Ecological site R035XH006NM
Shallow

Accessed: 06/19/2026

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

Physiographic features

This site is composed of soils formed in eolian and alluvial materials derived from basalt and lava flows. It is located typically on the summits of lava plateaus.

Table 2. Representative physiographic features

Landforms	(1) Plateau (2) Cinder cone
Elevation	2,380 – 2,740 m
Slope	0 – 10 %
Aspect	Aspect is not a significant factor

Climatic features

The average annual precipitation ranges from 18 to 25 inches. Forty percent occurs during the months of June to September. Most of the summer precipitation comes in the form of high intensity-short duration thunderstorms. Many of these storms are accompanied by hail. Snow accumulation typically occurs from November to March. Typically, depths range from 1 to 4 feet.

The average annual air temperature is about 43 degrees F. However, there are wide ranges in both yearly and daily temperatures. Temperatures may fluctuate as much as 75 degrees F in any 24-hour period. The frost-free period ranges from 80 to 100 days. The last killing frost is in June and the first killing frost is in September.

Climate data was 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)	170 days
Freeze-free period (average)	200 days
Precipitation total (average)	460 mm

Influencing water features

No water features routinely occure with this site.

Soil features

These soils are shallow or moderately deep to basalt. They are well drained and slow permeability. They formed on eolian and alluvial materials over residuum derived from basalt from summits of lava plateaus. Slopes are 0 to 8 percent. runoff is low to medium. Available water holding capacity is low to very low. surface textures are typically gravelly or very cobbly loams. Subsoil textures are clay loam or clay. Rock fragments (basalt and cinders) range from 0 to 30 percent gravels, 0 to 25 percent cobbles and 0 to 5 percent stones. Effective rooting depth is 10 to 40 inches. reaction is slightly acid to slightly alkaline.

characteristic soils are;
Montillo-montillo-canoneros complex 2 to 6 percent slopes.
Charo Charo loam 0 to 5 percent slopes.

Table 4. Representative soil features

Surface texture	(1) Extremely cobbly loam
Family particle size	(1) Clayey
Soil depth	30 – 100 cm
Surface fragment cover <=3"	0 – 30 %
Surface fragment cover >3"	0 – 30 %
Subsurface fragment volume <=3" (Depth not specified)	0 – 30 %
Subsurface fragment volume >3" (Depth not specified)	0 – 30 %

Ecological dynamics

Historic Climax plant Community is a grassland with scattered shrubs and pear cactus.

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	**mountain muhly**			151-252	
	mountain muhly	MUMO	*Muhlenbergia montana*	151-252	–
2	**arizona fescue**			151-252	
	Arizona fescue	FEAR2	*Festuca arizonica*	151-252	–
4	**prarie junegrass**			4-50	
5	**bottlebrush squirreltail**			6-10	
6	**blue grama**			7-24	
	blue grama	BOGR2	*Bouteloua gracilis*	7-24	–
Forb					
7	**pingue**			8-24	
	pingue rubberweed	HYRI	*Hymenoxys richardsonii*	8-24	–
8	**fringed sagewort**			9-81	
	prairie sagewort	ARFR4	*Artemisia frigida*	9-81	–
9	**wild buckwheat**			10-81	
	buckwheat	ERIOG	*Eriogonum*	10-81	–
10	**rocky mountain penstemon**			10-81	
	Rocky Mountain penstemon	PEST2	*Penstemon strictus*	10-81	–
11	**fleabane**			10-24	
	fleabane	ERIGE2	*Erigeron*	10-24	–
12	**indian paintbrush**			10-24	
	wholeleaf Indian paintbrush	CAIN14	*Castilleja integra*	10-24	–
13	**wooly indianwheat**			10-24	
14	**nodding onion**			10-24	
	nodding onion	ALCE2	*Allium cernuum*	10-24	–
15	**silvery lupine**			10-24	
	silvery lupine	LUAR3	*Lupinus argenteus*	10-24	–
16	**skyrocket gilia**			10-50	
	ipomopsis	IPOMO2	*Ipomopsis*	10-50	–
17	**mariposa lilly**			10-24	
	Gunnison's mariposa lily	CAGU	*Calochortus gunnisonii*	10-24	–
Shrub/Vine					
20	**wax current**			10-24	
	wax currant	RICE	*Ribes cereum*	10-24	–
21	**skunkbrush sumac**			10-24	
	skunkbush sumac	RHTR	*Rhus trilobata*	10-24	–
22	**winterfat**			10-24	
	winterfat	KRLA2	*Krascheninnikovia lanata*	10-24	–

Animal community

wildlife

Hydrological functions

soils series are: Montillo-montillo-canoneros complex 2 to 6 percent slopes. Charo Charo loam 0 to 5 percent slopes.

Recreational uses

High value recreational site for aesthetics, camping hiking and picknicking. Numerous showy wildflowers. Excellent mule deer habitat/hunting.

Wood products

no wood products.

Other products

This ite is suitable for grazing during late spring, summer and early fall. length of grazing season varies with elevation. at lower elevations the grazing season ranges from May to October. At higher elevations the grazing season runs from June to September. The site is better suited to steers or sheep due to the short season of use. To reduce spot grazing and overuse of more gentle slopes herding of livestock is needed especially with sheep to aid in achieving even distribution. Continuous season long grazing will cause a decrease of desirable species such as arizona fescue and prarie junegrass. Increaser species include blue grama, bottlebrush squirreltail and pingue. invaders include thistles, lupine and threeawn species. To improve or maintain the plan community grazing needs to be delayed untill soils are firm and plants have made adequate growth to systain their carbohydrate reserves. A system of deferred grazing, which varies the season of grazing and rest in successive years is needed. Grazing pressure from domestic livestock must be monitored relative to grazing pressure from wild ungulates to prevent chronic overuse of the forage, browse base.

Other information

guidelines for suggested initial stocking rates similarity index---------acres per AUM 100 to 76----------1.5 to 2 75 to 51----------2.1 to 2.5 50 to 26----------2.6 to 3.5 less than 25----------3.6 or more

Type locality

Location 1: McKinley County, NM

Contributors

Joe May
John Tunberg

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):**

    _____

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:**
