<i>Pseudoroegneria spicata</i>	PSSP6	DPDD	UPDD	DPDD	UDUU	UDUU	DPDD
bluegrasses	<i>Poa spp.</i>	POA	UPUU	UPND	UPUU	UPND	UPND	UPUU
bluejoint reedgrass	<i>Calamagrostis canadensis</i>	CACA4	UPDU	UDUU	UPDU	UDUU	UDUU	UPDU
buffalograss	<i>Buchloe dactyloides</i>	BUDA	UDPU	UDPU	UDPU	UDUU	UDUU	UDUU
bulrush	<i>Scirpus spp.</i>	SCIRP	NNNN	NNNN	NNNN	NNNN	NNNN	NNNN
Canada wildrye	<i>Elymus canadensis</i>	ELCA4	UDUU	NUNN	UDUU	NUNN	NUNN	UDUU
Fendler's threeawn	<i>Aristida purpurea var. fendleriana</i>	ARPUF	NNNN	NNNN	NNNN	NNNN	NNNN	NNNN
foxtail barley	<i>Hordeum jubatum</i>	HOJU	NDNN	NDNN	NDNN	NDNN	NDNN	NDNN
green needlegrass	<i>Nassella viridula</i>	NAV14	DPPD	UPDU	DPPD	UDUU	UDUU	DPPD
hairy grama	<i>Bouteloua hirsuta</i>	BOHI2	UDPU	UDPU	UDPU	UDUU	UDUU	UDUU
Indian ricegrass	<i>Achnatherum hymenoides</i>	ACHY	DPPD	UPDU	DPPD	UDUU	UDUU	DPPD
Indiangrass	<i>Sorghastrum nutans</i>	SONU2	UDPD	UDDU	UDPD	UDUU	UDUU	UDPD
inland saltgrass	<i>Distichlis spicata</i>	DISP	NUUN	NUUN	NUUN	NUUN	NUUN	NUUN
little bluestem	<i>Schizachyrium scoparium</i>	SCSC	UDPU	UPDU	UPDU	UDUU	UDUU	UDPU
muhly	<i>Muhlenbergia spp.</i>	MUHLE	UDUU	UDUU	UDUU	UDUU	UDUU	UDUU
Nebraska sedge	<i>Carex nebrascensis</i>	CANE2	UDUD	UPND	UDUD	UPND	UPND	UDUD
needleandthread	<i>Hesperostipa comata ssp. comata</i>	HECOC8	DPDD	UPDU	DPDD	UDUU	UDUU	DPDD
northern reedgrass	<i>Calamagrostis stricta ssp. inexpansa</i>	CAST13	UPDU	UDUU	UPDU	UDUU	UDUU	UPDU
Nuttall's alkaligrass	<i>Puccinellia nuttalliana</i>	PUNU2	DPUD	NPND	DPUD	UDUU	UDUU	DPPD
panicgrass	<i>Dichanthelium wilcoxianum</i>	DIWI5	UDUU	NUNN	UDUU	NUNN	NUNN	UDUU
plains bluegrass	<i>Poa arida</i>	POAR3	NPUN	NPUN	NPUN	NDUN	NDUN	NPUN
plains muhly	<i>Muhlenbergia cuspidata</i>	MUCU3	UDUU	UDUU	UDUU	UDUU	UDUU	UDUU
plains reedgrass	<i>Calamagrostis montanensis</i>	CAMO	UPDU	UDUU	UPDU	UDUU	UDUU	UPDU
prairie cordgrass	<i>Spartina pectinata</i>	SPPE	UDPD	UDDU	UDPD	UDUU	UDUU	UDPD
prairie junegrass	<i>Koeleria macrantha</i>	KOMA	UDUU	NDNU	UDUU	UDUU	UDUU	UDUU
prairie sandreed	<i>Calamovilfa longifolia</i>	CALO	UDPU	UDUU	UDDU	UDUU	UDUU	UDUU
reed canarygrass	<i>Phalaris arundinacea</i>	PHAR3	UDUU	NUNN	UDUU	NUNN	NUNN	UDUU
rushes	<i>Juncus spp.</i>	JUNCU	NNNN	NNNN	NNNN	NNNN	NNNN	NNNN
sand bluestem	<i>Andropogon hallii</i>	ANHA	UDPD	UDDU	UDPD	UDUU	UDUU	UDPD
sand dropseed	<i>Sporobolus cryptandrus</i>	SPCR	NUUN	NUUN	NUUN	NUUN	NUUN	NUUN
sand lovegrass	<i>Eragrostis trichodes</i>	ERTR3	UDPU	UDUU	UDDU	UDUU	UDUU	UDDU
