

UNITED STATES DEPARTMENT OF AGRICULTURE
NATURAL RESOURCES CONSERVATION SERVICE

This draft ecological site description is approved for field use and testing for a one year period beginning MM, YYYY.
Additional information and comments on this site should be sent to the Utah State Range Management Specialist.

STATE: Utah

SITE TYPE: Rangeland

ECOLOGICAL SITE NAME: Alkali flat (Greasewood)

SITE NUMBER: 028AY004UT

MLRA: 028A

Original Site Description: Author: DJS

Date: 09/01/1987

Revised Site Description: Author: DJS

Date: 05/07/1993

Approved by: Title: State Range Cons.

Signed: Pat Shaver

Date: 08/30/1993

Ecological Site Definition - A distinctive kind of land, with specific physical characteristics, which differs from other kinds of land in its ability to produce a distinctive kind and amount of vegetation, and in its response to management.

A. PHYSICAL CHARACTERISTICS

(description narrative of this particular site)

1. SOILS

Depth: >60 inches

Surface Textures: Silt Loam

Surface Fragments(<=3" % cover, >3" % cover):

Subsurface Textures:

Subsurface Fragments(<=3" % vol, >3" % vol):

Geologic Parent Materials: Lacustrine Sediments & Alluvium from Mixed

Moisture Regime:

Temperature Regime:

Runoff: Slow

Permeability(min-max): Very Slow to Moderately Slow

Drainage Class(min-max): Well Drained

Water Erosion Hazard: Slight

Wind Erosion Hazard:

Electrical Conductivity (EC in mmhos/cm):

Sodium Adsorption Ration (SAR):

Soil Reaction (1:1 water):

Soil Reaction (0.1 M CaCl₂):

pH Range:

Available Water Capacity (inches): 4-8

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 Forbs, %

Common Name	National Symbol	Group	Pounds per Acre		% by Weight of Total Composition	
			Low	High	Low	High
Shrubby seepweed	SUMO	2	8.5	25.5	1	3
Golden princesplume	STPI	2	8.5	25.5	1	3
Chocolate tips	LODI	2	8.5	25.5	1	3
White wild onion	ALTE	2	8.5	25.5	1	3
Scarlet globemallow	SPCO	2	8.5	25.5	1	3
Shaggy fleabane	ERPU2	2	8.5	25.5	1	3
Smotherweed	BAHY	2	8.5	25.5	1	3
Tumbling orache	ATRO	2	8.5	25.5	1	3
Pinnate tansymustard	DEPI	2	8.5	25.5	1	3
Clasping pepperweed	LEPE2	2	8.5	25.5	1	3
Other perennial forbs	PPFF	2	42.5	85	5	10
Other annual forbs	AAFF	2	42.5	85	5	10

Shrubs/Vines, %

Common Name	National Symbol	Group	Pounds per Acre		% by Weight of Total Composition	
			Low	High	Low	High
Greasewood	SAVE4		382.5	425	45	50
Shadescale	ATCO		42.5	85	5	10
Basin saltbrush	ATTR2	3	8.5	25.5	1	3
Gray molly	KOAM	3	8.5	25.5	1	3
Littleleaf horsebrush	TEGL	3	8.5	25.5	1	3
Bud sagebrush	ARSP5	3	8.5	25.5	1	3
Pickleweed	ALOC2	3	8.5	25.5	1	3
Low rabbitbrush	CHVI8	3	8.5	25.5	1	3
Broom snakeweed	GUSA2	3	8.5	25.5	1	3
Winterfat	KRLA2	3	8.5	25.5	1	3
Central pricklypear	OPPO	3	8.5	25.5	1	3
Other shrubs	SSSS	3	42.5	85	5	10

Trees, %

Common Name	National Symbol	Group	Pounds per Acre		% by Weight of Total Composition	
			Low	High	Low	High

3. Plant Community Annual Production

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At the highest potential similarity index, this site will produce approximately the following amount of air-dry herbage, expressed as pounds/acre:

	Low	High
Favorable Year	900	1000
Average Year	650	850
Unfavorable Year	250	450

4. Ground Cover and Structure

a. Vegetative

Vegetation Type	Percent Canopy Cover	Height Range (ft)	Percent Basal Area Cover
Grasses & Grass-like (perennial)	15	1	5
Forbs (perennial)	5	1	1
Shrubs	40	4	15
Trees			
Cryptogams			

b. Other

Litter	
Coarse Fragments	
Bare Ground	

5. Ecological Dynamics of the Site

As this site deteriorates due to overgrazing, squirreltail, alkali sacaton, and shadscale decrease greasewood, while snakeweed and rabbitbrush increase.

When the potential natural plant community is burned, squirreltail, alkali sacaton, and shadscale decrease while greasewood, rabbitbrush, and horsebrush increase.

Plant Communities & Transitional Pathways

(Show a steady state diagram with influences to move from one steady state to another)

6. Plant Growth Curves

	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC
Percent Growth	0	0	5	25	50	10	0	0	5	5	0	0
Name	PNC											
ID Number	UT0041											
Description	Excellent Condition											

7. Aspect Differences Near MLRA Boundaries

(Give related range sites in MLRA's above and below)

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8. Associated Sites Within MLRA

028AY006UT
 Loamy Bottom (Great Basin wildrye)

028AY001UT
 Alkali Bottom (Alkali sacaton)

028AY130UT
 Desert Salt Flat (Sickle saltbush)

9. Correlated Sites in Other States

(Give site name and number)

D. MAJOR USES OF THIS SITE

1. Livestock

a. Site Factors Influencing Management

This site is suited for cattle and sheep grazing during spring, summer, fall, or winter and grazing suitability is fair.

b. Guide to Forage Quality(Plant preference by season)

Species	Oct-Nov	Dec-Feb	Mar-May	Jun-Sep

VG = Very Good G = Good F = Fair P = Poor

2. Wildlife

a. Site Factors Influencing Management

This site provides both food and cover for wildlife.

b. List of Potential Species Present

Wildlife using this site include rabbit, coyote, fox, pronghorn antelope, and mule deer.

