

Ecological site R035XB020NM**Loamy
6-10"
terrace**

Last updated: 5/20/2025

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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.

Ecological site concept

This site occurs on stream terraces, and on former floodplains in systems where incision has lowered the high water table below the solum. Soils are very deep and well-drained. Soil textures are variable, and often stratified, but sandy textures are most common.

Table 1. Dominant plant species

Tree	Not specified
Shrub	(1) <i>Atriplex canescens</i>
Herbaceous	(1) <i>Achnatherum hymenoides</i> (2) <i>Pleuraphis jamesii</i>

Physiographic features

This site occurs on low stream terraces, usually adjacent to washes and intermittent stream drainages. Historically, this site was primarily stream bottoms on floodplains, but through deep gully erosion, they no longer benefit from excess runoff moisture. Slopes range from 0 to 2 percent. Elevations range from 5,500 to 6,000 feet.

Table 2. Representative physiographic features

Landforms	(1) Stream terrace
Elevation	1,680 – 1,830 m
Slope	0 %
Aspect	Aspect is not a significant factor

Climatic features

Mean annual precipitation varies from 5 to 8 inches with about 60% of it coming as rain from April through October. May and June are the driest months. Most of the precipitation from November through March comes as snow. High-velocity winds are common in late winter and early spring.

Mean temperatures for the hottest month, July, are about 83 degrees F. The coldest month is January, when the mean temperature is about 27 degrees F. Extreme temperatures of 104 and -17 degrees F have been recorded. The frost-free period ranges from 140 to 160 days.

The cool-season plants start growth in March and end with plant maturity and seed dissemination about mid-June. Warm-season plants grow from June through September, taking advantage of the moisture and warmth from tropical air out of the Gulf of Mexico. About 40 percent of the total precipitation is received during these summer months. The other 60 percent, received from fall through spring, influences cool-season plants.

The tabular climate summary for this ESD was generated by the Climate Summarizer (http://www.nm.nrcs.usda.gov/technical/handbooks/nrph/Climate_Summarizer.xls) using data from the following climate stations (results are unweighted averages):

296098 Newcomb, NM (Period of record = 1948 to 1971)

298284 Shiprock, NM (Period of record = 1926 to 2006)

Table 3 Representative climatic features

Frost-free period (average)	170 days
Freeze-free period (average)	190 days
Precipitation total (average)	180 mm

Influencing water features

There are no water features on this site.

Soil features

The soils are very deep and well drained. They formed in alluvium derived from shale and sandstone. Surface textures include loamy fine sand. The subsoil has textures of loamy sand, fine sandy loam with thin strata of sandy clay loam, and stratified fine sandy loam to clay loam. Permeability is moderately slow. Available water holding capacity is moderate to high. Runoff is slow, and the hazard of water erosion is moderate. The hazard of soil blowing is severe. The soils are mildly to moderately alkaline (pH 7.4-8.4), slightly saline (EC 4-8), and slightly sodic (SAR 5-13).

Shiprock SSA:

190 – Jeddito loamy fine sand

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

Table 4. Representative soil features

Surface texture	(1) Loamy fine sand
Family particle size	(1) Loamy
Drainage class	Well drained
Permeability class	Moderately slow

Soil depth	150 cm
Electrical conductivity (0-101.6cm)	0 – 10 mmhos/cm
Sodium adsorption ratio (0-101.6cm)	10
Soil reaction (1:1 water) (0-101.6cm)	7.4 – 8.4

Ecological dynamics

This site has a plant community made up primarily of grasses intermixed with shrubs. The reference plant community contains a mixture of cool-season and warm-season grasses.

Plant species most likely to invade or increase on this site when it deteriorates are cheatgrass, sixweeks grama, sixweeks dropseed, Russian thistle, mustard, black greasewood, and fourwing saltbush. Continuous livestock grazing during winter and spring decreases the cool-season grasses and increases lower forage value grasses and shrubs.

The reference plant community has been determined by study of relict areas or areas protected from excessive grazing. Trends in plant communities going from heavily grazed areas to lightly grazed areas, seasonal use pastures, and historical accounts have also been used.

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	Indian ricegrass			22-34	
	Indian ricegrass	ACHY	<i>Achnatherum hymenoides</i>	90-202	–
2	galleta			67-135	
	James' galleta	PLJA	<i>Pleuraphis jamesii</i>	67-135	–
3	alkali sacaton			22-67	
	alkali sacaton	SPAI	<i>Sporobolus airoides</i>	22-67	–
4	sand dropseed			0-34	
	sand dropseed	SPCR	<i>Sporobolus cryptandrus</i>	0-34	–
5	squirreltail			6-34	
	squirreltail	ELEL5	<i>Elymus elymoides</i>	4-34	–
6	blue grama			6-34	
	blue grama	BOGR2	<i>Bouteloua gracilis</i>	4-34	–
7	Fendler's (red) threeawn			0-6	
	Fendler's threeawn	ARPUF	<i>Aristida purpurea var. fendleriana</i>	0-13	–
8	other perennial grasses			0-22	
Forb					
9	globemallow			0-11	

	globemallow	SPHAE	<i>Sphaeralcea</i>	0-13	-
10	other perennial forbs			0-11	
11	annual forbs			0-6	
Shrub/Vine					
12	fourwing saltbush			45-135	
	fourwing saltbush	ATCA2	<i>Atriplex canescens</i>	45-135	-
13	broom snakeweed			0-11	
	broom snakeweed	GUSA2	<i>Gutierrezia sarothrae</i>	0-13	-
14	Greene's rabbitbrush			0-22	
	Greene's rabbitbrush	CHGR6	<i>Chrysothamnus greenei</i>	0-20	-
15	green rubber rabbitbrush			0-11	
	rubber rabbitbrush	ERNAG	<i>Ericameria nauseosa ssp. nauseosa var. glabrata</i>	0-13	-
16	other shrubs			0-11	

Table 6. Community 1.2 plant community composition

Group	Common Name	Symbol	Scientific Name	Annual Production ()	Foliar Cover (%)
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Table 7. Community 1.3 plant community composition

Group	Common Name	Symbol	Scientific Name	Annual Production ()	Foliar Cover (%)
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Animal community

Livestock -- This site is suitable for yearlong grazing by all classes of livestock and is easily traversed. It will respond quickly to a planned grazing system. This site is susceptible to erosion, particularly overgrazed areas, old roads, and concentration areas. Wildlife – Mule deer may winter on this site. Competition between cattle and wildlife can be high.

Hydrological functions

Runoff is slow, and the hazard of water erosion is moderate.

Recreational uses

Hunting, horseback riding, and wildlife observation are occasional recreational activities on this site. The general appearance of this site is grassland interspersed with shrubs. The landscape breaks the monotony of the surrounding rolling plains and is aesthetically pleasing.

Type locality

Location 1: San Juan County, NM	
Township/Range/Section	T26N R18W S19
General legal description	Sanostee East Quad – 5 miles NE of Sanostee, NM – Navajo Reservation, NM.

Contributors

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Unknown

Approval

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	06/19/2026
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):

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:

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

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

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

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:

17. Perennial plant reproductive capability:
