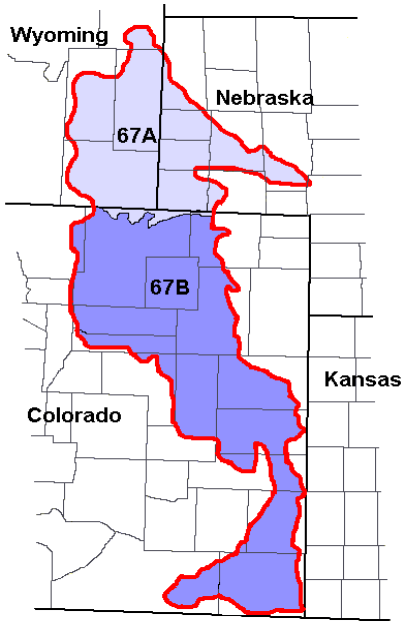
United States Department of Agriculture
Natural Resources Conservation Service

Ecological Site Description



Site Type: Rangeland

Site Name: Salt Meadow

Site ID: R067BY035CO

Major Land Resource Area: 67B – Central High Plains, Southern Part

Physiographic Features

This site occurs on level to gently sloping slopes.

Landform: floodplain

Aspect: N/A

	Minimum	Maximum
Elevation (feet):	3800	5600
Slope (percent):	0	3
Water Table Depth (inches):	12	48
Flooding:		
Frequency:	rare	occasional
Duration:	brief	very brief
Ponding:		
Depth (inches):	0	0
Frequency:	none	none
Duration:	none	none
Runoff Class:	low	high

Climatic Features

The mean average annual precipitation varies from 12 to 16 inches per year depending on location and ranges from less than 8 inches to over 20 inches per year. Approximately 75 percent of the annual precipitation occurs during the growing season from mid-April to late-September. Snowfall can vary greatly from year to year but averages 35 to 45 inches per year. Winds are estimated to average about 9 miles per hour annually, ranging from 10 miles per hour during the spring to 9 miles per hour during late summer. Daytime winds are generally stronger than nighttime and occasional strong storms may bring periods of high winds with gusts to more than 90 miles per hour.

The average length of the growing season is 142 days, but varies from 129 to 154 days. The average date of first frost in the fall is September 28, and the last frost in the spring is about May 9. July is the hottest month and December and January are the coldest. It is not uncommon for the temperature to exceed 100 degrees F during the summer. Summer humidity is low and evaporation is high. The winters are characterized with frequent northerly winds, producing severe cold with temperatures dropping to -35 degrees F or lower.

Growth of native cool season plants begins about March 15 and continues to about June15. Native warm season plants begin growth about May 15 and continue to about August 15. Regrowth of cool season plants occurs in September and October of most years, depending on moisture.

	Minimum	Maximum
Frost-free period (days):	129	154
Freeze-free period (days):	151	178
Mean Annual Precipitation (inches):	12	16

Average Monthly Precipitation (inches) and Temperature (ºF):

	Precip. Min.	Precip. Max	Temp. Min.	Temp. Max.
January	0.32	0.36	12.0	45.1
February	0.26	0.38	15.9	50.9
March	0.83	0.87	22.3	58.9
April	1.28	1.38	30.1	69.1
May	2.32	2.49	39.9	78.0
June	1.93	2.57	49.0	88.7
July	1.42	2.31	55.0	93.9
August	1.07	2.38	53.5	91.9
September	1.02	1.40	43.8	83.8
October	0.89	1.00	32.5	72.9
November	0.52	0.53	20.9	57.4
December	0.34	0.37	11.9	46.9

Climate Stations		Period	
Station ID	**Location or Name**	**From**	**To**
CO0945	Briggsdale	1948	2000
CO4076	Holly	1918	2000
CO9147	Windsor	1948	1990

For local climate stations that may be more representative, refer to http://www.wcc.nrcs.usda.gov.

Influencing Water Features

This ecological site has a combination of physical and hydrological features that: 1) provide season-long ground water within 3.5 feet of the surface, 2) allows relatively free movement of water and air in the upper part of the soil, and 3) are rarely, or occasionally flooded.