sand paspalum	<i>Paspalum setaceum</i>	PASE5	NUUN	NUUN	NUUN	NUUN	NUUN	NUUN
Sandberg bluegrass	<i>Poa secunda</i>	POSE	NPUN	NPUN	NPUN	NDUN	NDUN	NPUN
sandhill muhly	<i>Muhlenbergia pungens</i>	MUPU2	UDUU	UDUU	UDUU	UDUU	UDUU	UDUU
sedge	<i>Carex spp.</i>	CAREX	UDUD	UPND	UDUD	UPND	UPND	UDUD
sideoats grama	<i>Bouteloua curtipendula</i>	BOCU	UDPU	UPDU	UPDU	UDUU	UDUU	UDUU
slender wheatgrass	<i>Elymus trachycaulus ssp. trachycaulus</i>	ELTRT	DPDD	UPDD	DPDD	UDUU	UDUU	DPDD
spikerush	<i>Eleocharis spp.</i>	ELEOC	UUUU	UUUU	UUUU	UUUU	UUUU	UUUU
switchgrass	<i>Panicum virgatum</i>	PAVI2	UDPD	UDDU	UDPD	UDUU	UDUU	UDPD
thickspike wheatgrass	<i>Elymus lanceolatus ssp. lanceolatus</i>	ELLAL	DPDD	UPDD	DPDD	UDUU	UDUU	DPDD
threadleaf sedge	<i>Carex filifolia</i>	CAFI	UDUD	UPND	UDUD	UPND	UPND	UDUD
threeawn	<i>Aristida spp.</i>	ARIST	NNNN	NNNN	NNNN	NNNN	NNNN	NNNN
western wheatgrass	<i>Pascopyrum smithii</i>	PASM	DPDD	UPDD	DPDD	UDUU	UDUU	DPDD
FORBS								
American licorice	<i>Glycyrrhiza lepidota</i>	GLLE3	NNNN	NUUN	NNNN	NUUN	NUUN	NUUN
American vetch	<i>Vicia americana</i>	VIAM	UPPU	UPPU	UPPU	UPPU	UPPU	UPPU
arrowgrass	<i>Triglochin spp.</i>	TRIGL	TTTT	TTTT	TTTT	TTTT	TTTT	TTTT
aster	<i>Aster spp.</i>	ASTER	NNNN	NNNN	NNNN	NNNN	NNNN	NNNN
biscuitroot	<i>Lomatium spp.</i>	LOMAT	UDUU	UDDU	UDUU	UDDU	UDDU	UDDU
blue-eyed grass	<i>Sisyrinchium spp.</i>	SISYR	UDUU	UPUU	UDUU	UDUU	UDUU	UDUU
breadroot	<i>Pediomelum spp.</i>	PEDIO2	NUUN	UDUU	NUUN	UDUU	UDUU	UDUU
broadleaf cattail	<i>Typha latifolia</i>	TYLA	UDUU	UUUU	UDUU	UUUU	UDUU	UDUU
buckwheat	<i>Eriogonum spp.</i>	ERIOG	NNNN	UUUU	NNNN	UUUU	UUUU	UUUU
bush morningglory	<i>Ipomoea leptophylla</i>	IPLE	UUUU	UUUU	NNNN	UUUU	UUUU	UUUU
cinquefoil	<i>Potentilla spp.</i>	POTEN	NNNN	UUUU	NNNN	UUUU	UUUU	UUUU
cudweed sagewort	<i>Artemisia ludoviciana</i>	ARLU	UUUU	UDUU	UUUU	UDUU	UDUU	UDUU
curlycup gumweed	<i>Grindelia squarrosa</i>	GRSQ	NNNN	NNNN	NNNN	NNNN	NNNN	NNNN
deathcamas	<i>Zigadenus venenosus</i>	ZIVE	TTTT	TTTT	TTTT	TTTT	TTTT	TTTT
dotted gayfeather	<i>Liatris punctata</i>	LIPU	UPPU	UPPU	UPPU	UPPU	UPPU	UPPU
evening primroses	<i>Oenothera spp.</i>	OENOT	NNNN	NNNN	NNNN	NNNN	NNNN	NNNN
false boneset	<i>Brickellia eupatorioides</i>	BREU	NDUN	NDUN	NNNN	NDUN	NDUN	NDUN
fringed sagewort	<i>Artemisia frigida</i>	ARFR4	UUUU	UUUU	UUUU	UUUU	UUUU	UUUU
goldenrod	<i>Solidago spp.</i>	SOLID	NUNN	NUNN	NNNN	NUNN	NUNN	NUNN

