

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: Semidesert Very Steep Stony Loam (Salina Wildrye)

SITE NUMBER: 035XY260UT

MLRA: D-35

Original Site Description: Author: TLJ

Date: 12/01/1988

Revised Site Description: Author: TLJ

Date: 10/28/1993

Revised Site Description: Author: SM, KH

Date: 06/09/2004

Approved by: Title: State Range Cons. Signed:

Date:

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

1. SOILS

Depth: moderately deep to very deep (20 to more than 60 inches)

Surface Textures: extremely stony sandy loam, and extremely stony fine sandy loam

Surface Fragments (<=3" % cover, >3" % cover): 40 to 70%

Subsurface Textures: very gravelly sandy loam, sandy loam, gravelly loam, and very gravelly sandy clay loam

Subsurface Fragments (<=3" % vol. >3" % vol.): 30% to 70%

Geologic Parent Materials: alluvium from igneous and sedimentary rocks; and glacial outwash mainly basalt over residuum from sandstone and shale.

Moisture Regime: Ustic Aridic

Temperature Regime: Mesic

Runoff: rapid

Permeability (min-max): moderate to moderately rapid (0.6 to 6.0 in/hr)

Drainage Class (min-max): well drained

Water Erosion Hazard: slight

Wind Erosion Hazard: slight

Electrical Conductivity (EC in mmhos/cm): 0 to 4 mmhos/cm (nonsaline to very slightly saline)

Sodium Adsorption Ration (SAR): 5 to 10 (slightly sodic)

Calcium Carbonate Equivalent (%) 5 to 30%

pH Range (1:1 water): 8.4 to 9.2

Available Water Capacity (inches): 2 to 6 inches

These soils usually have a cobbly or bouldery surface and over 50% fragments throughout the profile. They are slight to moderately calcareous. Happle Family is a moderately deep soil (20 to 40 inches) with an available water capacity of 2 to 3 inches. Clapper is a very deep soil (60+ inches) with an available water capacity of 4 to 6 inches.

Major Soils Associated With This Site (*Soil Survey Area + Series Name*):

Capitol Reef NP: **Clapper, steep** in mapunit 260, **Happle Family** in mapunits 110, 120, 200, & 260

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

2. PHYSIOGRAPHIC FEATURES

Landform and Position: Remnant hillsides and escarpments of structural benches

Aspect: All

	<u>Minimum</u>	<u>Maximum</u>
Slope:	25%	65%
Elevation:	5,500 ft.	6,800 ft.
Flooding:		
Frequency:	None	
Duration:		
Ponding:		
Depth (inches):		
Frequency:	None	
Duration:		
Water Table Depth:		

B. CLIMATIC FEATURES

Mean Annual Precipitation (inches): 8 to 12 inches

Mean Annual Air Temperature: 46°F to 52°F

Mean Annual Soil Temperature: 48°F to 54°F

Frost Free Period (days): 140 to 160 days

Freeze Free Period (days): 140 to 160 days

Temperature and Moisture Distribution:

Climate Stations: St. ID. : 422592

Location: Escalante, Utah

Period: From: 5/1901 To: 7/2003

Temperature	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC	ANNUAL
High Mean	40.4	45.6	54.4	63.2	72.8	83.6	88.7	85.6	78.4	66.8	52.6	41.9	64.5
Average Mean	27.2	32.9	40.3	47.9	56.3	65.4	71.4	69.0	61.3	50.8	38.4	29.0	49.2
Low Mean	13.9	20.2	26.2	32.5	39.9	47.2	54.2	52.4	44.2	34.8	24.2	16.1	33.8

Precipitation	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC	ANNUAL
Highest	4.44	3.06	3.46	3.30	2.50	2.50	5.41	4.50	5.70	5.57	4.65	3.76	21.70
Average Mean	0.95	0.79	0.84	0.57	0.60	0.47	1.20	1.83	1.16	1.06	0.65	0.80	10.91
Lowest	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.7	0.0	0.0	0.0	0.0	4.79

Approximately 70-75% occurs as rain from March through October. On the average, February, May, and June are the driest months and July through October are the wettest months. Precipitation is extremely variable from month to month and from year to year. Much of the summer precipitation occurs as convection thunderstorms.

