

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 Hardpan (Blackbrush)

SITE NUMBER: 029XY220UT

MLRA: 029X

Original Site Description: Author: TS

Date: 09/01/1991

Revised Site Description: Author: TS

Date: 05/20/1994

Approved by: Title: State Range Cons. Signed: Pat Shaver

Date: 07/11/1994

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: <20 inches

Surface Textures:

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

Subsurface Textures:

Subsurface Fragments(<=3" % vol, >3" % vol): 35-50%

Geologic Parent Materials:

Moisture Regime:

Temperature Regime:

Runoff:

Permeability(min-max):

Drainage Class(min-max):

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<sub>2</sub>):

pH Range:

Available Water Capacity (inches):

Major Soils Associated With This Site:

Soil Survey Area: 641

Curhollow GR-FSL, 2-10%

Magotsu CBV-L, 2-20%

Esplin L, 0-2%

Curhollow STV-SL, 5-10%

Curhollow GR-FSL, 10-30%

Pastura GR-L, 2-10%

Veyo STX-SL, 3-10%

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

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**2. PHYSIOGRAPHIC FEATURES**

Landform and Position:

Aspect: Low elevations-All / High Elevations-South

	<u>Minimum</u>	<u>Maximum</u>
Slope:	4	30
Elevation:	3500	6500
Flooding:		
Frequency:		
Duration:		
Ponding:		
Depth (inches):		
Frequency:		
Duration:		
Water Table Depth:		

**B. CLIMATIC FEATURES**

Mean Annual Precipitation (inches): 9-11

Mean Annual Air Temperature: 48-58

Mean Annual Soil Temperature: 49-59

Frost Free Period (days): 0-0

Freeze Free Period (days): 170-190

Temperature and Moisture Distribution:

Temp	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC
High	47	52	57	65	75	87	93	90	83	71	57	49
Mean	35	40	44	51	60	70	76	74	67	56	44	37
Low	23	27	31	37	45	53	59	57	50	41	31	25

ppt	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC
High												
Mean	1.44	1.48	1.50	0.76	0.71	0.31	0.82	1.07	0.73	0.86	1.05	0.91
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

Blackbrush (CORA) dominates this site with little evidence of a grass understory. Galleta appears to be limited to the eastern part of Washington County near Virgin, Utah. Utah juniper is very evident in the aspect of the site. The composition by air-dry weight is approximately 10 percent perennial grasses, 5 percent forbs, and 85 percent shrubs. Red brome and cheatgrass are always present.

### 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		6.5	19.5	1	3
Galleta	HIJA		13	19.5	2	3
Desert needlegrass	ACSP3		13	52	2	8
Six-weeks fescue	VUOC	1	0	13	0	2
Black grama	BOER4	1	0	13	0	2
Muttongrass	POFE	1	0	13	0	2
Needleandthread	HECO26	1	0	13	0	2
Bush mully	MUPO2	1	0	13	0	2
Other perennial grasses	PPGG	1	0	13	0	2
Other annual grasses	AAGG	1	0	13	0	2

#### Forbs, %

Common Name	National Symbol	Group	Pounds per Acre		% by Weight of Total Composition	
			Low	High	Low	High
Globemallow	SPHAE		6.5	13	1	2
Weakstem mariposa lily	CAFL		6.5	13	1	2
Winged cryptantha	CRPT		6.5	13	1	2
Locoweed	ASTRA	2	0	6.5	0	1
Fremont phacelia	PHFR2	2	0	6.5	0	1
Annual eriogonum	ERIOG	2	0	6.5	0	1
Filaree	ERCI	2	0	6.5	0	1
Wooly daisy	ERLA6	2	0	6.5	0	1
Other perennial forbs	PPFF	2	0	6.5	0	1
Other annual forbs	AAFF	2	0	6.5	0	1

#### Shrubs/Vines, %

Common Name	National	Group	Pounds per Acre	% by Weight of
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	Symbol				Total Composition	
			Low	High	Low	High
Blackbrush	CORA		422.5	4875	65	750
Desert almond	PRFA		13	19.5	2	3
Nevada mormontea	EPNE		19.5	32.5	3	5
Datil yucca or Banana yucca	YUBA		13	19.5	2	3
Desert bitterbrush	PUGL2		13	32.5	2	5
Mohave goldenweed	HALI3	3	0	13	0	2
Turpentinebush	THMO	3	0	13	0	2
Indigobush	DAFR	3	0	13	0	2
Threadleaf snakeweed	GUMI	3	0	13	0	2
Buckhorn cholla	OPAC	3	0	13	0	2
Shrub Like oak	QUTU2	3	0	13	0	2
Big sagebrush	ARVA2	3	0	13	0	2
Fourwing saltbush	ATCA2	3	0	13	0	2
Stansbury cliffrose	COME5	3	0	13	0	2
Other shrubs	SSSS	3	0	13	0	2

Trees, %

Common Name	National Symbol	Group	Pounds per Acre		% by Weight of Total Composition	
			Low	High	Low	High
Utah juniper	JUOS	4	13	19.5	2	3

### **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	850
Average Year	550	650
Unfavorable Year	350	450

### **4. Ground Cover and Structure**

a. Vegetative

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Vegetation Type	Percent Canopy Cover	Height Range (ft)	Percent Basal Area Cover
Grasses & Grass-like (perennial)	5	0.80	1
Forbs (perennial)	0	0	0
Shrubs	25	2	5
Trees	3	15	0
Cryptogams			

b. Other

Litter	
Coarse Fragments	
Bare Ground	

### **5. Ecological Dynamics of the Site**

Fire causes some dramatic changes in this site. The blackbrush is removed and will not come back in at least the foreseeable future. Yerba santa invades along with snakeweed. Mormontea may increase along with several grasses. Some success has been realized with seeding this site after a burn.

### **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												
Name												
ID Number												
Description												

### **7. Aspect Differences Near MLRA Boundaries**

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

### **8. Associated Sites Within MLRA**

029XY230UT  
 Semidesert Shallow Hardpan (Blackbrush)

029XY320UT  
 Upland Shallow Loam (Pinyon-Utah juniper)

### **9. Correlated Sites in Other States**

(Give site name and number)

## **D. MAJOR USES OF THIS SITE**

### **1. Livestock**

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a. Site Factors Influencing Management

This section will be added as information is available.

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 section will be added as information is available.

b. List of Potential Species Present

Wildlife using this site include mule deer, quail, cottontail rabbit, road runner, and coyote.

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**

This section will be added as information is available.

**4. Wood Products**

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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: Curhollow GR-FSL, 2-10% Slopes – loamy-skeletal, mixed, mesic, shallow Ustollic Paleorthid

Type Location: Township 43S, Range 17W, Section 28

General Legal Description:

#### **Field Office Site Location**

Cedar City

#### **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					
OTHER	12				
Permanent Transect Location					

#### **Other References**