

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 Sand (Fourwing Saltbush)

SITE NUMBER: 035XY212UT

MLRA: D-35

Original Site Description: Author: GSC

Date: 04/29/1983

Revised Site Description: Author: GSC

Date: 09/23/1993

Revised Site Description: Author: SM, TS

Date: 06/21/2004

Approved by: Title: State Range Conservationist

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: deep to very deep (40" to greater than 60")

Surface Textures: fine sand, and loamy fine sand

Surface Fragments (<=3" % cover >3" % cover): 0 to 2%

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

Subsurface Fragments (<=3" % vol. >3" % vol.): 0 to 5%

Geologic Parent Materials: eolian and residuum from weathered sandstone (Geologic Formations: Entrada, Navajo, Windgate & Kayenta formations)

Moisture Regime: Ustic Aridic

Temperature Regime: Mesic

Runoff: Negligible to low

Permeability (min-max): rapid (6.0 to 20.0 in/hr)

Drainage Class (min-max): excessively drained

Water Erosion Hazard: Slight

Wind Erosion Hazard: Severe

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

Sodium Adsorption Ration (SAR): 0 (nonsodic)

Calcium Carbonate Equivalent (%): 2 to 20%

pH Range (1:1 water): 7.2 to 8.6

Available Water Capacity (inches): 3.5 to 6 inches

Soils are torripsamments. They are subject to blowing and drifting when dry and bare. Much of this ecological site is stabilized sand dunes.

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

Grand Staircase Escalante NM (686): **Bispen** in mapunits 5012 & 5086; **Earlweed** in mapunits 5035 & 5058; **Mespun** in mapunits 5015, 5020, 5086, 5088, & 5089; **Mido** in mapunits 5001, 5013, 5035, 5038 & 5122.
Grand County – Central (624): **Mido** in mapunits 33, 34, 54 & 61.
Canyonlands Area (633): **Mido** in mapunits 10 & 51; **Ustic Torripsamments** in mapunit 76.
Panguitch Area (636): **Mespun** in mapunits 85, 86 & 87
San Juan County – Central (638) **Mido** in mapunits 1, 20, 21, 22 & 48.
Glen Canyon NRA: **Mespun** in mapunit 120 & 169; **Mido** in mapunits 1 & 121.
Henry Mountains Area (631) **Mido** in mapunits 7, 18, 31, 45, 46, 47, 52, 81, 117 & 124.
Capitol Reef NP (685): **Mido** in mapunits 215, 225, & 235; **Mivida, undulating** in mapunit 210.

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

2. PHYSIOGRAPHIC FEATURES

Landform and Position: Mesa tops, valley bottoms, dunes & sand sheets on structural benches, stabilized sand dunes, sand sheets, and alluvial fans.

Aspect: All

	<u>Minimum</u>	<u>Maximum</u>
Slope:	0%	30%
Elevation:	4,200 ft.	6,700 ft.
Flooding:		
Frequency:	None	Rare
Duration:		
Ponding:	None	None
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

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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

Climate Stations: St. ID. : 421168 Location: Canyonlands -The Needle, Utah Period: From: 6/1965 To: 7/2003

Temperature	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC	ANNUAL
High Mean	40.9	49.0	58.8	67.4	78.2	89.2	95.2	92.5	83.4	69.7	54.0	42.4	68.4
Average Mean	28.6	35.8	44.4	51.9	62.0	72.1	78.5	76.5	66.8	53.7	40.4	30.1	53.4
Low Mean	16.3	22.7	30.1	36.6	45.8	55.1	61.9	60.3	50.3	37.8	26.9	17.8	38.5

Precipitation	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC	ANNUAL
Highest	1.56	1.34	2.59	1.99	2.61	2.03	2.27	3.03	2.42	4.43	1.58	1.59	11.19
Average Mean	0.53	0.42	0.74	0.69	0.62	0.38	0.87	1.04	0.86	1.09	0.68	0.54	8.45
Lowest	0.0	0.0	0.01	0.0	0.0	0.0	0.05	0.0	0.0	0.01	0.0	0.0	4.25

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

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.)

Dominant aspect is grasses with shrubs at 10 to 15 feet intervals. Grasses are dominated cool season types with warm season increasing with increased grazing. The composition is approximately 50% perennial grasses, 15% forbs, and 35% shrubs. Plants begin growth around March 1 and end growth around October 15.

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2. Plant Community Composition by Weight and Percentage

Grasses and Grasslike, 50-60%

Common Name	National Symbol	Group	Pounds per Acre		% by Weight of Total Composition	
			Low	High	Low	High
Indian Ricegrass	ACHY	0	110	150	20	25
Galleta	PLJA	0	28	60	5	10
Sand Dropseed	SPCR	0	28	60	5	10
Needleandthread	HECOC8	0	28	60	5	10
Sandhill Muhly	MUPU2	1	6	18	1	3
Spike Dropseed	SPCO4	1	6	18	1	3
Blue Grama	BOGR2	1	6	18	1	3
Mesa Dropseed	SPFL2	1	6	18	1	3
Purple Threeawn	ARPU9	1	6	18	1	3
Giant Dropseed	SPGI	1	6	18	1	3
Black Grama	BOER4	1	6	18	1	3
Other Annual Grasses	AAGG	1	17	30	3	5
Other Perennial Grasses	PPGG	1	17	30	3	5

