

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 Shallow Sand (Cutler Mormontea)

SITE NUMBER: 035XY225UT

MLRA: D-35

Original Site Description: Author: TLJ

Date: 03/21/1988

Revised Site Description: Author: TLJ

Date: 10/07/1993

Revised Site Description: Author: SM

Date: 03/26/2004

Approved by: Title: 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: very shallow to shallow (4 to 20 inches)

Surface Textures: sand, and fine sand

Surface Fragments (<=3" % cover, >3" % cover): 0 to 15%

Subsurface Textures: sand, fine sand, loamy sand, and loamy fine sand

Subsurface Fragments (<=3" % vol. >3" % vol.): 0 to 20%

Geologic Parent Materials: eolian, residuum, and alluvium derived mainly from
Navajo Sandstone

Moisture Regime: Ustic Aridic

Temperature Regime: Mesic

Runoff: very low

Permeability (min-max): rapid

Drainage Class (min-max): somewhat excessively drained (6.0 to 20.0 in/hr)

Water Erosion Hazard: moderate

Wind Erosion Hazard: severe

Electrical Conductivity (EC in mmhos/cm): 0 to 2 mmhos/cm

Sodium Adsorption Ration (SAR): 0 nonsodic

Calcium Carbonate Equivalent (%) 0 to 2%

pH Range (1:1 water): 6.6 to 7.6

Available Water Capacity (inches): 0.4 to 1 inch

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

Grand Staircase Escalante NM (686): **Nalcasa** in mapunits 5007, 5012, 5020, & 5073.

Glen Canyon NRA: **Batterson** in mapunits 166, 169 & 179

Capitol Reef NP (685): **Batterson** in mapunit 166.

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

2. PHYSIOGRAPHIC FEATURES

Landform and Position: sand sheets and dunes on structural benches

Aspect: all

	<u>Minimum</u>	<u>Maximum</u>
Slope:	2%	30%
Elevation:	4,500 ft.	7,500 ft.
Flooding:	None	Rare
Frequency:		
Duration:		
Ponding:	None	Rare
Depth (inches):		
Frequency:		
Duration:		
Water Table Depth:		

B. CLIMATIC FEATURES

Mean Annual Precipitation (inches): 8 to 12 inches

Mean Annual Air Temperature: 45°F to 52°F

Mean Annual Soil Temperature: 47°F to 54°F

Frost Free Period (days): 120 to 160 days

Freeze Free Period (days): 120 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):

Wetland Description (Cowardin System) System Subsystem Class
 None

Stream Types (Rosgen System) System
 None

C. PLANT COMMUNITY CHARACTERISTICS

1. Potential Plant Community Description and Ecological Factors

(Includes dominant vegetative aspect, cool-season and warm-season components, typical plant spacing, etc.)

The general view of this site is grass with a scattered stand of juniper. The composition by air-dry weight is 45% perennial grasses, 10% forbs, and 45% shrubs. Plants begin growth around March 1 and end growth around October 15.

2. Plant Community Composition by Weight and Percentage

Grasses and Grasslike, 55-65%

Common Name	National Symbol	Group	Pounds per Acre		% by Weight of Total Composition	
			Low	High	Low	High
Indian Ricegrass	ACHY	0	53	80	15	20
Sand Dropseed	SPCR	0	15	40	5	10
Spike Dropseed	SPCO4	0	15	40	5	10
Mesa Dropseed	SPFL2	0	15	40	5	10
Galleta	PLJA	1	11	20	3	5
Sandhill Muhly	MUPU2	1	11	20	3	5
Blue Grama	BOGR2	1	11	20	3	5
Sideoats Grama	BOCU	1	11	20	3	5
Purple Threeawn	ARPU9	1	11	20	3	5
Little Bluestem	SCSC	1	11	20	3	5
Black Grama	BOER4	1	11	20	3	5
Sixweeks Fescue	VUOC	1	11	20	3	5
Other Perennial Grasses	PPGG	1	15	40	5	10
Other Annual Grasses	AAGG	1	15	40	5	10

Forbs, 5-10%

Common Name	National Symbol	Group	Pounds per Acre		% by Weight of Total Composition	
			Low	High	Low	High
Wright's Bird's Beak	COWR2	2	4	12	1	3
Basin Yellow Cryptantha	CRCO12	2	4	12	1	3
Gooseberryleaf Globemallow	SPGR2	2	4	12	1	3
Stemless Four-nerve Daisy	TEACA2	2	4	12	1	3
Woolly Locoweed	ASMO7	2	4	12	1	3
Other Perennial Forbs	PPFF	2	15	40	5	10
Other Annual Forbs	A AFF	2	15	40	5	10

Site Type: Rangeland
 Ecological Site Name: Semidesert Shallow Sand (Cutler Mormontea)
 Site Number: 035XY225UT