Influencing Water Features (if any):

<u>Wetland Description</u> (Cowardin System)	<u>System</u>	<u>Subsystem</u>	<u>Class</u>
None			

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Stream Types (Rosgen System)

System

None

C. PLANT COMMUNITY CHARACTERISTICS

1. Potential Plant Community Description and Ecological Factors

The dominant aspect of the plant community is grasses with scattered juniper. The composition by air-dry weight is approximately 35% perennial grasses, 10% forbs and 55% shrubs. Plant growth begins about February 20 and ends growth around October 30.

2. Plant Community Composition by Weight and Percentage

Grasses and Grasslikes, 30-40%

Common Name	National Symbol	Group	Pounds per Acre		% by Weight of Total Composition	
			Low	High	Low	High
Indian Ricegrass	ACHY	0	68	95	15	25
Saline Wildrye	ELSA	0	23	33	5	10
Sand Dropseed	SPCR	1	5	7	1	3
Mesa Dropseed	SPFL2	1	5	7	1	3
Galleta	HIJA	1	5	7	1	3
Blue Grama	BOGR2	1	5	7	1	3
Purple Threeawn	ARPU9	1	5	7	1	3
Needleandthread	HECOC8	1	5	7	1	3
Bottlebrush Squirreltail	ELEL5	1	5	7	1	3
Black Grama	BOER4	1	5	7	1	3
Other Perennial Grasses	PPGG	1	23	33	5	10
Other Annual Grasses	AAGG	1	23	33	5	10

Forbs, 5-15%

Common Name	National Symbol	Group	Pounds per Acre		% by Weight of Total Composition	
			Low	High	Low	High
Gooseberry Globemallow	SPGR2	0	14	20	3	5
Manybranched Ipomopsis	IPPO2	0	9	13	2	3
Stemless Four-nerve Daisy	TEACA2	2	5	7	1	3
Woolly Locoweed	ASMO7	2	5	7	1	3
Cushion Buckwheat	EROV	2	5	7	1	3
Desert Trumpet	ERIN4	2	5	7	1	3
Badland Mules-ears	WYSC	2	5	7	1	3
Other Perennial Forbs	PPFF	2	14	20	3	5
Other Annual Forbs	AAFF	2	14	20	3	5

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Shrubs, 50-60%

Common Name	National Symbol	Group	Pounds per Acre		% by Weight of Total Composition	
			Low	High	Low	High
Shadscale	ATCO	0	68	98	15	25
Torrey Mormontea	EPTO	0	23	33	5	10
Bigelow Sagebrush	ARBI3	0	14	20	3	5
Winterfat	KRLA2	0	14	20	3	5
Fourwing Saltbush	ATCA2	3	5	7	1	3
Yellow Rabbitbrush	CHVI8	3	5	7	1	3
Plains Pricklypear	OPPO	3	5	7	1	3
Broom Snakeweed	GUSA2	3	5	7	1	3
Other Shrubs	SSSS	3	23	33	5	10

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	600	800
Average Year	450	650
Unfavorable Year	200	300

4. Ground Cover and Structure

a. Vegetative

Vegetation Type	Percent Canopy Cover	Height Range	Percent Basal Area Cover
Grasses & Grass-like (perennial)	7	2.5 ft.	3
Forbs (perennial)	3	2.5 ft.	1
Shrubs	15	2 ft.	7
Trees	5	8 ft.	3
Cryptogams	0-1	0.5-1 cm	0-1

b. Other

Litter	0-5%
Coarse Fragments	40-50%
Bare Ground	25-30%

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5. Ecological Dynamics of the Site

As ecological condition deteriorates due to overgrazing or other factors, Indian ricegrass, needleandthread, Bigelow sagebrush, and Torrey mormontea decrease and galleta, locoweed, broom snakeweed and juniper will increase.

When fire occurs on this site the brush species will decrease and the perennial grasses will increase. This site has the potential to burn but it is infrequent.

Possible invaders to this site are cheatgrass, annual sunflower, and halogeton.