Wetland Description:	**System**	**Subsystem**	**Class**	**Sub-class**
Cowardin, et al., 1979	Palustrine	N/A	Emergent Wetland	Persistent

Representative Soil Features

The soils of this site are very deep, poorly to somewhat poorly drained, and slowly to moderate rapidly permeable. These soils occur on floodplains. Some soils have 0-15% rock fragments in underlying material. The available water capacity is typically low to moderate. The soil surface layer is typically 6 to 24 inches thick.

The Historic Climax Plant Community (HCPC) should show slight to no evidence of rills, wind scoured areas or pedestalled plants. Water flow paths are broken, irregular in appearance or discontinuous with numerous debris dams or vegetative barriers. The soil surface is stable and intact. Sub-surface soil layers are non-restrictive to water movement and root penetration.

Major soil series correlated to this ecological site include: Apishapa, Heldt saline, Limon saline, Loveland, Wann saline and Las saline

Other soil series that have been correlated to this site include: Nunn wet*, Alda var., and Wann

* Nunn wet is typically found on terraces and lacks a water table.

Parent Material Kind: alluvium
Parent Material Origin: mixed
Surface Texture: clay loam, loam, fine sandy loam
Surface Texture Modifier: none

Subsurface Texture Group: loamy
Surface Fragments ≤ 3" (% Cover): 0
Surface Fragments > 3" (%Cover): 0
Subsurface Fragments ≤ 3" (% Volume): 0 - 15
Subsurface Fragments > 3" (% Volume): 0

	Minimum	Maximum
Drainage Class:	poorly	somewhat poorly
Permeability Class:	slow	moderately rapid
Depth (inches):	60	80
Electrical Conductivity (mmhos/cm)*:	2	16
Sodium Absorption Ratio*:	5	30
Soil Reaction (1:1 Water)*:	7.4	9.0
Available Water Capacity (inches)*:	4.5	6.5
Calcium Carbonate Equivalent (percent)*:	0	10

*These attributes represent 0-40 inches in depth or to the first restrictive layer.

Plant Communities

Ecological Dynamics of the Site:

Continuous grazing without adequate recovery periods following each grazing occurrence will cause prairie cordgrass, switchgrass, alkali sacaton and eventually western wheatgrass to decrease in frequency and production while inland saltgrass increases. In time, the plant community will become dominated by inland saltgrass and develop into a sodbound condition with alkali sacaton and western wheatgrass persisting in remnant amounts. Heavy continuous grazing will ultimately result in a plant community dominated by foxtail barley, annual invaders and increased bare ground. Excessive litter, plant mortality and decadence can result from the lack of fire and/or non-use. Extended periods of non-use (rest), lack of fire or heavy long term continuous grazing can lead to increase bare ground.

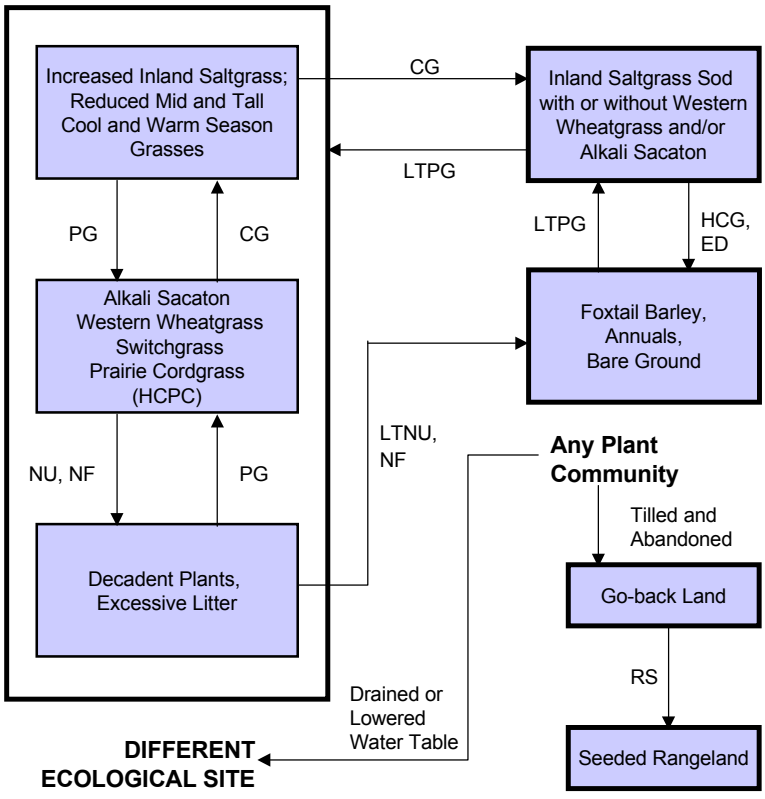
Tillage or any type of mechanical treatment is not recommended on this site since it will increase inland saltgrass.

