Ecological site DX035X03G002
Western Plateau Zuni Reservation
13 to 16 inches

Last updated: 5/20/2025
Accessed: 06/17/2026

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.

Ecological site concept

This site occurs on well-drained, very deep soils on slopes of 1 to 8 percent. It is unclear whether the central concept of these soils is coarse-loamy, fine loamy, or both.

Table 1. Dominant plant species

Tree	(1) *Juniperus monosperma* (2) *Pinus edulis*
Shrub	(1) *Artemisia nova*
Herbaceous	(1) *Pascopyrum smithii*

Legacy ID

F035XG002NM

Physiographic features

The western plateau ranges from 6,600-8,000 feet. It consists of an area of broad mesas and plateaus interspersed with numerous deep canyons and dry washes.
This site was apparently established for the entire plateau, but seems to best apply to slopes with gravelly soils. Slopes range for 1 to 10 percent.

Table 2. Representative physiographic features

Landforms	(1) Plateau (2) Hill
Elevation	2,010 − 2,440 m
Slope	0 − 10 %
Aspect	Aspect is not a significant factor

Climatic features

The western plateau area experiences cool, wet winters and warm summers with monsoon moisture from July to September.

Table 3 Representative climatic features

Frost-free period (average)	140 days
Freeze-free period (average)	
Precipitation total (average)	410 mm

Influencing water features

This is an upland site, and is not associated with water features or wetlands. During heavy rain events, this site may receive run-on moisture from landforms above and contribute runoff to landforms below.

Soil features

These soils are very deep, well-drained, moderately permeable soils formed in medium to moderately fine textured material. These soils are on hills, ridges, and farm remnants. Slopes range from 1 to 8 percent.

This ecological site is associated with the map units and soil components in the following soil surveys. Future updates to this soil survey may affect these associations. For up-to-date associations between soil components and this ecological site, refer to NASIS. Associations between ecological sites and soil components are maintained in NASIS via the ecological site ID.
MAP UNIT NAME
Soil survey..Map unit symbol...Soil components
McKinley SS..566.....BAMAC

Editor's note on the legacy text above: The Bamac series is sandy-skeletal. This contradicts the text above.

Table 4. Representative soil features

Surface texture	(1) Fine sandy loam (2) Sandy loam (3) Loam
Drainage class	Well drained
Permeability class	Rapid to moderately rapid
Soil depth	100 – 200 cm
Surface fragment cover <=3"	0 – 10 %

Surface fragment cover >3"	Not specified
Available water capacity (0-101.6cm)	2.54 – 22.86 cm
Calcium carbonate equivalent (0-101.6cm)	0 – 10 %
Electrical conductivity (0-101.6cm)	Not specified
Soil reaction (1:1 water) (0-101.6cm)	10 – 7.8
Subsurface fragment volume <=3" (Depth not specified)	0 – 10 %
Subsurface fragment volume >3" (Depth not specified)	Not specified

Ecological dynamics

This site appears to describe degraded conditions on the plateau in question. Local field staff believe these reflect post-brush-clearing conditions. The three community phases included herein reflect the tacit knowledge of current field staff.

Legacy ESD text:
"The juniper dominant woodland on the western plateau occupies the mesas and plateaus where less effective moisture is available. The juniper competes effectively on drier sites. The trees are somewhat scrubby and bushy."

State and transition model

Additional community tables

Table 5. Community 2.1 plant community composition

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

Table 6. Community 2.2 plant community composition

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

Table 7. Community 2.3 plant community composition

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

Type locality

Location 1: McKinley County, NM	
Township/Range/Section	T9N R21W S22

Contributors

Steve Lacy

Approval

Kendra Moseley, 5/20/2025

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	06/17/2026
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):**

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

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

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

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

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

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

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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:**
