Ecological site DX035X03E006
Shallow

Accessed: 05/06/2026

General information

Provisional. A provisional ecological site description has undergone quality control and quality assurance review. It contains a working state and transition model and enough information to identify the ecological site.

Table 1. Dominant plant species

Tree	Not specified
Shrub	Not specified
Herbaceous	Not specified

Legacy ID

R035XB006NM

Physiographic features

This upland site occurs on plateaus and mesas. It occupies knolls, ridges, and gently sloping plains. There are occasional drainageways associated with the site. Slopes are from 0 to 8 percent. Elevations range from 5,000 to 6,400 feet above sea level. This site occurs on all exposures, but exposure does not affect the vegetation.

Table 2. Representative physiographic features

Landforms	(1) Mesa
Elevation	1,520 – 1,950 m
Slope	0 – 10 %
Aspect	Aspect is not a significant factor

Climatic features

This site has an arid, mild, dry climate with distinct seasonal temperature variations and large annual and diurnal temperature changes.

Mean annual precipitation varies from 7 to 10 inches. Deviations of 4 inches or more are quite common. Distribution is 65% during the native-plant growth period, which is from April through September. May and June are the dry months. During July, August, and September, 3.5 inches of precipitation influences the presence and production of warm-season plants. Late-fall and winter moisture is conducive to the production of cool-season plants, which usually begin growth in March and end with plant maturity and seed dissemination. This usually takes place in the early part of June when the moisture deficiency and warmer temperatures occur. The Gulf of Mexico is the principal source of moisture for summer precipitation, which is characterized by brief afternoon thunderstorms. Winter

moisture occurs as light rain or snow.

Temperatures vary from a monthly mean of 75 degrees F in July to 27 degrees F in January, and from an annual maximum of 106 degrees F to an annual minimum of -35 degrees F. The average last killing frost in the spring is May 8, and the average first killing frost in the fall is October 10. The frost-free season is approximately 160 days. Temperatures are conducive for native grass and forb growth from April through September. Maximum shrub growth occurs in the spring months.

The wind blows most frequently from an easterly direction; however, a majority of the stronger winds (10 to 25 miles per hour) are from a westerly quadrant. Spring is the windiest season. Average hourly wind velocities are near 6 miles per hour. Spring and summer winds increase transpiration rates of native plants and rapidly dry the surface soil. Small soil particles are often displaced by the wind near the soil surface and often results in structural damage to native plants, especially young seedlings.

Climate data were obtained from http://www.wrcc.sage.dri.edu/summary/climsmnm.html web site using 50% probability for freeze-free and frost-free seasons using 28.5 degrees F and 32.5 degrees F, respectively.

Table 3 Representative climatic features

Frost-free period (average)	150 days
Freeze-free period (average)	180 days
Precipitation total (average)	250 mm

Influencing water features

This site is not influenced by water from a wetland or stream.

Soil features

This soil is shallow and well-drained and has a light-colored fine sandy loam surface about 3 inches thick. The subsoil is a brownish clay loam and sandy clay loam about 15 inches thick. Sedimentary rock occurs between 10 and 20 inches.

These soils formed in alluvial residual eolian material derived from sandstone and shale. Water intake rate is rapid. Permeability is moderately slow. Roots penetrate readily but are restricted by soil depth. Available water-holding capacity ranges from 1.5 to 3.0 inches.

Table 4. Representative soil features

Surface texture	(1) Fine sandy loam (2) Clay loam (3) Loam
Family particle size	(1) Clayey
Drainage class	Well drained to excessively drained
Permeability class	Slow to moderately rapid
Soil depth	10 – 50 cm

Available water capacity (0-101.6cm)	0 – 7.62 cm
Electrical conductivity (0-101.6cm)	Not specified
Sodium adsorption ratio (0-101.6cm)	0 – 10
Soil reaction (1:1 water) (0-101.6cm)	6.6 – 8.4
Subsurface fragment volume <=3" (Depth not specified)	20 – 40 %
Subsurface fragment volume >3" (Depth not specified)	20 – 40 %

Ecological dynamics

The vegetative aspect of this site is a shrub/grassland mixture characterized by short- and mid-grasses. Shrubs and half-shrubs are quite noticeable. Perennial forbs are a minor component of the plant community. Annual forbs and grasses occur in relative abundance during spring months in years of above average plant growing conditions.