Irrigation (pumping) or drainage will cause water table levels to drop. Sustained reduction in water table levels will cause a different ecological site to develop.

The historic climax plant community (description follows the plant community diagram) has been determined by study of rangeland relic areas, areas protected from excessive disturbance, seasonal use pastures, short durationl/time controlled grazing and historical accounts.

The following diagram illustrates the common plant communities that can occur on the site and the transition pathways (arrows) among communities. Bold lines surrounding each plant community or communities represent ecological thresholds. The ecological processes are discussed in more detail in the plant community descriptions following the diagram.

Plant Communities and Transitional Pathways



CG - continuous grazing without adequate recovery opportunity; **ED -** excessive defoliation; **HCG -** heavy continuous grazing; **HCPC -** Historic Climax Plant Community; **LTNU -** long term non-use (>40 years); **LTPG -** long term prescribed grazing (>40 years); **NF, NU -** no fire, non-use; **PG -** prescribed grazing with adequate recovery opportunity; **RS -** range seeding

Plant Community Composition and Group Annual Production

			Alkali Sacaton, Western Wheatgrass, Switchgrass, Prairie Cordgrass (HCPC)		
COMMON/GROUP NAME	**SCIENTIFIC NAME**	**SYMBOL**	**Group**	**lbs./acre**	**% Comp**
GRASSES & GRASS-LIKES			*1*	*2400 - 2850*	*80 - 95*
alkali sacaton	Sporobolus airoides	SPAI	1	900 - 1050	30 - 35
western wheatgrass	Pascopyrum smithii	PASM	1	450 - 690	15 - 23
switchgrass	Panicum virgatum	PAVI2	1	450 - 660	15 - 22
prairie cordgrass	Spartina pectinata	SPPE	1	300 - 600	10 - 20
alkali (Sandberg) bluegrass	Poa secunda	POSE	1	90 - 300	3 - 10
big bluestem	Andropogon gerardii	ANGE	1	60 - 210	2 - 7
alkali cordgrass	Spartina gracilis	SPGR	1	30 - 150	1 - 5
Canada wildrye	Elymus canadensis	ELCA4	1	30 - 150	1 - 5
little bluestem	Schizachyrium scoparium	SCSC	1	30 - 150	1 - 5
Indiangrass	Sorghastrum nutans	SONU2	1	0 - 150	0 - 5
inland saltgrass	Distichlis spicata	DISP	1	30 - 90	1 - 3
slender wheatgrass	Elymus trachycaulus	ELTR7	1	30 - 90	1 - 3
Nuttall's alkaligrass	Puccinellia nuttalliana	PUNU2	1	30 - 60	1 - 2
vine mesquite (south)	Panicum obtusum	PAOB	1	0 - 60	0 - 2
alkali muhly	Muhlenbergia racemosa	MURA	1	0 - 30	0 - 1
foxtail barley	Hordeum jubatum	HOJU	1	0 - 30	0 - 1
Baltic rush	Juncus balticus	JUBA	1	30 - 90	1 - 3
Nebraska sedge	Carex nebrascensis	CANE2	1	30 - 90	1 - 3
other perennial grass-likes		2GLP	1	30 - 90	1 - 3
other perennial grasses		2GP	1	30 - 150	1 - 5
FORBS			*2*	*90 - 300*	*3 - 10*
American licorice	Glycyrrhiza lepidota	GLLE3	2	30 - 150	1 - 5
rag sumpweed	Iva xanthifolia	IVXA	2	0 - 90	0 - 3
showy prairie gentian	Eustoma exaltatum ssp. russellianum	EUEXR	2	0 - 60	0 - 2
false boneset	Brickellia eupatorioides	BREU	2	0 - 30	0 - 1
Fremont goldenweed	Oonopsis foliosa var. foliosa	OOFOF	2	0 - 30	0 - 1
Illinois bundleflower	Desmanthus illinoensis	DEIL	2	0 - 30	0 - 1
other perennial forbs		2FP	2	30 - 150	1 - 5
SHRUBS			*3*	*60 - 300*	*2 - 10*
fourwing saltbush	Atriplex canescens	ATCA2	3	0 - 150	0 - 5
rubber rabbitbrush	Ericameria nauseosa ssp. nauseosa var. nauseosa	ERNAN5	3	30 - 60	1 - 2
other shrubs		2SHRUB	3	30 - 90	1 - 3