The suitability for rangeland seeding is very poor. The major limiting factors are steep slopes, the stony surface and low precipitation.

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	15	40	30	5	5	0	0	0	0
Name	PNC											
ID Number	UT2601											
Description	Excellent Condition											

7. Similar Sites

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

8. Associated Sites Within MLRA

Desert Shallow Loam (Shadscale)	035XY122UT
Desert Shallow Clay (Mat Saltbush)	035XY124UT
Desert Shallow Gypsum (Torrey Mormontea)	035XY126UT
Semidesert Alkali Sandy Loam (Alkali Sacaton)	035XY201UT
Semidesert Sandy Loam (Fourwing Saltbush)	035XY215UT
Semidesert Stony Loam (Shadscale)	035XY242UT

9. Correlated Sites in Other States

(Give site name and number)

D. MAJOR USES OF THIS SITE

1. Livestock

a. Site Factors Influencing Management

The suitability for livestock grazing is poor. This site is used in the fall, winter, and spring for livestock grazing and provides needed feed for livestock due to the various palatable brush species.

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

Species – Cattle	Oct-Nov	Dec-Feb	Mar-May	Jun-Sep
Indian Ricegrass	F, G	VG	VG	VG
Saline Wildrye	P	P	F, G	P
Gooseberry Globemallow	F, G	P	F, G	F, G
Manybranched Ipomopsis	P	P	P	P
Shadscale	F, G	F, G	F, G	F, G
Torrey Mormontea	F, G	F, G	P	P
Bigelow Sagebrush	F, G	P	P	P
Winterfat	VG	VG	F, G	F, G

Species – Sheep	Oct-Nov	Dec-Feb	Mar-May	Jun-Sep
Indian Ricegrass	F, G	VG	VG	VG
Saline Wildrye	P	P	P	P
Gooseberry Globemallow	F, G	P	VG	F, G
Manybranched Ipomopsis	P	P	F, G	F, G
Shadscale	VG	VG	VG	F, G
Torrey Mormontea	F, G	F, G	P	P
Bigelow Sagebrush	P	F, G	F, G	F, G
Winterfat	VG	VG	VG	VG

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

2. Wildlife

a. Site Factors Influencing Management

This site provides food and limited cover for wildlife.

b. List of Potential Species Present

Wildlife using this site includes coyote, bobcat, jackrabbit, snake, hawk, 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 →	Mule deer		Elk	
	Use	Season	Use	Season
Plant Species ↓				
Indian Ricegrass	A	F, W, Sp, Su	A	F, W, Sp, Su
Saline Wildrye	C	F, W, Sp, Su	C	F, W, Sp, Su
Gooseberry Globemallow	B	F, W, Sp, Su	B	F, W, Sp, Su
Manybranched Ipomopsis	B	F, W, Sp, Su	B	F, W, Sp, Su
Shadscale	B	F, W, Sp, Su	C	F, W, Sp, Su
Torrey Mormontea	B	F, W, Sp, Su	C	F, W, Sp, Su
Bigelow Sagebrush	B	F, W, Sp, Su	C	F, W, Sp, Su
Winterfat	A	F, W, Sp, Su	A	F, W, Sp, Su

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**

This site has good aesthetic appeal and natural beauty. This site is used for camping, hiking, and sightseeing.

4. **Wood Products**

None

5. **Other Uses**

E. THREATENED AND ENDANGERED SPECIES

1. Plants – This section will be completed as information is available.
2. Animals – This section will be completed as information is available.

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F. MODAL LOCATION AND DOCUMENTATION

State: Utah County:
 Latitude: Longitude:
 Section: Township: Range:

General Legal Description:

Capitol Reef: **Clapper** – Johnson Mesa; 300 ft. N and 2,400 ft. W of the SE corner of sec. 15 T. 29S., R. 6 E. **Happle Family** – Cathedral Valley; 2,600 ft. S and 1,000 ft. W of the NE corner of sec. 32, T. 26S., R. 6 E.

Field Office Site Location

Panguitch Field Office – Richfield Field Office

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					

4. Other References