Additional plants which usually grow on this site in varying amounts, dependent on current growing season conditions are: fluffgrass, sixweeks grama, annual bromegrass, Russian thistle, ring muhly, bladderpod, sixweeks fescue, fleabane, globemallow, fiddleneck, locoweed and feather dalea.

State and transition model

Additional community tables

Table 5. Community 1.1 plant community composition

Group	Common Name	Symbol	Scientific Name	Annual Production ()	Foliar Cover (%)
Grass/Grasslike					
1				63-84	
	Indian ricegrass	ACHY	*Achnatherum hymenoides*	63-84	–
2				21-43	
	blue grama	BOGR2	*Bouteloua gracilis*	21-43	–
3				43-63	
	James' galleta	PLJA	*Pleuraphis jamesii*	43-63	–
4				12-21	
	threeawn	ARIST	*Aristida*	12-21	–
5				43-63	

	needle and thread	HECO26	*Hesperostipa comata*	43-63	–
	New Mexico feathergrass	HENE5	*Hesperostipa neomexicana*	43-63	–
6				12-21	
	sand dropseed	SPCR	*Sporobolus cryptandrus*	12-21	–
7				21-43	
	alkali sacaton	SPAI	*Sporobolus airoides*	21-43	–
8				12-21	
	squirreltail	ELEL5	*Elymus elymoides*	12-21	–
Forb					
9				12-21	
	herb sophia	DESO2	*Descurainia sophia*	12-21	–
	buckwheat	ERIOG	*Eriogonum*	12-21	–
	woolly plantain	PLPA2	*Plantago patagonica*	12-21	–
	ragwort	SENEC	*Senecio*	12-21	–
	soapweed yucca	YUGL	*Yucca glauca*	12-21	–
Shrub/Vine					
10				12-21	
	winterfat	KRLA2	*Krascheninnikovia lanata*	12-21	–
11				12-21	
	Cutler's jointfir	EPCU	*Ephedra cutleri*	12-21	–
12				12-21	
	big sagebrush	ARTR2	*Artemisia tridentata*	12-21	–
13				12-21	
	fourwing saltbush	ATCA2	*Atriplex canescens*	12-21	–
14				4-12	
	yellow rabbitbrush	CHVI8	*Chrysothamnus viscidiflorus*	4-12	–
	pale desert-thorn	LYPA	*Lycium pallidum*	4-12	–
15				12-21	
	broom snakeweed	GUSA2	*Gutierrezia sarothrae*	12-21	–
	plains pricklypear	OPPO	*Opuntia polyacantha*	12-21	–

Animal community

Habitat for Wildlife: This ecological site provides habitats, which support a resident animal community that is characterized by pronghorn antelope, coyote, striped skunk, black-tailed jackrabbit, spotted ground squirrel, deer mouse, sparrow hawk, horned lark, northern whiptail, short-horned lizard, and prairie rattlesnake. The rock wren is a summer resident. While not resident, mule deer will move out of adjacent habitats to feed.

Hydrological functions

The runoff curve numbers are determined by field investigations using hydrologic cover conditions and hydrologic soil groups. Hydrologic Interpretations Soil Series----------Hydrologic Group Eslendo----------D Farb----------D Monierco----------D Persayo----------D Travessilla----------D

Recreational uses

No Data

Wood products

No Data

Other products

Grazing: This site is suitable for grazing use by cattle, sheep, horses, antelope, burros and small herbivorous animals. Various birds use this site for food and shelter. Under pressure of uncontrolled grazing, the potential plant community deteriorates, and there is a marked increase in relative abundance of shrubs, cacti, perennial and annual forbs. The density of perennial grasses will decrease, and there will be an increase in the density of annual grasses and forbs. In severe deterioration, the site will consist predominantly of shrubs, annual forbs, and annual grasses, with lesser amounts of grasses and large areas of unprotected soils.