Annual Production lbs./acre	LOW	RV*	HIGH
GRASSES & GRASS-LIKES	1860 -	2625	- 3350
FORBS	85 -	195	- 325
SHRUBS	55 -	180	- 325
TOTAL	2000 -	3000	- 4000

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. *RV - Representative Value.

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, Switchgrass, Prairie Cordgrass Plant Community

This plant community is the interpretive plant community for this site and is considered to be the Historic Climax Plant Community (HCPC). This community evolved with grazing by large herbivores and is well suited for grazing by domestic livestock. Historically, fires occurred infrequently. This plant community can be found on areas that are grazed and where the grazed plants receive adequate periods of recovery during the growing season. The potential vegetation is about 80-95% grasses and grass-likes, 3-10% forbs and 2-10% woody plants.

The community is dominated by tall and mid warm and cool season grasses. Major grasses include alkali sacaton, switchgrass, prairie cordgrass and western wheatgrass. Other grasses and grass-likes occurring on the community include alkali bluegrass, big bluestem, little bluestem, alkali cordgrass, Baltic rush and Nebraska sedge. Key forbs and shrubs include American licorice, prairie gentian, rag sumpweed, rubber rabbitbrush and fourwing saltbush.

This plant community is stable and well adapted to the Northern Great Plains. The high water table supplies much of the moisture for plant growth. Plant litter is properly distributed with little movement and natural plant mortality is very low. This is a sustainable plant community in terms of soil stability, watershed function and biologic integrity.

Total annual production ranges from 2000 to 4000 pounds of air-dry vegetation per acre and will average 3000 pounds during an average year.

The following is an estimated growth curve of this plant community expected during a normal year. Vegetative growth begins earlier in the southern reaches (Baca, Bent, Kiowa, Las Animas and Prowers counties) of MLRA-67B. Vegetative growth will typically be suppressed during the months of June through August in these counties due to higher evapotranspiration rates.

Growth curve number: CO6713
Growth curve name: Warm season dominant, cool season sub-dominant; MLRA-67B; lowland water influenced soils.

JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC
0	0	2	8	20	30	20	12	5	3	0	0

(monthly percentages of total annual growth)

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

- Continuous grazing without adequate recovery periods between grazing events will shift this plant community initially toward the *Increased Inland Saltgrass; Reduced Mid and Tall Cool and Warm Season Grasses Plant Community.*
- Non-use (no grazing and/or no haying) and no fire will move this plant community toward the *Decadent Plants, Excessive Litter Plant Community*. Initially, excess litter begins to build-up. Eventually native plants can show signs of mortality and decadence.

- Prescribed grazing that allows for adequate recovery opportunity following each grazing event and proper stocking will maintain the *Alkali Sacaton, Western Wheatgrass, Switchgrass, Prairie Cordgrass Plant Community (HCPC)*.

Increased Inland Saltgrass; Reduced Mid and Tall, Cool and Warm Season Grasses Plant Community

This plant community developed with continuous grazing without adequate recovery opportunities between grazing events. Inland saltgrass has increased and dominates the community. Alkali sacaton, prairie cordgrass, switchgrass, Indiangrass, little bluestem, Canada wildrye and Nebraska sedge have been significantly reduced. Western wheatgrass and alkali bluegrass may initially increase or decrease depending upon the season of use. Forbs and shrubs are still present in reduced amounts. This plant community is at risk of losing warm season tall grasses, palatable forbs and shrubs.

This community has decreased in plant frequency and production. Less litter can be expected however, the soil remains stable and can become very resistant to change depending on the degree to which the inland saltgrass dominates the community.

