

Ecological site R028BY040NV BARREN FAN 8-12 P.Z.

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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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Date	03/17/2015
Approved by	
Approval date	
Composition (Indicators 10 and 12) based on	Annual Production

Indicators

- 1. Number and extent of rills:** Rills are none to rare. A few rills can be expected particularly in areas subjected to summer convection storms or rapid spring snowmelt.

- 2. Presence of water flow patterns:** Water flow patterns are none to rare. A few may occur after summer convection storms or rapid snowmelt. These are short (<1m), meandering and not connected.

- 3. Number and height of erosional pedestals or terracettes:** Pedestals are rare and are limited to water flow patterns.

- 4. Bare ground from Ecological Site Description or other studies (rock, litter, lichen, moss, plant canopy are not bare ground):** Bare Ground 50%; surface cover of rock fragments up to 20%

- 5. Number of gullies and erosion associated with gullies:** None

- 6. Extent of wind scoured, blowouts and/or depositional areas:** Minor evidence of wind-scouring with slight depositional mounding at base of shrubs and grasses. This site is subject to severe wind erosion if the vegetative cover is lost.

7. **Amount of litter movement (describe size and distance expected to travel):** Fine litter (foliage from grasses and annual & perennial forbs) expected to move distance of slope length during intense summer convection storms or rapid snowmelt events. Persistent litter (large woody material) will remain in place except during large rainfall events.
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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):** Soil stability values should be 2 to 4 on most soil textures found on this site. Areas of this site occurring on soils that have a vesicular crust will probably have stability values less than 3.
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9. **Soil surface structure and SOM content (include type of structure and A-horizon color and thickness):** Surface structure is typically subangular blocky or fine to medium platy. Soil surface colors are light grays or brownish grays and the soils are typified by an ochric epipedon. Surface textures are gravelly ashy sandy loams or sandy loams. Organic matter of the surface 2 to 3 inches is less than 1 percent.
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10. **Effect of community phase composition (relative proportion of different functional groups) and spatial distribution on infiltration and runoff:** Sparse shrub canopy and associated litter break raindrop impact and provide for some snow capture on site.
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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):** Compacted layers are none. Subangular blocky or prismatic structure or subsurface argillic or calcic horizons should not be mistaken for compaction.
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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: Reference State: Low-statured shrubs (pygmy sagebrush)
- Sub-dominant: deep-rooted, cool season, bunchgrasses > associated shrubs > shallow-rooted, bunchgrasses = deep-rooted, cool season, perennial forbs = fibrous, shallow-rooted, perennial forbs > annual forbs
- Other: microbiotic crusts
- Additional:
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13. **Amount of plant mortality and decadence (include which functional groups are expected to show mortality or decadence):** Dead branches within individual shrubs common and standing dead shrub canopy material may be as much as 35% of total woody canopy; mature bunchgrasses commonly ($\pm 25\%$) have dead centers.
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14. **Average percent litter cover (%) and depth (in):** Between plant interspaces 5-10%; depth <1/4 inch
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15. **Expected annual annual-production (this is TOTAL above-ground annual-production, not just forage annual-production):** For normal or average growing season (February thru June) ± 175 lbs/ac; Favorable years: 250 lbs/ ac; Unfavorable years: 100 lbs/ac

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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: Potential invaders include cheatgrass, Russian thistle, halogeton and annual mustards.
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17. **Perennial plant reproductive capability:** All functional groups should reproduce in average and above average growing season years. Reduced growth and reproduction occur during extreme or extended drought.
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