

## **Ecological site R030XB069NV BASALTIC HILL 5-7 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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Approved by	Kendra Moseley
Approval date	
Composition (Indicators 10 and 12) based on	Annual Production

### **Indicators**

- 1. Number and extent of rills:** Rills none to rare, a few may be expected on steeper slopes and in areas recently subject to intense summer rainfall.  

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- 2. Presence of water flow patterns:** Water flow patterns rare, but may be evident in areas recently subject to intense summer rainfall and on steeper slopes.  

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

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4. **Bare ground from Ecological Site Description or other studies (rock, litter, lichen, moss, plant canopy are not bare ground):** Bare Ground to 15%; surface rock fragments >70%; shrub canopy to 20%; basal area for perennial herbaceous plants <5%.
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5. **Number of gullies and erosion associated with gullies:** None
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6. **Extent of wind scoured, blowouts and/or depositional areas:** None
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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 (<10 ft) during intense summer convection storms or rapid snowmelt events. Persistent litter (large woody material) will remain in place except during catastrophic 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 3 to 6 on most soil textures found on this site. (To be field tested.)
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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 weak, thin platy. Soil surface colors are light and soils are typified by an ochric epipedon. 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, surface rock, and associated litter break raindrop impact.
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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. Platy or massive sub-surface horizons, or subsoil argillic horizons are not to be

interpreted as compacted layers.

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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: low-statured shrubs (winterfat & white bursage)

Sub-dominant: deep-rooted, warm-season, perennial grasses (big galleta & bush muhly) = associated shrubs >> perennial forbs > deep-rooted, cool-season, bunchgrasses (Indian ricegrass) = annual forbs > shallow-rooted perennial grasses

Other: succulents, biological 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%) and depth ( $\pm \frac{1}{4}$ -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 May)  $\pm 400$  lbs/ac; Favorable years  $\pm 500$  lbs/ac and unfavorable years  $\pm 250$  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

on this site include red brome, red-stem filaree, and Mediterranean grass.

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17. **Perennial plant reproductive capability:** All functional groups should reproduce in average and above average growing season years. Little growth or reproduction occurs during extreme or extended drought conditions.
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