Total annual production, during an average year, ranges from 1000 to 2000 pounds per acre air-dry weight and will average 1500 pounds.

The following is an estimated growth curve of this plant community expected during a normal year. Vegetative growth begins earlier in the southern reaches (Baca, Bent, Kiowa, Las Animas and Prowers counties) of MLRA-67B. Vegetative growth will typically be suppressed during the months of June through August in these counties due to higher evapotranspiration rates.

Growth curve number: CO6713
Growth curve name: Warm season dominant, cool season sub-dominant; MLRA-67B; lowland water influenced soils.

JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC
0	0	2	8	20	30	20	12	5	3	0	0

(monthly percentages of total annual growth)

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

- Continuous grazing without adequate recovery periods between grazing events will shift this plant community across an ecological threshold toward the *Inland Saltgrass Sod with or without Western Wheatgrass and/or Alkali Sacaton Plant Community.*
- Prescribed grazing with adequate recovery periods between grazing events will move this plant community back toward the *Alkali Sacaton, Western Wheatgrass, Switchgrass, Prairie Cordgrass Plant Community (HCPC).*

Decadent Plants, Excessive Litter Plant Community

This plant community developed under the absence (20 years or more) of grazing, fire and/or haying. The dominant plants tend to be somewhat similar to those found in the Historic Climax Plant Community.

Grazing, haying or fire followed by prescribed grazing can quickly move this plant community back toward the HCPC. Much of the nutrients are tied up in excessive litter. Some organic matter oxidizes in the air rather than being incorporated into the soil due to the absence of animal impact. Excessive litter levels prevent sunlight from reaching plant crowns and in time can stagnate the plant community. Bunchgrasses such as alkali sacaton, little bluestem and switchgrass have a tendency to exhibit dead centers and eventually entire plants can die off.

Total annual production can vary substantially from 800 to 3000 pounds of air-dry vegetation per acre depending on how long this plant community has developed in the absence of haying, grazing or fire.

The following is an estimated growth curve of this plant community expected during a normal year. Vegetative growth begins earlier in the southern reaches (Baca, Bent, Kiowa, Las Animas and Prowers counties) of MLRA-67B. Vegetative growth will typically be suppressed during the months of June through August in these counties due to higher evapotranspiration rates.

Growth curve number: CO6715
Growth curve name: Warm season/cool season co-dominant, excess litter; MLRA-67B; lowland water influenced soils.

JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC
0	0	1	7	20	35	20	10	5	2	0	0

(monthly percentages of total annual growth)

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

- Prescribed grazing with adequate recovery opportunities between grazing events or prescribed burning followed by prescribed grazing will move this plant community toward the *Alkali Sacaton, Western Wheatgrass, Switchgrass, Prairie Cordgrass Plant Community (HCPC).* This can occur relatively fast.
- Long term non-use (no grazing, no haying) in absence of fire will shift this plant community across an ecological threshold to the *Foxtail Barley, Annuals, and Bare Ground Plant Community.* This transition may take greater than 40 years to achieve.

Inland Saltgrass Sod with or without Western Wheatgrass and/or Alkali Sacaton Plant Community

This plant community develops under continuous grazing without adequate recovery opportunities between grazing events. The plant community exhibits a dense sod made up of primarily inland saltgrass. Remnant amounts of western wheatgrass and/or alkali sacaton may still be present. Tall grasses (prairie cordgrass, big bluestem, Indiangrass, switchgrass) as well as little bluestem, Nebraska sedge and fourwing saltbush have been removed. Alkali muhly, foxtail barley and Kentucky bluegrass may be increasing or invading.

This community remains stable but has lost much of its production and diversity. This plant community is extremely resistant to change because of the aggressive behavior (vigorous rhizomes) of inland saltgrass. Nutrient cycle is impaired due to the loss of tall grass species, deep-rooted forbs (legumes and others) and shrubs. Desertification is advanced.

Total annual production, during an average year, ranges from 800 to 1500 pounds per acre air-dry weight and will average 950 pounds.

The following is an estimated growth curve of this plant community expected during a normal year. Vegetative growth begins earlier in the southern reaches (Baca, Bent, Kiowa, Las Animas and Prowers counties) of MLRA-67B. Vegetative growth will typically be suppressed during the months of June through August in these counties due to higher evapotranspiration rates.