This is a short list of the more common species found. Many other species are present as well and migratory birds are present at times.

c. Guide to Forage Preference of Managed Wildlife Species

Wildlife Species →				
Plant Species ↓	Use	Season	Use	Season

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Use - A = preferred or desirable
 B = some use, but less important
 C = little use or used occasionally

Season - F = Fall (Oct-Nov)
 W = Winter (Dec-Feb)
 Sp. = Spring (Mar-May)
 Su. = Summer (Jun-Sep)

3. Recreational Uses

Resources that have special aesthetic and landscape values are wildflowers. Some recreation uses of this site are hiking and hunting.

4. Wood Products

Potential wood products are none.

5. Other Uses

E. THREATENED AND ENDANGERED SPECIES

1. Plants
2. Animals

F. MODAL LOCATION AND DOCUMENTATION

State: Utah County:
 Latitude: Longitude:

Modal Soil: Skumpah, Sodic SIL – fine silty, mixed, mesic Typic Natragids

Type Location:

General Legal Description:

Field Office Site Location

Logan
 Provo
 Cedar City
 Murray
 Richfield

Data Collected and References

Sampling Source	Number of Records	Range Similarity Index			
		> 76%	51-75%	26-50%	0-25%

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NRCS - ECS - 417	10				
UTAH - RANGE - 2	2				
Permanent Transect Location					

Other References

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Attachment 1

Ecological Reference Worksheet

Author(s)/participant(s): V. Keith Wadman
 Contact for lead author: _____ Reference site used? Yes/No
 Date: 6/15/04 MLRA: 028A Ecological Site: Alkali Flat (028AY004UT) Greasewood, Bottlebrush squirreltail, Shadscale. 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: <u>None to few. Any rills present should be somewhat short in length (less than 6 feet long) and follow the surface micro-features. Old rills should be weathered and muted in appearance. An increase in rill formation may be seen after disturbance events such as recent fire or thunderstorms.</u> |
| 2. | Presence of water flow patterns: <u>Flow patterns wind around perennial plants bases and show little to slight evidence of erosion. They are short and stable and there is minor evidence of deposition.</u> |
| 3. | Number and height of erosional pedestals or terracettes: <u>Plants should show little or no pedestaling. Terracettes should be absent or few.</u> |
| 4. | Bare ground from Ecological Site Description or other studies (rock, litter, lichen, moss, plant canopy are not bareground): <u>25 - 35%.</u> |
| 5. | Number of gullies and erosion associated with gullies: <u>None to few. Any gullies present should show little sign of erosion and should be stabilized with vegetation. Gullies transecting this site may reflect the stability of higher position sites.</u> |
| 6. | Extent of wind scoured, blowouts and/or depositional areas: <u>Minor evidence of wind generated soil movement is normal. Wind caused blowouts and deposition are not present.</u> |
| 7. | Amount of litter movement (describe size and distance expected to travel): <u>Most litter resides in place with some redistribution caused by water movement. Minor litter removal may occur in flow channels with deposition occurring at points of obstruction.</u> |
| 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): <u>70 to 80% of this site should have an erosion rating of 5 to 6. 20 to 30% may have a rating of 4 to 5. The average should be a 5.</u> |
| 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): <u>Soil surface varies from 1 to 8". Structure varies from weak to strong platy to medium subangular blocky. Color is typically brown (10YR5/3). An ochric epipedon ranges to 4 inches deep.</u> |
| 10. | Effect of plant community composition (relative proportion of different functional groups) & spatial distribution on infiltration & runoff: <u>When perennial grasses decrease, reducing ground cover and increasing bare ground, runoff will increase and infiltration be reduced. A reduction in vegetative structure can reduce snow capture.</u> |
| 11. | Presence and thickness of compaction layer (usually none; describe soil profile features which may be mistaken for compaction on this site): <u>None. There is a slight increase in clay at 3-7 inches that could be mistaken for a compaction layer.</u> |

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): Assumed fire cycle of 40-60 years. Perennial grasses, sprouting shrubs > sprouting shrubs, annual forbs > invaders such as Cheatgrass & Halogeton. Dominants: Bottlebrush squirreltail, Greasewood; Sub-dominants: Alkali sacaton, Shadscale. The perennial grass/sprouting shrub (Greasewood) functioning group is expected on this site.

13. Amount of plant mortality and decadence (include which functional groups are expected to show mortality or decadence): All age classes of perennial grasses should be present. Slight decadence in the principle shrubs could occur near the end of the fire cycle.

14. Average percent litter cover (10-20%) and depth (.50-.75 inch).

15. Expected annual production (this is TOTAL above-ground production, not just forage production): 650 - 850 #/acre on an average year.

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": Cheatgrass, Halogeton, Green rabbitbrush, Snakeweed & Annual forbs.

17. Perennial plant reproductive capability: All perennial plants should have the ability to reproduce in all years, except in extreme drought years. Greasewood sprouts vigorously following fire.