Shrubs, 45-55%

Common Name	National Symbol	Group	Pounds per Acre		% by Weight of Total Composition	
			Low	High	Low	High
Cutler's Mormontea	EPCU	0	53	80	15	20
Sonoran Live Oak	QUTU2	0	15	40	5	10
Havard Oak	QUHA3	0	15	40	5	10
Bigelow Sagebrush	ARBI3	0	11	20	3	5
Sand Sagebrush	ARFI2	0	11	20	3	5
Roundleaf Buffaloberry	SHRO	3	4	12	1	3
Littleleaf Mountain Mahogany	CEIN7	3	4	12	1	3
Crispleaf Buckwheat	ERCO14	3	4	12	1	3
Mexican Cliffrose	PUME	3	4	12	1	3
Plains Pricklypear	OPPO	3	4	12	1	3
Narrowleaf Yucca	YUAN2	3	4	12	1	3
Fourwing Saltbush	ATCA2	3	4	12	1	3
Singleleaf Ash	FRAN2	3	4	12	1	3
Green Mormontea	EPVI	3	4	12	1	3
Blackbrush	CORA	3	4	12	1	3
Other Shrubs	SSSS	3	11	20	3	5

Trees, 1-5%

Common Name	National Symbol	Group	Pounds per Acre		% by Weight of Total Composition	
			Low	High	Low	High
Utah Juniper	JUOS	0	4	20	1	5

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	550	600
Average Year	350	400
Unfavorable Year	150	200

4. Ground Cover and Structure

a. Vegetative

Vegetation Type	Percent Canopy Cover	Height Range	Percent Basal Area Cover
Grasses & Grass-like (perennial)	25	0.5-2 ft.	10
Forbs (perennial)	5	0.5-2 ft.	2
Shrubs	10	1-3 ft.	5
Trees	3	6-8 ft.	1
Cryptogams	0-1%	0.1-0.5 cm	0-1%

b. Other

Litter	0-3%
Coarse Fragments	0-15%
Bare Ground	40-60

5. Ecological Dynamics of the Site

(Includes a discussion of seral stages; fire influence and effects; effects of prolonged wet or dry periods; resistance to change; the influence of such things as grazing, rodent concentrations, insects, diseases, introduced species, and soil erosion or deposition; other stable vegetative states associated with this site as a result of extreme disturbance)

As the potential natural community deteriorates due to grazing pressure, Indian ricegrass, and the dropseeds decrease while sand sagebrush and Bigelow sagebrush increase. Fire is not a factor in this site.

Suitability for rangeland seeding is very poor. The main limitations are shallow soils, low precipitation and low available water capacity.

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	45	35	0	0	0	0	0	0
Name	PNC											
ID Number	UT2251											
Description	Excellent Condition											

Site Type: Rangeland
 Ecological Site Name: Semidesert Shallow Sand (Cutler Mormontea)
 Site Number: 035XY225UT

7. Similar Sites

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

8. Associated Sites Within MLRA

(Give site name and number)

Semidesert Sand (Fourwing Saltbush)	035XY212UT
Semidesert Sandy Loam (Fourwing Saltbush)	035XY215UT
Semidesert Sandy Loam (Wyoming Big Sagebrush)	035XY216UT
Semidesert Shallow Loam (Utah Juniper-Pinyon)	035XY221UT

9. Correlated Sites in Other States

(Give site name and number)

D. MAJOR USES OF THIS SITE

1. Livestock

a. Site Factors Influencing Management

Suitability for livestock grazing is fair. This site provides proper grazing for cattle and sheep during fall, winter, and spring.

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
Sand Dropseed	P	P	F, G	F, G
Spike Dropseed	F, G	P	VG	F, G
Mesa Dropseed	P	P	F, G	F, G
Cutler's Mormontea	F, G	F, G	P	P
Sonoran Live Oak	P	P	P	P
Havard Oak	P	P	P	P
Bigelow Sagebrush	F, G	P	P	P
Sand Sagebrush	P	F, G	P	P
Utah Juniper	P	P	P	P

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

Species – Sheep	Oct-Nov	Dec-Feb	Mar-May	Jun-Sep
Indian Ricegrass	F, G	VG	VG	VG
Sand Dropseed	P	P	F, G	F, G
Spike Dropseed	P	P	F, G	F, G
Mesa Dropseed	P	P	F, G	F, G
Cutler’s Mormontea	F, G	F, G	P	P
Sonoran Live Oak	P	P	P	P
Havard Oak	P	P	P	P
Bigelow Sagebrush	P	F, G	F, G	F, G
Sand Sagebrush	P	F, G	P	P
Utah Juniper	P	P	P	P

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

2. Wildlife

a. Site Factors Influencing Management

This site provides food and 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
Indian Ricegrass	A	F, W, Sp, Su	A	F, W, Sp, Su
Sand Dropseed	C	F, W, Sp, Su	C	F, W, Sp, Su
Spike Dropseed	B	F, W, Sp, Su	C	F, W, Sp, Su
Mesa Dropseed	C	F, W, Sp, Su	C	F, W, Sp, Su
Cutler’s Mormontea	B	F, W, Sp, Su	C	F, W, Sp, Su
Sonoran Live Oak	B	F, W, Sp, Su	C	F, W, Sp, Su
Havard Oak	B	F, W, Sp, Su	C	F, W, Sp, Su
Bigelow Sagebrush	B	F, W, Sp, Su	C	F, W, Sp, Su
Sand Sagebrush	C	F, W, Sp, Su	C	F, W, Sp, Su
Utah Juniper	C	F, W, Sp, Su	C	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)

Site Type: Rangeland
 Ecological Site Name: Semidesert Shallow Sand (Cutler Mormontea)
 Site Number: 035XY225UT

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