

UNITED STATES DEPARTMENT OF AGRICULTURE  
Soil Conservation Service, Colorado

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Technical Guide  
Section II E

RANGE SITE NO. 285  
Field Office  
August 1975

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RANGE SITE DESCRIPTION

for

FOOTHILL SWALE

Land Resource Area: Central Desertic Basins, Mountains  
and Plateaus (34)  
Southern Rocky Mountains (48)

A. PHYSICAL CHARACTERISTICS

1. Physiographic Features

This site occurs in the swales, valleys, alluvial bottomlands, and other low-lying areas which receive runoff from adjacent uplands.

Elevation ranges from 6000 feet to 7600 feet above sea level.

2. Climatic Features

Annual precipitation ranges between 12 to 16 inches, with about 60% coming as snow.

The optimum growing season for native plants is April 15 to July 15.

Due to its position, this site receives occasional beneficial moisture from run-in water and overflow water.

3. Native (potential) Vegetation

The aspect of this site is a valley grassland plant community with a rather sparse stand of shrubs, basin wildrye, western and streambank wheatgrasses, Indian ricegrass, squirreltail, and Nevada bluegrass are the dominant grasses. Shrubs include big sagebrush, rubber rabbitbrush, and fourwing saltbush. Principal forbs are yarrow, fleabane, globemallow, Indian paintbrush, and wild buckwheat.

Native (potential) Vegetation and Guide for Determining Range Condition.

Percentage composition by weight of the principal species may total as much as:

Grasses and grasslike:

Basin wildrye	50
Western wheatgrass	10
Streambank wheatgrass	10
Indian ricegrass	5
Squirreltail	5
Nevada bluegrass	5
Slender wheatgrass	3
Needle-and-thread	3
Beardless bluebunch wheatgrass	2
Bluebunch wheatgrass	2
Sand dropseed	2

Forbs:

Yarrow	)	
Bladderpod	)	
Fleabane	)	
Globemallow	)	10
Indian paintbrush	)	
Wild buckwheat	)	
Herbaceous sage		1

Shrubs:

Big sagebrush	10
Rubber rabbitbrush	5
Fourwing saltbush	5

Invaders of this site are cheatgrass, Kentucky bluegrass, cactus, thistle, lambsquarter, mustard, snakeweed, and greasewood.

4. Total Annual Production

Favorable years	3000 Pounds per Acre Air Dry
Unfavorable years	1000 " " " " "
Median years	2000 " " " " "

5. Soils

a. Deep, well drained, medium and moderately coarse textured soils. Brown and grayish brown surface soils 5 to 9 inches thick underlain by stratified loamy materials. These soils have good intake rates, good permeability, and a high water-holding capacity. Fertility levels are usually high. Soils are usually in the frigid family.

b. Soils in this site are:

Glendive fine sandy loam  
Havre loam

6. Rare, Threatened or Endangered Plants and Animals

(To be added when known)

7. Location of Typical Example of the Site

Major drainages in the Piceance Basin, Rio Blanco County.

8. Field Offices in Colorado where the site occurs:

315 Craig  
326 Glenwood Springs  
328 Grand Junction  
343 Meeker

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B. Major Uses and Interpretations for the FOOTHILL SWALE Range Site

Use of Product	Value Rating			
	High	Medium	Low	Not Applicable
1. <u>Grazing</u>				
Cattle		X		
Sheep -	X			
Horses		X		
2. <u>Wood Products</u>				X
3. <u>Wildlife</u>				
Antelope		X		
Bison		X		
Deer	X			
Elk		X		
Cottontail	X			
Jackrabbit				X
Upland game birds	X			
Waterfowl		X		
4. <u>Watershed</u>		X		
5. <u>Recreation and Natural Beauty</u>		X		

# Ecological Reference Sheet

MLRA: 34A      Ecological Site: Foothill Swale

Date: 01/19/05      Author(s)/participant(s): J. Murray, C. Holcomb, L. Santana, F. Cummings, S. Jaouen

Contact for lead author: \_\_\_\_\_

This *must* be verified based on soils and climate (see Ecological Site Description). Current plant community *cannot* be used to identify the ecological site.