Growth curve number: CO6718
Growth curve name: Warm season dominant; MLRA-67B; lowland water influenced soils.

JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC
0	0	0	5	15	40	23	12	3	2	0	0

(monthly percentages of total annual growth)

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

- Heavy continuous grazing or excessive defoliation without adequate recovery periods following each grazing event will shift this plant community across an ecological threshold to the *Foxtail Barley, Annuals and Bare Ground Plant Community*.
- Long term prescribed grazing with adequate recovery periods following each grazing occurrence and proper stocking will move this plant community toward the *Increased Inland Saltgrass; Reduced Mid and Tall Cool and Warm Season Grasses Plant Community* and will eventually return to the *HCPC* or associated successional stages assuming an adequate seed/vegetative source is available. This is a long-term transition requiring 40 years or more to accomplish.

Foxtail Barley, Annuals, Bare Ground Plant Community

This plant community develops under continuous and heavily grazed conditions, especially through the growing season. The plant composition is made up of foxtail barley, annuals and scattered areas of inland saltgrass. Annuals such as Russian thistle, kochia and cocklebur have invaded the community. Kentucky bluegrass may persist in localized areas.

Compared to the Historic Climax Plant Community, all perennial plants have been greatly reduced with only remnants of the most grazing tolerant species surviving. Plant diversity and production are very low. Planned rest periods during the growing season will improve the vigor of the plant species present and eventually reduce the amount of bare ground.
Wind and water erosion may occur at low amounts due to increased bare ground. Litter amounts are low. Mineral crusting caused by raindrop impact disrupts surface soil aggregates, increasing ponding and slowing infiltration. Compaction, if severe enough, can affect water infiltration also. Carbon storage/nutrient cycling has been greatly reduced. Animal wastes can contaminate ground water or runoff. Desertification is obvious.

Total annual production, during an average year, ranges from 50 to 400 pounds per acre air-dry weight.

The following is an estimated growth curve of this plant community expected during a normal year. Vegetative growth begins earlier in the southern reaches (Baca, Bent, Kiowa, Las Animas and Prowers counties) of MLRA-67B. Vegetative growth will typically be suppressed during the months of June through August in these counties due to higher evapotranspiration rates.

Growth curve number: CO6714
Growth curve name: Cool season dominant, warm season sub-dominant; MLRA-67B; lowland water influenced soils.

JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC
0	0	2	7	25	40	15	7	3	1	0	0

(monthly percentages of total annual growth)

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

- Long term prescribed grazing with adequate recovery periods between grazing events and proper stocking, will shift this plant community back toward the *Inland Saltgrass Sod with or without Western Wheatgrass and/or Alkali Sacaton Plant Community* assuming an adequate seed/vegetative source is available. The rate of this transition can be extremely variable depending on the amount of inland saltgrass remaining on the community.

Go-back Land

Go-back land is created when any plant community is tilled long term (annually cropped) and abandoned. All of the native plants are destroyed and bare soil remains. With time, a plant community resembling the *Foxtail Barley, Annuals, Bare Ground Plant Community* develops.

Most any plant community associated with the Salt Meadow ecological site, when short-term tilled, will result in an increased inland saltgrass stand.

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

- Range seeding followed with prescribed grazing can be used to convert *Go-back Land* to a *Seeded Rangeland Plant Community* and to maintain it.

Seeded Rangeland

This plant community can vary considerably depending on how eroded the soil was, species seeded, the stand that was established, how long ago the stand was established and the management of the stand since establishment.

Formation of Different Ecological Site

If any plant community is subjected to persistent water table depletion due to irrigation or drainage, a different ecological site will form. The new site would typically resemble a Salt Flat ecological site.

Ecological Site Interpretations

Animal Community – Wildlife Interpretations

Alkali Sacaton, Western Wheatgrass, Switchgrass, Prairie Cordgrass Plant Community
Common bird species expected on the HCPC include Cassin's sparrow, chestnut collared longspur, lark bunting, western meadowlark, and ferruginous and Swainson's hawks. White-tailed and black-tailed jackrabbit, badger, pronghorn, coyote, swift fox, plains pocket gopher, long-tailed weasel, and several species of mice are mammals that commonly use this plant community. Reptiles using this community include western rattlesnake, bullsnake, plains garter snake (if water is in home range), western hognose snake, racer, western box turtle, and six-lined racerunner.

