

Ecological site R012XY001ID Limy Gravelly 8-13 PZ ARNO4/PSSPS

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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.

Author(s)/participant(s)	
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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:** A few rills may occur on this site in areas where surface gravels or stones are not present.

2. **Presence of water flow patterns:** Water-flow patterns can occur on this site - particularly where surface gravels or stones are not present in a large enough area to disperse flows. When they do occur, they are short and disrupted by cool season grasses, shrubs and surface stones and gravels. They are not extensive.

3. **Number and height of erosional pedestals or terracettes:** A few pedestals can be expected where rills and water flow patterns are present. They are not extensive. Terracettes are rare.

4. **Bare ground from Ecological Site Description or other studies (rock, litter, lichen, moss, plant canopy are not bare ground):** Bare ground ranges from 10 to 20 percent.

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 depositional areas usually not present in the HCPC.
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7. **Amount of litter movement (describe size and distance expected to travel):** Fine litter in the interspaces typically moves 2 to 3 feet. Coarse litter generally does not move.
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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):** Values should range from 3-5 but need to be tested.
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9. **Soil surface structure and SOM content (include type of structure and A-horizon color and thickness):** Structure ranges from weak or moderate very fine, fine granular, to weak thin or medium platy, to weak or moderate very fine, fine or medium subangular blocky. The A or A1 horizon is typically 2 to 12 inches thick. Soil organic matter (SOM) ranges from 0.5 to 3 percent.
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10. **Effect of community phase composition (relative proportion of different functional groups) and spatial distribution on infiltration and runoff:** Bunchgrasses, especially deep rooted perennial species, slow runoff and increase infiltration. Gravels and stones on surface slow surface runoff and increase infiltration. Medium height shrubs accumulate some snow in the interspaces.
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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):** Compaction layer is not present.
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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: Cool season deep-rooted perennial bunchgrasses> medium shrubs>
- Sub-dominant: Perennial forbs>shallow rooted bunchgrasses
- Other:
- Additional:
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13. **Amount of plant mortality and decadence (include which functional groups are expected to show mortality or decadence):** Very little mortality or decadence is expected on this site. Mortality of shallow rooted grasses may occur due to extended periods of drought.
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14. **Average percent litter cover (%) and depth (in):** Additional data is needed but is expected to be low and at a shallow depth.
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15. **Expected annual annual-production (this is TOTAL above-ground annual-production, not just forage annual-**

production): Annual production is 400 pounds per acre (448 Kg/ha) in a year with normal precipitation and temperatures. Perennial grasses produce 55-65 percent of the total production, forbs 5-15 percent and shrubs 25-35 percent.

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 species includes cheatgrass at lower elevations, clasping pepperweed, beggar ticks, tansymustard, Jim Hill tumblemustard, yellow salsify and halogeton.
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17. **Perennial plant reproductive capability:** All functional groups have the potential to reproduce in normal and favorable years.
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