

Ecological site R012XY025ID Shallow Subalpine 16+ PZ ARART/FEID

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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.

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

Indicators

1. **Number and extent of rills:** Rills: rarely occur on this site due to the stony surface soils.

2. **Presence of water flow patterns:** Water-Flow Patterns: rarely occur on this site. When they do occur they are short and disrupted by cool season grasses, shrubs, and surface stones. They are not extensive.

3. **Number and height of erosional pedestals or terracettes:** Pedestals and/or Terracettes: are rare but can occur on the site especially where flow patterns are present and on slopes greater than 20%.

4. **Bare ground from Ecological Site Description or other studies (rock, litter, lichen, moss, plant canopy are not bare ground):** Bare Ground: ranges from 25-35 percent but additional data is needed.

5. **Number of gullies and erosion associated with gullies:** Gullies: do not occur on this site.

6. **Extent of wind scoured, blowouts and/or depositional areas:** Wind-Scoured, Blowouts, and/or Deposition Areas:

This site is naturally scoured by wind. Surface stones and vegetation protect the soil from additional wind erosion.

7. **Amount of litter movement (describe size and distance expected to travel):** Litter Movement. Fine litter in the interspaces typically moves up to three feet or further. Fine litter can be moved by both wind and water. Coarse litter generally does not move.

8. **Soil surface (top few mm) resistance to erosion (stability values are averages - most sites will show a range of values):** Soil Surface Resistance to Erosion: values should range from 4 to 6 but needs to be tested.

9. **Soil surface structure and SOM content (include type of structure and A-horizon color and thickness):** Soil Surface Loss or Degradation: the A or A1 horizon is typically 1 to 7 inches thick. Structure is weak very fine to fine granular. Soil organic matter (SOM) ranges from 1 to 3 percent.

10. **Effect of community phase composition (relative proportion of different functional groups) and spatial distribution on infiltration and runoff:** Plant Community Composition and Distribution Relative to Infiltration: bunchgrasses and shrubs slow runoff and increase infiltration. Little to no snow accumulation occurs on the site due to winter winds and low growing vegetation.

11. **Presence and thickness of compaction layer (usually none; describe soil profile features which may be mistaken for compaction on this site):** Compaction Layer: not present. Do not mistake an increase in clay content of the subsoil for a compaction layer.

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: Functional/Structural Groups: perennial bunchgrasses> forbs= shrubs.

Sub-dominant:

Other:

Additional:

13. **Amount of plant mortality and decadence (include which functional groups are expected to show mortality or decadence):** Plant Mortality/Decadence: very little mortality or decadence is expected on this site. Mortality of shallow rooted grasses may occur due to extended periods of drought.

14. **Average percent litter cover (%) and depth (in):** Litter Amount: additional data is needed but is expected to be low and at a shallow depth.

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

production): Annual Production: is 400pounds per acre (448 Kg/ha) in a year with normal precipitation and temperatures. Perennial grasses produce 40-50 percent of the total production, forbs 20-30 percent and shrubs 25-35percent.

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:** Invasive Plants: include annual mustards and leafy spurge.
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17. **Perennial plant reproductive capability:** Reproductive Capability of Perennial Plants: all functional groups have the potential to reproduce in normal and favorable years.
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