Decadent Plants, Excessive Litter Plant Community
The wildlife species expected in this plant community are similar to those in the HCPC. Habitat conditions are poorer than in the HCPC so carrying capacity would be reduced.

Increased Inland Saltgrass; Reduced Mid and Tall, Cool and Warm Season Grasses Plant Community
Most HCPC species are expected in this plant community. The reduction in mid and tall grasses and the increase in shorter species will attract burrowing owl, mountain plover, horned lark, McCown's longspur, killdeer, long-billed curlew, jackrabbit, black-tailed prairie dog, thirteen-lined ground squirrel, and desert cottontail rabbit.

Inland Saltgrass Sod with or without Western Wheatgrass and/or Alkali Sacaton Plant Community and Foxtail Barley, Annuals, Bare Ground Plant Community
Burrowing owl, mountain plover, horned lark, McCown's longspur, killdeer, and long-billed curlew use these plant communities. With the exception of the hawk species, no HCPC bird species would frequent this community. Jackrabbit, black-tailed prairie dog, thirteen-lined ground squirrel, and desert cottontail rabbit are frequent users of this community. All other mammal species from the HCPC may use the community. Reptiles using these communities exclusively are short-horned lizard and lesser earless lizard. Other reptiles using these communities include the species listed for the HCPC.

Go-back Land
The conditions in these communities are marginal for most wildlife species although species from the Inland Saltgrass Sod Plant Community may occasionally be found here.

Seeded Rangeland
The wildlife species expected on seeded rangeland would be those listed for the plant community the seeding most resembles.

Other Potential Species
The plains spadefoot is the only common species of frog or toad inhabiting grasslands in Eastern Colorado. This species requires water for breeding. Tiger salamanders may be found on grassland sites, but require a water body for breeding. Either of these species may be found in any plant community if seasonal water requirements are met. Mule and white-tailed deer may use this ecological site, however the shrub cover is too low to provide escape or hiding cover. On ecological site locations near riparian areas, deer will use the vegetation for feeding. Big brown bats will use any plant community on this ecological site if a building site is in the area. The gray wolf, black-footed ferret, and wild bison used this ecological site in historic times. The wolf and ferret are thought to be extirpated from Eastern Colorado. Bison are currently found only as domestic livestock.

Animal Preferences (Quarterly – 1,2,3,4†)

Common Name	Cattle	Sheep	Horses	Deer	Antelope	Bison	Elk
Grasses and Grass-likes							
alkali bluegrass	U D U D	D P U D	U D U D	D P U D	D P U D	U D U D	U D U D
alkali cordgrass	U D D U	N U N N	U D D U	N U N N	N U N N	U D D U	U D D U
alkali muhly	U U D U	U U D U	U U D U	U U D U	U U D U	U U D U	U U D U
alkali sacaton	U D D U	N U N N	U D D U	N U N N	N U N N	U D D U	U D D U
big bluestem	U D P D	U D U U	U D P D	U D U U	U D U U	U D P D	U D P D
Canada wildrye	U D U U	N U N N	U D U U	N U N N	N U N N	U D U U	U D U U
foxtail barley	U D N N	N P N N	U D N N	N P N N	N P N N	U D N N	U D N N
Indiangrass	U D P D	U D U U	U D P D	U D U U	U D U U	U D P D	U D P D
inland saltgrass	N U U N	N N N N	N U U N	N N N N	N N N N	N U U N	N U U N
little bluestem	U D P U	N D D N	U D P U	N D D N	N D D N	U D P U	U D P U
Nuttall's alkaligrass	U P D D	P P P P	U P D D	P P P P	P P P P	U P D D	U P D D
prairie cordgrass	U D D U	N N N N	U D D U	N N N N	N N N N	U D D U	U D D U
slender wheatgrass	U P U U	N D U N	U P U U	N D U N	N D U N	U P U U	U P U U
switchgrass	U D D U	U D U U	U D D U	U D U U	U D U U	U D D U	U D D U
vine mesquite	U D P U	U D D U	U D P U	U D D U	U D D U	U D P U	U D P U
western wheatgrass	U P D D	U P D D	U P D D	U P D D	U P D D	U P D D	U P D D
Baltic rush	N N N N	N N N N	N N N N	N N N N	N N N N	N N N N	N N N N
Nebraska sedge	U P U D	U P N D	U P U D	U P N D	U P N D	U P U D	U P U D
Forbs							
American licorice	U U D U	N U U N	U U D U	N U U N	N U U N	U U D U	U U D U
false boneset	U U D U	N D U N	U U D U	N D U N	N D U N	U U D U	U U D U
Fremont goldenweed	U U U U	N U U N	U U U U	N U U N	N U U N	U U U U	U U U U
Illinois bundleflower	U D U U	U D D U	U D U U	U D D U	U D D U	U D U U	U D U U
rag sumpweed	U U U U	N N N N	U U U U	N N N N	N N N N	U U U U	U U U U
showy prairie gentian	U U U U	N U U N	U U U U	N U U N	N U U N	U U U U	U U U U
Shrubs							
fourwing saltbush	P D D P	P D D P	P D D P	P D D P	P D D P	P D D P	P D D P
rubber rabbitbrush	N N N D	D D D D	N N N D	D D D D	D D D D	N N N D	N N N D

