UNITED STATES DEPARTMENT OF AGRICULTURE
Soil Conservation Service, Colorado

Technical Guide
Section II E

RANGE SITE NO. 263
Field Office
August 1975

RANGE SITE DESCRIPTION

for

SALT FLATS

Land Resource Area: High Intermountain Valleys (51)

A. PHYSICAL CHARACTERISTICS

1. Physiographic Features

This is typical of the broad central floor of the San Luis Valley, and is also on a few small areas near the edge of the valley. Topography is nearly level over most of the site, gently sloping in a few places, with only minor irregularities. The site is slightly higher than associated meadows. Slopes are mostly 0 to 1%, extending up to 3% in a few places, and have no significant effect on plant growth. Elevation is 7500 to 7700 feet except for some isolated spots that are slightly higher.

2. Climatic Features

Average annual precipitation is 6 to 8 inches, possibly reaching 10 inches at some upper elevations. Of this, 55 to 60% falls between May 1 and September 1, mostly from hard, spotty thundershowers of short duration in July and August. May and June are normally dry. Wide seasonal and yearly variations are common. Major plants make their main growth between mid-May and late July. A few plants are slightly earlier.

Mean annual temperature is 41° to 43° F. Average frost-free period is 95 to 105 days, from late May or early June to September. Summer daytime temperatures are frequently in the 80°s, but rarely exceed 90° F, and nights are cool. Temperatures of -20° to -30° F can be expected each year and are common some winters. Lower extremes are sometimes recorded. Winds that often reach high velocities are common, especially in spring. Relative humidity is usually low. Even so, evaporation rates average lower than those of many dry regions because of the cool climate. Snow cover is often light and is sometimes lacking through much of the winter. There is usually some snow though, during the coldest weather.

RANGE SITE NO. 263
SALT FLATS
August 1975

3. Native (potential) Vegetation

Salt tolerant grasses mixed with greasewood and rubber rabbitbrush give the site its typical appearance. The shrubs are prominent but widely spaced. Alkali sacaton is usually the dominant plant, forming large clumps with small bare spots between them. Other grasses which may be locally abundant are alkali cordgrass, western wheatgrass and beardless wildrye. Blue grama is prominent on some soils, but is scarce or absent on much of the site. Minor amounts of saltgrass and Baltic rush are common. Wedgegrass and fourwing saltbush are occasionally seen. Forbs are of minor importance; some of the most prevalent are wild licorice, Rocky Mountain bee plant, wallflower and globemallow.

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

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

Alkali sacaton	60)	
Alkali cordgrass	40)	
Western wheatgrass	20)	Total of 70
Beardless wildrye	20)	
Blue grama	20)	
Wedgegrass	10)	
Saltgrass	10	
Baltic rush	5	
Greasewood	20)	
Rubber rabbitbrush	10)	Total of 25
Fourwing saltbush	10)	
Other plants (as listed above)	5	

There are no tree species. Approximate ground cover is 30-40%. Species most likely to invade the site are annuals (Kochia, lambsquarter, Russian thistle, tansy mustard, pepperweed) and introduced perennials (Swainson pea, Russian Knapweed, whitetop, and big whitetop). Foxtail barley, alkali muhly and poverty weed are likely to come in or increase from trace amounts where there is influence from nearby irrigation. Invading species usually become extensive only where the original vegetation has been destroyed.

As the ecological condition deteriorates, the natural grass stand breaks up, and greasewood or rubber rabbitbrush become dominant. Saltgrass takes over some abandoned fields or similar areas where brush has been destroyed. It may fill in between brush clumps in other areas, replacing alkali sacaton and other major grasses but will, in turn, decrease if deterioration continues. Baltic rush may increase on some spots. In many places the present cover is mostly greasewood or a mixture of greasewood and rubber rabbitbrush with a thin, patchy und rstory of saltgrass or almost no grass at all.

4. Total Annual Production

Favorable years	1200	Pounds	per	Acre	Air	Dry
Unfavorable years	600	"	"	"	"	"
Median years	900	"	"	"	"	"

5. Soils

a. Soils contain salts and alkali, with pH ranging from 8.0 to 9.7. There is also a fluctuating watertable, usually within 3 to 6 feet of the surface, but sometimes dropping lower or rising slightly higher. These are the main factors affecting plant growth. Other characteristics vary widely. Effective rooting depth to sand and gravel is 20 to more than 60 inches. Some soils are sandy throughout the profile; some have a few inches of loamy sand or loam over heavy, very slowly permeable material. Water available to plant roots is determined by the combined effect of low precipitation; depth to watertable; permeability, capillarity and wilting point of the soil; and limitations due to salt and alkali. Thus, the natural plant community is similar in spite of wide variations in water-holding capacity. These soils are subject to water erosion on a few sloping areas. Otherwide, erosion is not generally serious under native cover, but many of the soils blow easily if cover is destroyed. Areas of slowly permeable, dispersed soils, on which considerable puddling occurs are interspersed with the site in some places. Cover on such area is sparse, consisting almost entirely of greasewood.

b. Soils in this site are:

Acacio sandy loam
Acacio loam
Acacio loam, saline

Soils - continued

Arena loam
Arena loam, drained
Gunbarrel loamy sand
Gunbarrel loamy sand, saline
Hapney loam
Hooper loamy sand
Laney loam
La Sauses sandy clay loam
McGinty sandy loam
McGinty sandy loam, saline
Mosca sandy loam, saline
San Arcacio sandy loam
San Arcasio sandy loam, saline
San Luis sandy loam
San Luis sandy loam, drained
Villa Grove sandy clay loam
Villa Grove sandy clay loam, saline
Zinzer loam
Zinzer loam, saline

6. Rare, Threatened or Endangered Plants and Animals

(To be added when known)

7. Location of Typical Example of the Site

Along Highway 160 between Alamosa and Monte Vista, about 3 miles southeast of the Alamosa - Rio Grande County line.

8. Field Offices in Colorado where the site occurs:

302 Alamosa
309 Center
344 Monte Vista
363 San Luis
364 La Jara

RANGE SITE DESCRIPTION - Colorado - 1974

B. Major Uses and Interpretations for the SALT FLATS Range Site

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