green sawwort	Artemisia campestris	ARCA12	NNNN	NUUN	NNNN	NUUN	NUUN	NNNN
greenthread	Thelesperma spp.	THELE	NNNN	NNNN	NNNN	NNNN	NNNN	NNNN
groundsel	Senecio spp.	SENEC	NNNN	NNNN	NNNN	NNNN	NNNN	NNNN
hairy goldaster	Heterotheca villosa	HEV14	NNNN	NNNN	NNNN	NNNN	NNNN	NNNN
heath aster	Symphotrichum ericoides	SYER	NNNN	NNNN	NNNN	NNNN	NNNN	NNNN
iris	Iris spp.	IRIS	NUUN	NUUN	NNNN	NUUN	NUUN	NUUN
ironweed	Vernonia spp.	VERNO	NNNN	NNNN	NNNN	NNNN	NNNN	NNNN
Lambert crazyweed	Oxytropis lambertii	OXLA3	TTTT	TTTT	TTTT	TTTT	TTTT	TTTT
larkspur	Delphinium spp.	DELPH	TTTT	TTTT	TTTT	TTTT	TTTT	TTTT
lemon scurfpea	Psoraleidum lanceolatum	PSLA3	NNNN	NUUN	NNNN	NUUN	NUUN	NUUN
Maximilian sunflower	Helianthus maximiliani	HEMA2	UDPU	UDPU	UDPU	UDPU	UDPU	UDPU
milkvetch	Astragalus spp.	ASTRA	UDUU	UDUU	UDUU	UDUU	UDUU	UDUU
nailwort	Paronychia spp.	PARON	NNNN	NNNN	NNNN	NNNN	NNNN	NNNN
Pennsylvania smartweed	Polygonum pensylvanicum	POPE2	NNNN	NNNN	NNNN	NNNN	NNNN	NNNN
penstemons	Penstemon spp.	PENST	UPPU	UPPU	UPPU	UPPU	UPPU	UPPU
perennial sunflowers	Helianthus spp.	HELIA3	UPPU	UPPU	UPPU	UPPU	UPPU	UPPU
phlox	Phlox spp.	PHLOX	NNNN	NNNN	NNNN	NNNN	NNNN	NNNN
poison hemlock	Conium maculatum	COMA2	TTTT	TTTT	TTTT	TTTT	TTTT	TTTT
prairie clovers	Dalea spp.	DALEA	UPPU	UPPU	UPPU	UPPU	UPPU	UPPU
prairie coneflower	Ratibida columnifera	RACO3	UPPU	UPPU	UPPU	UPPU	UPPU	UPPU
purple prairie clover	Dalea purpurea	DAPU5	UPPU	UPPU	UPPU	UPPU	UPPU	UPPU
Pursh seepweed	Suaeda calceoliformis	SUCA2	NNNN	NNNN	NNNN	NNNN	NNNN	NNNN
pussytoes	Antennaria spp.	ANTEN	NNNN	NNNN	NNNN	NNNN	NNNN	NNNN
rush skeletonplant	Lygodesmia juncea	LYJU	NNNN	NNNN	NNNN	NNNN	NNNN	NNNN
sandwort	Arenaria spp.	ARENA	NNNN	NNNN	NNNN	NNNN	NNNN	NNNN
scarlet gaura	Gaura coccinea	GACO5	NNNN	NUUN	NNNN	NUUN	NUUN	NNNN
scarlet globemallow	Sphaeralcea coccinea	SPCO	UUUU	UUUU	UUUU	UPPU	UUUU	UUUU
scurfpea	Psoraleidum spp.	PSORA2	NNNN	NUUN	NNNN	NUUN	NUUN	NUUN
showy peavine	Lathyrus polymorphus	LAPO2	UPPU	UPPU	UPPU	UPPU	UPPU	UPPU
silky prairie clover	Dalea villosa	DAVI	UPPU	UPPU	UPPU	UPPU	UPPU	UPPU
slimflower scurfpea	Psoraleidum tenuiflorum	PSTE5	NNNN	NUUN	NNNN	NUUN	NUUN	NUUN
spiderworts	Tradescantia spp.	TRADE	NNNN	NNNN	NNNN	NNNN	NNNN	NNNN
stiff sunflower	Helianthus pauciflorus	HEPA19	UDPU	UDPU	UDPU	UDPU	UDPU	UDPU
swamp smartweed	Polygonum hydropiperoides	POHY2	NNNN	NNNN	NNNN	NNNN	NNNN	NNNN
tenpetal blazingstar	Mentzelia decapetala	MEDE2	NNNN	NNNN	NNNN	NNNN	NNNN	NNNN
veiny dock	Rumex venosus	RUVE2	NNNN	NUUN	NNNN	NUUN	NUUN	NUUN
