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: Upland Loam (Wyoming big sagebrush)
SITE NUMBER: 034XY306UT
MLRA: 034
Original Site Description: Author: JLB GWL Date: 05/26/1981
Revised Site Description: Author: JLB GWL Date: 01/06/1994
Approved by: Title: State Range Cons. Signed: Pat Shaver Date: 06/25/1994

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:
Surface Fragments(<=3” % cover, >3” % cover):
Subsurface Textures: Fine Loamy to Course Loamy
Subsurface Fragments(<=3” % vol, >3” % vol): <35%
Geologic Parent Materials: Alluvium from Sandstone and Shale
Moisture Regime:
Temperature Regime:
Runoff:
Permeability(min-max):
Drainage Class(min-max): Well Drained
Water Erosion Hazard:
Wind Erosion Hazard:
Electrical Conductivity (EC in mmhos/cm):
Sodium Adsorption Ration (SAR):
Soil Reaction (1:1 water):
Soil Reaction (0.1 M $CaCl_2$):
pH Range:
Available Water Capacity (inches):

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Major Soils Associated With This Site:

Soil Survey Area: 047

Winteridge L1-8%	Abra GR-L 8-25%
Mikim L 1-8% Moist Eroded	Yarts SL 3-8% Moist
Begay Variant FSL 3-15%	Windwhistle FSL 2-10%
Atrac VFSL 1-6%	Chupadera FSL 1-8%
Doney Family 3-15%	Haverdad L Moist 1-5%
Hernandez Family 1-3% 3-8%	Mivida FSL 3-8%
Nelman GRV-L 15-50% Eroded	

Additional information may be found in Section II of the Field Office Technical Guide.

2. PHYSIOGRAPHIC FEATURES

Landform and Position: Alluvial Fans, Floodplains, Pediment Slopes and Stable Summits
Aspect: All

	Minimum	Maximum
Slope:	1	25
Elevation:	6000	8000

Flooding:
- Frequency:
- Duration:

Ponding:
- Depth (inches):
- Frequency:
- Duration:
- Water Table Depth:

B. CLIMATIC FEATURES

Mean Annual Precipitation (inches): 12-14
Mean Annual Air Temperature: 42-47
Mean Annual Soil Temperature: 45-50
Frost Free Period (days): 0-0
Freeze Free Period (days): 90-125

Temperature and Moisture Distribution:

Temp	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC
High	30	36	48	60	67	78	83	83	72	60	44	32
Mean	17	24	36	46	53	63	69	68	58	48	33	21
Low	4	12	24	33	39	48	54	54	45	35	22	9

ppt	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC
High												
Mean	0.47	0.89	1.36	1.10	1.29	1.32	1.28	0.93	1.90	1.12	1.16	0.72
Low												

Climate Stations: St. ID.: Location: Period:
From: To:

(Includes factors such as storm intensity, precipitation dependability, origin and pattern of storms, driest and wettest months, orographic effects, etc.)

Influencing Water Features (if any):

Wetland Description (Cowardin System) System Subsystem Class

Stream Types (Rosgen System) System

C. PLANT COMMUNITY CHARACTERISTICS

1. Potential Plant Community Description and Ecological Factors

The dominant aspect of the plant community is Wyoming big sagebrush. The composition by air-dry weight is approximately 60 percent perennial grasses, 10 percent forbs and 30 percent shrubs.

2. Plant Community Composition by Weight and Percentage

Grasses and Grasslike, %

Common Name	National Symbol	Group	Pounds per Acre		% by Weight of Total Composition	
			Low	High	Low	High
Indian ricegrass	ACHY		110	220	10	20
Western wheatgrass	PASM		55	110	5	10
Needleandthread	HECO26		55	110	5	10
Muttongrass	POFE		55	110	5	10
Bluebunch wheatgrass	PSSP6		11	55	1	5
Blue grama	BOGR2		11	55	1	5
Sand dropseed	SPCR	1	11	33	1	3
Prairie junegrass	KOMA	1	11	33	1	3
Bottlebrush squirreltail	ELEL5	1	11	33	1	3
Salina wildrye	LESAS	1	11	33	1	3
Galleta	HIJA	1	11	33	1	3
Other perennial grasses	PPGG	1	33	55	3	5
Other annual grasses	AAGG	1	33	55	3	5

Forbs, %

Common Name	National Symbol	Group	Pounds per Acre		% by Weight of Total Composition	
			Low	High	Low	High
Scarlet globemallow	SPCO		22	33	2	3
Mountain pepperweed	LEMO2		11	22	1	2
Tumbling saltweed	ATRO	2	11	22	1	2
Hedgemustard	SIOF	2	11	22	1	2
Thickleaf beardtongue	PEPA6	2	11	22	1	2
Western tansymustard	DEPI	2	11	22	1	2
Roughseed catseye	CRFL6	2	11	22	1	2
Tufted milkvetch	ASSP6	2	11	22	1	2
Spurred lupine	LUCAC3	2	11	22	1	2
Shaggy fleabane	ERPU2	2	11	22	1	2
Shockley wild buckwheat	ERSH	2	11	22	1	2
Other perennial forbs	PPFF	2	33	55	3	5
Other annual forbs	AAFF	2	33	55	3	5