Forbs, 10-15%

Common Name	National Symbol	Group	Pounds per Acre		% by Weight of Total Composition	
			Low	High	Low	High
Gooseberryleaf Globemallow	SPGR2	0	17	30	3	5
Crescent Milkvetch	ASAM5	2	6	18	1	3
Pale Evening Primrose	OEPA	2	6	18	1	3
Rusty Lupine	LUPUP	2	6	18	1	3
Snowball Sand Verbena	ABFR2	2	6	18	1	3
Woolly Bluestar	AMTO2	2	6	18	1	3
Pacific Aster	SYCHC	2	6	18	1	3
Steve's Dustymaiden	CHST	2	6	18	1	3
Wright's Bird's Beak	COWR2	2	6	18	1	3
Brenda's Yellow Cryptantha	CRFL5	2	6	18	1	3
Nodding Buckwheat	ERCE2	2	6	18	1	3
Skyblue Phacelia	PHCO	2	6	18	1	3
Other Annual Forbs	AAFF	2	28	60	5	10
Other Perennial Forbs	PPFF	2	28	60	5	10

Shrubs, 25-35%

Common Name	National Symbol	Group	Pounds per Acre		% by Weight of Total Composition	
			Low	High	Low	High
Fourwing Saltbush	ATCA2	0	28	60	5	10
Cutler Mormontea	EPVIV2	0	17	30	3	5
Sand Buckwheat	ERLE9	0	17	30	3	5
Sand Sagebrush	ARFI2	0	17	30	3	5
Pillar False Gumweed	VAST3	3	6	18	1	3
Winterfat	KRLA2	3	6	18	1	3
Blackbrush	CORA	3	6	18	1	3
Wyoming Big Sagebrush	ARTRW	3	6	18	1	3
Havard Oak	QUHAT	3	6	18	1	3
Spiny Hopsage	GRSP	3	6	18	1	3
Frosted Mint	POIN3	3	6	18	1	3
Plains Pricklypear	OPPO	3	6	18	1	3
Broom Snakeweed	GUSA2	3	6	18	1	3
Narrowleaf Yucca	YUAN2	3	6	18	1	3
Other Shrubs	SSSS	3	17	30	3	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	750	800
Average Year	550	600
Unfavorable Year	250	300

4. Ground Cover and Structure

a. Vegetative

Vegetation Type	Percent Canopy Cover	Height Range	Percent Basal Area Cover
Grasses & Grass-like (perennial)	30	0.5-2 ft.	15
Forbs (perennial)	5	0.5-2 ft.	2
Shrubs	15	1-3 ft.	5
Trees	-	-	-
Cryptogams	0-2%	0.1-0.5 cm	0-2%

b. Other

Litter	1-5%
Coarse Fragments	0-2%
Bare Ground	45-55%

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7. Similar Sites

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

8. Associated Sites Within MLRA

(Give site name and number)

Sandy Bottom (Fourwing Saltbush)	035XY015UT
Semidesert Alkali Sandy Loam (Alkali Sacaton)	035XY201UT
Semidesert Loam (Wyoming Big Sagebrush)	035XY209UT
Semidesert Sandy Loam (Fourwing Saltbush)	035XY215UT
Semidesert Sandy Loam (Wyoming Big Sagebrush)	035XY216UT
Semidesert Sandy Loam (Blackbrush)	035XY218UT
Semidesert Shallow Loam (Utah Juniper-Pinyon)	035XY221UT
Semidesert Shallow Sand (Blackbrush)	035XY224UT
Semidesert Shallow Sand (Cutler Mormontea)	035XY225UT
Semidesert Shallow Sand (Utah Juniper-Pinyon)	035XY227UT
Semidesert Shallow Sandy Loam (Blackbrush)	035XY233UT
Semidesert Shallow Sandy Loam (Utah Juniper-Pinyon)	035XY236UT

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 good. 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
Galleta	VG	F, G	VG	VG
Sand Dropseed	P	P	F, G	F, G
Needleandthread	P	F, G	VG	F, G
Gooseberryleaf Globemallow	F, G	P	F, G	F, G
Fourwing Saltbush	F, G	VG	F, G	F, G
Cutler Mormontea	F, G	F, G	P	P
Sand Sagebrush	P	F, G	P	P

Species – Sheep	Oct-Nov	Dec-Feb	Mar-May	Jun-Sep
Indian Ricegrass	F, G	VG	VG	VG
Galleta	F, G	F, G	VG	F, G
Sand Dropseed	P	P	F, G	F, G
Needleandthread	P	F, G	VG	P
Gooseberryleaf Globemallow	F, G	P	VG	F, G
Fourwing Saltbush	VG	VG	VG	VG
Cutler Mormontea	F, G	F, G	P	P
Sand Sagebrush	P	F, G	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 ecological 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
Galleta	B	F, W, Sp, Su	B	F, W, Sp, Su
Sand Dropseed	C	F, W, Sp, Su	C	F, W, Sp, Su
Needleandthread	B	F, W, Sp, Su	B	F, W, Sp, Su
Gooseberryleaf Globemallow	B	F, W, Sp, Su	B	F, W, Sp, Su
Fourwing Saltbush	A	F, W, Sp, Su	B	F, W, Sp, Su
Cutler Mormontea	B	F, W, Sp, Su	C	F, W, Sp, Su
Sand Sagebrush	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)

3. Recreational Uses

Recreation uses are hiking and hunting.

4. Wood Products

None.

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Data Collected and References

Sampling Source	Number of Records	Range Similarity Index			
		> 76%	51-75%	26-50%	0-25%
NRCS - ECS – 417	1				
UTAH - RANGE – 2	4				
Permanent Transect Location					

4. Other References