Other information

Guide to Suggested Initial Stocking Rate Acres per Animal Unit Month Similarity Index----------Ac/AUM 100 - 76----------8.0 – 14.0 75 – 51----------11.0 – 16.0 50 – 26----------14.0 – 26.0 25 – 0----------26.0+

Type locality

Location 1: San Juan County, NM	
Township/Range/Section	T27 N R11 W S31
General legal description	A typical pedon of Monierco fine sandy loam in San Juan County, New Mexico, is about 8 miles north of Huerfano Trading Post, 350 feet west, and 50 feet north of the southeast corner of section 31, T. 27 N., R. 11 W.

Other references

Data collection for this site was done in conjunction with the progressive soil surveys within the San Juan River Valley, Mesas and Plateaus 37 Major Land Resource Area of New Mexico. This site has been mapped and correlated with soils in the following soil surveys : San Juan, McKinley.

Characteristic soils are:
Monierco

Other soils included are:
Eslendo, Farb, Persayo, Travessilla

Contributors

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Rangeland health reference sheet

Interpreting Indicators of Rangeland Health is a qualitative assessment protocol used to determine ecosystem condition based on benchmark characteristics described in the Reference Sheet. A suite of 17 (or more) indicators are typically considered in an assessment. The ecological site(s) representative of an assessment location must be known prior to applying the protocol and must be verified based on soils and climate. Current plant community cannot be used to identify the ecological site.

Author(s)/participant(s)	

Contact for lead author	
Date	
Approved by	
Approval date	
Composition (Indicators 10 and 12) based on	Annual Production

Indicators

1. **Number and extent of rills:**

   _____

2. **Presence of water flow patterns:**

   _____

3. **Number and height of erosional pedestals or terracettes:**

   _____

4. **Bare ground from Ecological Site Description or other studies (rock, litter, lichen, moss, plant canopy are not bare ground):**

   _____

5. **Number of gullies and erosion associated with gullies:**

   _____

6. **Extent of wind scoured, blowouts and/or depositional areas:**

   _____

7. **Amount of litter movement (describe size and distance expected to travel):**

   _____

8. **Soil surface (top few mm) resistance to erosion (stability values are averages - most sites will show a range of values):**

   _____

9. **Soil surface structure and SOM content (include type of structure and A-horizon color and thickness):**

   _____

10. **Effect of community phase composition (relative proportion of different functional groups) and spatial distribution on infiltration and runoff:**

    _____

11. **Presence and thickness of compaction layer (usually none; describe soil profile features which may be mistaken for compaction on this site):**

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12. **Functional/Structural Groups (list in order of descending dominance by above-ground annual-production or live foliar cover using symbols: >>, >, = to indicate much greater than, greater than, and equal to):**

    Dominant:

    Sub-dominant:

    Other:

    Additional:

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13. **Amount of plant mortality and decadence (include which functional groups are expected to show mortality or decadence):**

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14. **Average percent litter cover (%) and depth (in):**

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15. **Expected annual annual-production (this is TOTAL above-ground annual-production, not just forage annual-production):**

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16. **Potential invasive (including noxious) species (native and non-native). List species which BOTH characterize degraded states and have the potential to become a dominant or co-dominant species on the ecological site if their future establishment and growth is not actively controlled by management interventions. Species that become dominant for only one to several years (e.g., short-term response to drought or wildfire) are not invasive plants. Note that unlike other indicators, we are describing what is NOT expected in the reference state for the ecological site:**

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17. **Perennial plant reproductive capability:**
