

Ecological site R035XH005NM

Playa 18-25" p.z.

Accessed: 05/06/2024

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.

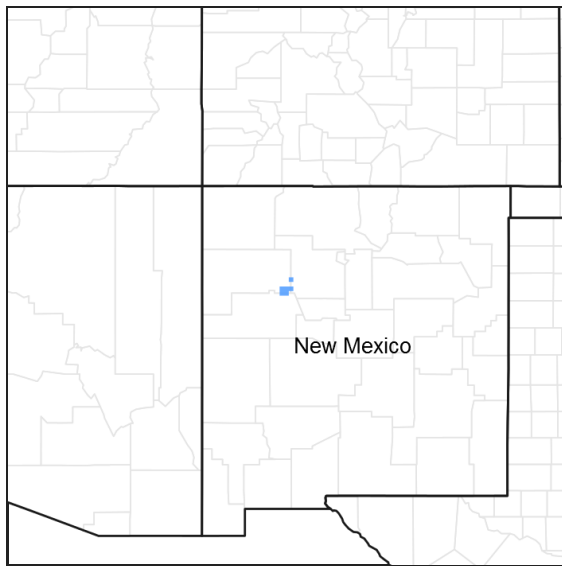


Figure 1. Mapped extent

Areas shown in blue indicate the maximum mapped extent of this ecological site. Other ecological sites likely occur within the highlighted areas. It is also possible for this ecological site to occur outside of highlighted areas if detailed soil survey has not been completed or recently updated.

MLRA notes

Major Land Resource Area (MLRA): 035X–Colorado Plateau

“PROVISIONAL ecological site concepts developed and described. See Project Plan [insert Project Plan Name] for more details and related milestones.”

Ecological site concept

“ATTENTION: This ecological site meets the requirements for PROVISIONAL (if not more). A provisional ecological site is established after ecological site concepts are developed and an initial state-and-transition model is drafted. A provisional ecological site typically will include literature reviews, land use history information, legacy data (prior approved range site descriptions, forage suitability groups, woodland suitability groups, etc.), and includes some soils data, and estimates for canopy and/or species composition by weight,. A provisional ecological site provides the conceptual framework of soil-site correlation for the development of the ESD. For more information about this ecological site, please contact your local NRCS office.”

Table 1. Dominant plant species

Tree	Not specified
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Shrub	(1) <i>Rumex crispus</i> (2) <i>Erigeron</i>
Herbaceous	(1) <i>Pascopyrum smithii</i> (2) <i>Elymus trachycaulus</i>

Physiographic features

This site occurs on lacustrine materials that settled in slightly concave playas and closed depressions in lava plateaus and near cinder cones. slopes range from 0 to 3 percent.

Table 2. Representative physiographic features

Landforms	(1) Cinder cone (2) Basin floor (3) Depression
Elevation	2,134–2,743 m
Slope	0–3%
Water table depth	102–152 cm
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)	174 days
Freeze-free period (average)	197 days
Precipitation total (average)	457 mm

Influencing water features

No regular water features associated with this site.

Soil features

These soils are deep and very deep and moderately well drained and very slowly permeable. They formed in lacustrine materials derived from basalt. They occur in slightly concave playas and closed depressions in lava plateaus. slopes range from 0 to 2 percent overall. Runoff is negligible. Typical surface texture is clay. The surface is covered by 0 to 5 percent basalt cobbles, stones and lava bombs. Subsoil texture are clay. Reaction is slightly acidic to slightly alkaline. available waterholding capacity is moderate to high. These soils have high to very high shrink swell potential with common surface and subsurface cracks. Effective rooting depth is greater than 60 inches.

Typical taxonomic units include:

Table 4. Representative soil features

Surface texture	(1) Stony clay
Family particle size	(1) Clayey
Drainage class	Somewhat poorly drained to poorly drained
Permeability class	Moderately slow to slow
Soil depth	152 cm
Surface fragment cover <=3"	0–5%
Surface fragment cover >3"	0–5%
Subsurface fragment volume <=3" (Depth not specified)	0–5%
Subsurface fragment volume >3" (Depth not specified)	0–5%

Ecological dynamics

This site is easily recognized by the volcanic setting. High soil clay content. sparse vegetation and soil surface cracks when the soil is dry.

State and transition model

Ecosystem states

1. Historic Climax Plant Community

State 1 submodel, plant communities

1.1. Historic Climax Plant Community

State 1 Historic Climax Plant Community

Community 1.1 Historic Climax Plant Community

This is a sparse grassland vegetation community on a deep clay soil with large deep soil surface and subsurface cracks.

Table 5. Annual production by plant type

Plant Type	Low (Kg/Hectare)	Representative Value (Kg/Hectare)	High (Kg/Hectare)
Grass/Grasslike	280	336	363
Shrub/Vine	9	45	90
Forb	4	28	45
Total	293	409	498

Table 6. Ground cover

Tree foliar cover	0%
Shrub/vine/liana foliar cover	1-3%
Grass/grasslike foliar cover	10-15%
Forb foliar cover	5-7%
Non-vascular plants	0%
Biological crusts	0%
Litter	20-30%
Surface fragments >0.25" and <=3"	0-5%
Surface fragments >3"	0-5%
Bedrock	0%
Water	0%
Bare ground	70-75%

Figure 5. Plant community growth curve (percent production by month).
NM1005, R035XH005NM-Playa-HCPC. R035XH005NM-Playa-HCPC.

Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
0	0	3	5	10	10	25	30	12	5	0	0

Additional community tables

Table 7. Community 1.1 plant community composition

Group	Common Name	Symbol	Scientific Name	Annual Production (Kg/Hectare)	Foliar Cover (%)
Grass/Grasslike					
1	western wheatgrass			336–364	
2	slender wheatgrass			9–28	
	slender wheatgrass	ELTR7	<i>Elymus trachycaulus</i>	9–28	–
Forb					
3	curley dock			9–27	
	curly dock	RUCR	<i>Rumex crispus</i>	9–27	–
4	pingue			9–27	
	pingue rubberweed	HYRI	<i>Hymenoxys richardsonii</i>	9–27	–
5	fleabane			9–27	
	fleabane	ERIGE2	<i>Erigeron</i>	9–27	–
Shrub/Vine					
6	horsetail			9–27	
	scouringrush horsetail	EQHY	<i>Equisetum hyemale</i>	9–27	–

Animal community

Mule deer, elk, coyote, fox, raven, red tailed hawk, golden eagle, bobcat, nuthatches, finches, gray jay, black bear, tassel eared squirrel, merriams turkey, mourning dove, prarie rattlesnake.

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):**
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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):**
-
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:**
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17. **Perennial plant reproductive capability:**
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