USDA Natural Resources
Conservation Service

Ecological site F030XC001CA
Granitic, Loamy, Lithic Mountain Slopes

Last updated: 4/25/2024
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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

Hills and mountains OR other similar landforms generally greater than 15% slope gradient; Generally above 5575 feet (1700 m) on northern slopes and above 6550 feet (2000 m) southern aspects; colluvium and/or residuum from igneous sources where soil surface cover has less than 25% cobbles, stones and boulders

Please refer to group concept F030XC254NV to view the provisional STM.

Table 1. Dominant plant species

Tree	(1) *Pinus monophylla* (2) *Juniperus osteosperma*
Shrub	(1) *Artemisia tridentata* (2) *Purshia stansburiana*
Herbaceous	(1) *Bouteloua gracilis*

Physiographic features

Climatic features

Influencing water features

Soil features

Ecological dynamics

Please refer to group concept F030XC254NV to view the provisional STM.

Prediction of postfire succession is affected by prefire vegetation and its fire survivability, soil seedbank, immigrating propagules, and postfire precipitation [46,48,49,51]. Succession following fire in a climax pinyon-juniper woodland often proceeds as follows: skeleton forest and bare soil; annual stage (2-3 years); annual-perennial forb stage (3-4 years); perennial forb-grass-half-shrub phase (4-6 years); shrub stage or perennial grass stage; eventual pinyon-juniper climax [4,10,41]. However, Everett and Ward [51] studied 6 burned sites to determine successional pathways, and they concluded that succession starts from multiple points along a hypothetical pathway, and that early postfire communities vary considerably.

Singleleaf pinyon may be present in early to mid-succession, but slow growth and establishment preclude early dominance [69,112].

Summerfield and others [191] found that soils supporting singleleaf pinyon stands in western Nevada commonly had mollic epipedons, argillic horizons, shallow depth to bedrock, mesic temperature regimes, and low available water capacities. These soils are well suited for producing woodlands, but have low potential for forage production. A study in the Great Basin in Nevada found that singleleaf pinyon was absent from sites with hydrothermally altered andesite parent material. Researchers concluded that the absence of singleleaf pinyon was more likely due to the absence of big sagebrush nurse plants than to substrate-induced nutrient limitations, since it was able to grow on this soil in the greenhouse [32,45,177].

State and transition model

Contributors

Alice Miller

Approval

Kendra Moseley, 4/25/2024

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	05/21/2025
Approved by	Kendra Moseley
Approval date	
Composition (Indicators 10 and 12) based on	Annual Production

Indicators

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

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

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

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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):**

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:

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17. **Perennial plant reproductive capability:**
