

Ecological site R027XY051NV SOUTH SLOPE 8-10 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

- Number and extent of rills:** Rills are none to rare. A few can occur on steeper slopes and most frequently occur in areas subjected to summer convection storms or rapid spring snowmelt.
- Presence of water flow patterns:** Waterflow patterns are none to rare. A few will occur in areas subjected to summer convection storms or rapid spring snowmelt.
- Number and height of erosional pedestals or terracettes:** Pedestals are none to rare and most frequently occur in areas subjected to summer convection storms or rapid spring snowmelt.
- Bare ground from Ecological Site Description or other studies (rock, litter, lichen, moss, plant canopy are not bare ground):** Bare Ground \pm 50-60% depending on amount of surface rock fragments.
- Number of gullies and erosion associated with gullies:** None
- Extent of wind scoured, blowouts and/or depositional areas:** None to slight deposition at base of shrubs on steeper slopes.

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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 storms. 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 4 to 6 on the coarse surface soil textures found on this site.
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9. **Soil surface structure and SOM content (include type of structure and A-horizon color and thickness):** Surface structure is moderate tin to weak medium platy. Soil surface colors are light and soils are typified by an ochric epipedon. Organic matter of the surface 2 to 3 inches is typically less than 1.5 percent dropping off quickly below. Organic matter content can be more or less depending on micro-topography.
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10. **Effect of community phase composition (relative proportion of different functional groups) and spatial distribution on infiltration and runoff:** Perennial herbaceous plants (especially deep-rooted bunchgrasses [i.e., desert needlegrass, Indian ricegrass] slow runoff and increase infiltration. Shrub canopy and associated litter break raindrop impact and provide opportunity for snow catch and accumulation 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):** None
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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: Deep-rooted, cool season, perennial bunchgrasses >> Wyoming big sagebrush > associated shrubs
- Sub-dominant: shallow-rooted, cool-season perennial bunchgrasses > perennial forbs = annual forbs
- Other: After wildfires, perennial bunchgrasses and sprouting shrubs (ephedra, rabbitbrush, horsebrush) will dominate. Big sagebrush will be removed for several years.
- 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 30% of total woody canopy; some of the mature bunchgrasses (to 25%) have dead centers.
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14. **Average percent litter cover (%) and depth (in):** Under canopy and between plant interspaces 15-25%; depth <¼ in
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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 ± 350 lbs/ac; Favorable years ±500 lbs/ac and unfavorable years ±200 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: Cheatgrass, annual mustards, and red-stem filaree are potential invaders on this site.
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17. **Perennial plant reproductive capability:** All functional groups should reproduce in average (or normal) and above average growing season years. Reduced growth and reproduction occur during extreme or extended drought periods.
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