

**Ecological site R025XY004NV**  
**LOAMY SLOPE 16+ 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	06/22/2006
Approved by	Kendra Moseley
Approval date	
Composition (Indicators 10 and 12) based on	Annual Production

**Indicators**

1. **Number and extent of rills:** Rills are typically non-existent.
2. **Presence of water flow patterns:** Water flow patterns are typically non-existent. Water flow patterns (of short length) may rarely be observed on steeper slopes in areas recently subjected to summer convection storms or rapid spring snowmelt.
3. **Number and height of erosional pedestals or terracettes:** Pedestals are none to rare. Occurrence is limited to areas of water flow patterns. Frost heaving of shallow rooted plants should not be considered a "normal" condition.
4. **Bare ground from Ecological Site Description or other studies (rock, litter, lichen, moss, plant canopy are not bare ground):** Bare Ground  $\pm$  25%; surface rock fragments  $\pm$ 25%; shrub canopy 15 to 25%; foliar cover of perennial herbaceous plants  $\pm$  40%.
5. **Number of gullies and erosion associated with gullies:** None
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) is expected to move the 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 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 thin to thick platy, subangular blocky or massive. Soil surface colors are dark and the soils are typified by a thick mollic epipedon. Organic matter of the surface 2 to 4 inches is typically more than 3.5 percent.
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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., Idaho fescue & bluebunch wheatgrass] 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):** Compacted layers are not typical. Platy or massive sub-surface horizons, subsoil argillic horizons or hardpans shallow to the surface are not to be interpreted as compacted.
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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 Plant Community: Deep-rooted, cool season, perennial bunchgrasses = tall shrubs (mountain big sagebrush & mixed mountain browse species). (By above ground production)
- Sub-dominant: Deep-rooted, cool season, perennial forbs > shallow-rooted, cool season, perennial grasses and grass-like plants = fibrous, shallow-rooted, cool season, perennial and annual forbs. (By above ground production)
- Other:
- 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 are common. Standing-dead shrub canopy material  $\pm$  10% of total woody canopy; some of the mature bunchgrasses (<10%) have dead centers.
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14. **Average percent litter cover (%) and depth ( in):** Between plant interspaces ( $\pm$  35%) and litter depth is  $\pm$  ½ 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 (through mid-June)  $\pm$  1800 lbs/ac; Spring moisture significantly

affects total production.

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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, annual mustards, and knapweeds.
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17. **Perennial plant reproductive capability:** All functional groups should reproduce in average (or normal) and above average growing season years.
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