Composition (indicators 10 and 12) based on:  Annual Production,  Cover Produced During Current Year  Biomass

<p><b>Indicators.</b> 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 and natural disturbance regimes for <b>each</b> community within the reference state, when appropriate &amp; (3) cite data. Continue descriptions on separate sheet.</p>
<p><b>1. Number and extent of rills:</b> None</p>
<p><b>2. Presence of water flow patterns:</b> None</p>
<p><b>3. Number and height of erosional pedestals or terracettes:</b> None</p>
<p><b>4. Bare ground from Ecological Site Description or other studies (rock, litter, lichen, moss, plant canopy are <i>not</i> bare ground):</b> Expect 5-10% bare ground. Extended drought can cause bare ground to increase.</p>
<p><b>5. Number of gullies and erosion associated with gullies:</b> Rare, due to offsite influences. Short and shallow.</p>
<p><b>6. Extent of wind scoured, blowouts and/or depositional areas:</b> None.</p>
<p><b>7. Amount of litter movement (describe size and distance expected to travel):</b> Typically slight, however during major flooding events this site slows water flow and captures litter and sediment.</p>
<p><b>8. Soil surface (top few mm) resistance to erosion (stability values are averages – most sites will show a range of values):</b> Stability class rating anticipated to be 4-5 in the interspaces at the soil surface.</p>
<p><b>9. Soil surface structure and SOM (soil organic matter) content (include type and strength of structure, and A-horizon color and thickness):</b> Soils are typically deep and well drained. Surface texture ranges from silty clay loam to loam. The A-horizon can range from 0-20 inches with a light brownish gray to grayish brown. Surface structure is weak coarse platy parting to moderate fine granular.</p>
<p><b>10. Effect of plant community composition (relative proportion of different functional groups) &amp; spatial distribution on infiltration &amp; runoff:</b> Diverse grass and shrub functional/structural groups and diverse root structure/patterns reduces raindrop impact slows overland flow providing increased time for infiltration to occur.</p>
<p><b>11. Presence and thickness of compaction layer (usually none; describe soil profile features which may be mistaken for compaction on this site):</b> None</p>
<p><b>12. Functional/Structural Groups (list in order of descending dominance by above-ground production or live foliar cover (specify) using symbols: &gt;&gt;, &gt;, = to indicate much greater than, greater than, and equal to; place dominants, subdominants and “others” on separate lines):</b> Dominants: cool season bunchgrass &gt;&gt; Sub-dominants: cool season rhizomatous grass &gt; shrubs &gt; Other: forbs</p>
<p><b>13. Amount of plant mortality and decadence (include which functional groups are expected to show mortality or decadence):</b> Minimal</p>
<p><b>14. Average percent litter cover ( _____ %) and depth ( _____ inches).</b> 30-45% litter cover and ranges from 0.50-1.0 inches in depth. Litter cover declines during and following extended drought.</p>
<p><b>15. Expected annual production (this is TOTAL above-ground production, not just forage production):</b> 1000 lbs./ac. low precip years; 2000 lbs./ac. average precip years; 3000 lbs./ac. above average precip years. After extended drought, production may be reduced by 500 – 1000 lbs./ac. or more.</p>
<p><b>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”:</b> Kentucky bluegrass, Canada thistle and other noxious weeds.</p>
<p><b>17. Perennial plant reproductive capability:</b> The only limitations are weather-related, wildfire, natural disease, inter-species competition, wildlife, excessive litter, and insects that may temporarily reduce reproductive capability.</p>

## Functional/Structural Groups Sheet

State: \_\_\_\_\_ Office: \_\_\_\_\_

Ecological Site: Foothill Swale

Site ID: R034AY285CO

Observers: \_\_\_\_\_

Date: \_\_\_\_\_

Functional/Structural Groups			Species List for Functional/Structural Groups
Name	Potential <sup>1</sup>	Actual <sup>2</sup>	Plant Names
Cool season bunch grasses	D		Basin wildrye, slender wheatgrass, native bluegrasses, bottlebrush squirreltail, bluebunch wheatgrass, needleandthread
Cool season rhizomatous grass	S		Western wheatgrass, streambank wheatgrass
Shrubs	S		Big sagebrush, rabbitbrush, fourwing saltbush
Forbs	M		Western yarrow, bladderpod, daisy fleabane, scarlet globemallow, Indian paintbrush, buckwheats
Noxious Weeds			
Invasive Plants			
Biological Crust <sup>3</sup>			

Indicate whether each “structural/functional group” is a **Dominant (D)** (roughly 40-100 % composition), a **Sub-dominant (S)** (roughly 10-40% composition) a **Minor Component (M)** (roughly 2-5% composition), or a Trace Component (**T**) (<2% composition) based on weight or cover composition in the area of interest (e.g., “Actual<sup>2</sup>” column) relative to the “Potential<sup>2</sup>” column derived from information found in the ecological site/description and/or at the ecological reference area.

**Biological Crust<sup>3</sup>** dominance is evaluated solely on **cover** not composition by weight.

# Ecological Reference Sheet

MLRA: 48A      Ecological Site: Foothill Swale

**Date:** 01/19/05      **Author(s)/participant(s):** J. Murray, C. Holcomb, L. Santana, F. Cummings, S. Jaouen

**Contact for lead author:** \_\_\_\_\_

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Observers: \_\_\_\_\_ Date: \_\_\_\_\_

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