Shrubs/Vines, %

Common Name	National Symbol	Group	Pounds per Acre		% by Weight of Total Composition	
			Low	High	Low	High
Wyoming big sagebrush	ARTRW		165	220	15	20
Fourwing saltbush	ATCA2		55	110	5	10
Winterfat	KRLA2		22	55	2	5
Bitterbrush	PUTR2	3	11	33	1	3
Low rabbitbrush	CHVI8	3	11	33	1	3
Broom snakeweed	GUSA2	3	11	33	1	3
Fringed sagebrush	ARFR4	3	11	33	1	3
Rubber rabbitbrush	ERNA10	3	11	33	1	3
Longflower rabbitbrush	CHDE2	3	11	33	1	3
Other shrubs	SSSS	3	33	55	3	5

Trees, %

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

3. Plant Community Annual Production

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	1200	1300
Average Year	1000	1100
Unfavorable Year	600	700

4. Ground Cover and Structure

a. Vegetative

Vegetation Type	Percent Canopy Cover	Height Range (ft.)	Percent Basal Area Cover
Grasses & Grass-like (perennial)	45	2	30
Forbs (perennial)	5	1	2
Shrubs	15	5	5
Trees			
Cryptogams			

b. Other

Litter	
Coarse Fragments	
Bare Ground	

5. Ecological Dynamics of the Site

As ecological condition deteriorates due to overgrazing, palatable grasses will decrease while big sagebrush and western wheatgrass increase. Big sagebrush may increase to completely dominate this site.

When the potential natural plant community is burned, sagebrush will greatly decrease while grasses and rabbitbrush increase. Natural fire is an important factor in this ecosystem and is necessary to keep trees and brush from dominating the site.

Utah juniper, pinyon and cheatgrass are most likely to invade this site. When this site is located adjacent to a pinyon-juniper site, it is highly susceptible to invasion by these trees.

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	0	10	30	45	5	5	5	0	0	0
Name	PNC											
ID Number	UT3061											
Description	Excellent Condition											

7. Aspect Differences Near MLRA Boundaries
(Give related range sites in MLRA's above and below)

8. Associated Sites Within MLRA

034XY330UT
Upland Stony Loam (Pinyon-Utah juniper)

034XY322UT
Upland Shallow Loam (Pinyon-Utah juniper)

034XY329UT
Upland Silt Loam (Fourwing saltbush/Winterfat)

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 provides proper grazing for cattle and sheep during spring, summer, and fall.

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 produces food and cover for wildlife.

b. List of Potential Species Present

Wildlife using this site include jackrabbit, coyote, mule deer, and elk.

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

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

Recreation values are hiking and hunting.

4. Wood Products

None

5. Other Uses

E. THREATENED AND ENDANGERED SPECIES

1. Plants

2. Animals

F. MODAL LOCATION AND DOCUMENTATION

State: Utah County:
Latitude: Longitude:

Site Type: Rangeland
Ecological Site Name: Upland Loam (Wyoming big sagebrush)
Site Number: 034XY306UT

Modal Soil: Winteridge L 1-8% — fine-silty, mixed Typic Eutroboralfs

Type Location: SW ¼, SE ¼, SW ¼; Section 22, Township 15S, Range 21E SLBM

General Legal Description:

Field Office Site Location
Roosevelt
Price

Data Collected and References

Sampling Source	Number of Records	Range Similarity Index			
		> 76%	51-75%	26-50%	0-25%
NRCS - ECS - 417					
UTAH - RANGE - 2					
Permanent Transect Location					

Other References

Attachment 1

Ecological Reference Worksheet

Author(s)/participant(s): V. Keith Wadman
Contact for lead author: _____ **Reference site used?** Yes/No
Date: 6/21/04 **MLRA:** 034X_ **Ecological Site:** Upland Loam (034XY306UT) Wyoming big sagebrush, Indian ricegrass, Fourwing saltbush. **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: None to few. Any rills present should be somewhat short in length (less than 6 feet long). They should be somewhat widely spaced (3 to 6 feet) 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.

2. Presence of water flow patterns: Flow patterns wind around perennial plant bases and show little to slight evidence of erosion. They are short and stable and there is minor evidence of deposition.

3. Number and height of erosional pedestals or terracettes: Plants should show little or no pedestialing. Terracettes should be absent or few.

4. Bare ground from Ecological Site Description or other studies (rock, litter, lichen, moss, plant canopy are not bareground): 40 – 45%.

5. Number of gullies and erosion associated with gullies: None to few. Any gullies present should show little sign of erosion and should be stabilized with vegetation.

6. Extent of wind scoured, blowouts and/or depositional areas: Minor evidence of wind generated soil movement. Wind caused blowouts and deposition are not present.

7. Amount of litter movement (describe size and distance expected to travel): 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.

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): 80 to 90% of this site should have an erosion rating of 5 to 6. 10 to 20% may have a rating of 3 to 5. The average should be a 5.

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): Soil surface varies from 2 to 3 inches. Structure is thin platy. Color is brown (7.5YR4/4). Little difference in color under vegetation.

10. Effect of plant community composition (relative proportion of different functional groups) & spatial distribution on infiltration & runoff: 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.

11. Presence and thickness of compaction layer (usually none; describe soil profile

features which may be mistaken for compaction on this site): None. Some soils have an increase in clay content at 3 to 9 inches that could be mistaken for a compaction layer.

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, non-sprouting shrubs > sprouting shrubs, annual forbs > invaders such as Cheatgrass & Annual forbs. Dominants: Indian ricegrass, Wyoming big sagebrush; Sub-dominants: Fourwing saltbush, Western wheatgrass. The perennial grass/non-sprouting shrub 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 (15-25%) and depth (.50-.75 inch).

15. Expected annual production (this is TOTAL above-ground production, not just forage production): 1000 - 1100 #/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, Snakeweed, Green rabbitbrush, & Annual forbs.

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