water hemlock	Cicuta spp.	CICUT	TTTT	TTTT	TTTT	TTTT	TTTT	TTTT
western ragweed	Ambrosia psilostachya	AMPS	NNNN	NNNN	NNNN	NNNN	NNNN	NNNN
western yarrow	Achillea millefolium	ACMI2	NUUN	NUUN	NNNN	NUUN	NUUN	NUUN
white prairie clover	Dalea candida	DACA7	UPPU	UPPU	UPPU	UPPU	UPPU	UPPU
whiteflower gilia	Ipomopsis longiflora ssp. longiflora	IPLOL	NUUN	NUUN	NNNN	NUUN	NUUN	NUUN
wild onion	Allium textile	ALTE	UDUU	UDUU	UDUU	UDUU	UDUU	UDUU
wild strawberry	Fragaria virginiana	FRVI	NNNN	NUUN	NNNN	NUUN	NUUN	NUUN
woollywhite hymenopappus	Hymenopappus tenuifolius	HYTE2	NNNN	NNNN	NNNN	NNNN	NNNN	NNNN
TREES, SHRUBS, AND HALF-SHRUBS								
antelope bitterbrush	Purshia tridentata	PUTR2	PDD	PDD	DDUD	PDDP	PDDP	PDDP
Arkansas rose	Rosa arkansana	ROAR3	UDDU	UDDU	NUUN	UDDU	UDDU	UDDU
big sagebrush	Artemisia tridentata	ARTR2	UNUU	DUUD	UNNU	PPPP	PUDP	DUUU
boxelder	Acer negundo	ACNE2	UUUU	UUUU	UUUU	UUUU	UUUU	UUUU
brittle cactus	Opuntia fragilis	OPFR	NNNN	NNNN	NNNN	NNNN	NNNN	NNNN
broom snakeweed	Gutierrezia sarothrae	GUSA2	NNNN	UUUU	NNNN	UUUU	UUUU	UUUU
fourwing saltbush	Atriplex canescens	ATCA2	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 ash	Fraxinus pennsylvanica	FRPE	UUUU	UUUU	UUUU	UDDU	UDDU	UUUU
green rabbitbrush	Chrysothamnus viscidiflorus	CHV18	DUUD	DUUD	UNNU	PUDP	PUDP	DUUD
leadplant	Amorpha canescens	AMCA6	UPDU	UPDU	UDDU	UPDU	UPDU	UPDU
plains cottonwood	Populus deltoides ssp. monilifera	PODEM	DUDD	DUDD	DUDD	DUDD	DUDD	DUDD
plains pricklypear	Opuntia polyacantha	OPPO	NNNN	NNNN	NNNN	NNNN	NNNN	NNNN
ponderosa pine	Pinus ponderosa var. scopulorum	PIPOS	UTTU	UNNU	UNNU	UNNU	UNNU	UNNU
Rocky Mountain juniper	Juniperus scopulorum	JUSC2	UNNU	UNNU	UNNU	UNNU	DUUD	UNNU
rose	Rosa spp.	ROSA5	UDDU	UDDU	NUUN	UDDU	UDDU	UDDU
rubber rabbitbrush	Ericameria nauseosa	ERNA10	UUUU	DUUD	UUUU	UDDU	DUUD	DUUU
sand sagebrush	Artemisia filifolia	ARF12	UNNU	UNNU	UNNU	UNNU	UNNU	UNNU
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	RHTR	DUUD	DUUD	UUUU	DUUD	DUUD	DUUD
spreading buckwheat	Eriogonum effusum	EREF	UUUU	UUUU	UUUU	UUUU	UUUU	UUUU
true mountainmahogany	Cercocarpus montanus	CEMO2	DDDD	PDD	DDDD	UNNU	PDDP	PDD
western sandcherry	Prunus pumila var. besseyi	PRPUB	DUUD	DUUD	DUUD	DUUD	PUDP	PUUP
western snowberry	Symphoricarpos occidentalis	SYOC	UUUU	UUUU	UUUU	UUUU	DUDD	DUUU
willows	Salix spp.	SALIX	PUDP	PUDP	DUUD	UUUU	PUDP	PUDP
winterfat	Krascheninnikovia lanata	KRLA2	PPPP	PPPP	PPPP	PPPP	PPPP	PPPP
yucca	Yucca glauca	YUGL	DUUD	DUUD	UUUU	DUUD	DUUD	DUUD