N = not used; **U** = undesirable; **D** = desirable; **P** = preferred; **T** = toxic
† Quarters: 1 – Jan., Feb., Mar.; 2 – Apr., May, Jun.; 3 – Jul., Aug., Sep.; 4 – Oct., Nov., Dec.

Animal Community – Grazing Interpretations

The following table lists 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 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 (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)	Stocking Rate (AUM/acre)
Alkali Sacaton, Western Wheatgrass, Switchgrass, Cordgrass (HCPC)	3000	0.96
Increased Inland Saltgrass; Reduced Mid/Tall Warm and Cool Season	1500	0.48
Inland Saltgrass Sod	950	0.30
Decadent Plants, Excessive Litter	*	*
Foxtail Barley, Annuals, Bare Ground	*	*

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.

* Highly variable; stocking rate needs to be determined on site.

Hydrology Functions

Water is the principal factor limiting forage production on this site. This site is dominated by soils in hydrologic group C and D. Infiltration is moderate and runoff potential for this site varies from moderate to high depending on ground cover. Areas where ground cover is less than 50% have the greatest potential to have reduced infiltration and higher runoff (refer to NRCS Section 4, National Engineering Handbook (NEH-4) for runoff quantities and hydrologic curves).

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

(R067BY033CO) – Salt Flat
(R067BY031CO) – Sandy Bottomland
(R067BY038CO) – Wet Meadow
(R067BY073CO) – Riverbottom

Similar Sites

(R067BY033CO) – Salt Flat
[lacks water table and tall grass species, less production]
(R067BY038CO) – Wet Meadow
[lacks alkali species, greater production]

Inventory Data References

Information presented here has been derived from NRCS clipping data, numerous ocular estimates and other inventory data. Field observations from experienced range trained personnel were used extensively to develop this ecological site description. Specific data information is contained in individual landowner/user case files and other files located in county NRCS field offices.

Those involved in developing this site description include: Harvey Sprock, Rangeland Management Specialist, NRCS; Ben Berlinger, Rangeland Management Specialist, NRCS; James Borchert, Soil Scientist, NRCS; Terri Skadeland, Biologist, NRCS.

State Correlation

This site is unique to Colorado.

Field Offices

Akron, Brighton, Burlington, Byers, Cheyenne Wells, Eads, Flagler, Fort Collins, Fort Morgan, Greeley, Holly, Hugo, Kiowa, Lakewood (metro), Lamar, Longmont, Simla, Springfield, Sterling

Other References

High Plains Regional Climate Center, University of Nebraska, 830728 Chase Hall, Lincoln, NE 68583-0728. (http://hpccsun.unl.edu)

USDA, NRCS. National Water and Climate Center, 101 SW Main, Suite 1600, Portland, OR 97204-3224. (http://wcc.nrcs.usda.gov)

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Site Description Approval

/s/ 03/25/2004

State Range Management Specialist Date