Animal Community – Grazing Interpretations

The following tables list suggested initial stocking rates for cattle under continuous grazing (year long grazing or growing season long grazing) under normal growing conditions; however, *continuous grazing is not typically recommended*. 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 the following stocking rate 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 (lbs./acre)	Carrying Capacity (AUM/acre)
Alkali Sacaton, Western Wheatgrass (HCPC)	1500	0.50
Inland Saltgrass, Western Wheatgrass, Greasewood	1300	0.35
Inland Saltgrass Sod, Cheatgrass, Bare Ground, Greasewood	900	0.15
Excess Litter, Low Plant Vigor	1200	0.40

Grazing by domestic livestock is one of the major income-producing industries in the area. Rangelands in this area provide yearlong forage under prescribed grazing for cattle, sheep, horses and other herbivores. During the dormant period, livestock may need supplementation based on reliable forage analysis.

Hydrology Functions

Water 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 ranges from moderate to rapid. Runoff potential for this site varies from moderate to high depending on soil hydrologic group and ground cover. In many cases, areas with greater than 75% ground cover have the greatest potential for high infiltration and lower runoff. An example of an exception would be where short-grasses form a strong sod and dominate the site. Areas where ground cover is less than 50% have the greatest potential to have reduced infiltration and higher runoff (refer to Part 630, NRCS National Engineering Handbook for detailed hydrology information).

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

Recreational Uses

This site provides hunting, hiking, photography, bird watching and other opportunities. The wide varieties of plants that 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

(R067XY144WY) – Saline Upland

Similar Sites

(R067XY124WY) – Loamy Lowland 12-17" P.Z. has fewer salt tolerant plants

(R067XY142WY) – Saline Subirrigated 12-17" P.Z. is more productive and has a higher water table

(R067XY144WY) – Saline Upland is less productive and has less alkali sacaton

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. Those involved in developing this site description include: Chuck Ring, Dave Cook and Kimberly Diller, Rangeland Management Specialists, NRCS.

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	110	1963 -1987	WY	Platte & others

State Correlation

This site has been correlated with Wyoming, Colorado, and Nebraska.

Type Locality

Field Offices

Wyoming: Cheyenne, Douglas, Lusk, Torrington, Wheatland

Nebraska: Bridgeport, Harrisburg, Kimball, Oshkosh, Scottsbluff, Sidney

Colorado: Greeley, Sterling

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

State Range Management Specialist

Date

State Range Management Specialist

Date