

Ecological site R010XB027OR JD Clayey 12-16 PZ

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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	Bob Gillaspay
Approval date	
Composition (Indicators 10 and 12) based on	Annual Production

Indicators

- 1. Number and extent of rills:** Typically there are no rills on this site.

- 2. Presence of water flow patterns:** Water flow patterns rarely occur on this site. If they occur, they are rare, narrow, short, and disconnected, disrupted by cool season perennial grasses and shrubs and are not extensive.

- 3. Number and height of erosional pedestals or terracettes:** Pedestals and/or terracettes are not expected to occur on this site. Pedestals may occur on steeper slopes, but they 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 15 - 20%. Bare ground should be small and scattered across the site.

- 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 are rare. Infrequent occasions slight depositional areas might be noticed under shrubs, but this is within the natural range of variability.

7. **Amount of litter movement (describe size and distance expected to travel):** Fine litter in the interspaces may move up to 12 inches following a significant run-off event. Coarse litter generally does not move.

8. **Soil surface (top few mm) resistance to erosion (stability values are averages - most sites will show a range of values):** Interspace: 4 or greater Plant Canopy: 5 or greater

'Soil Stability Test' stability class ratings should be 4 or greater in the interspaces, and 5 or greater under canopy.

9. **Soil surface structure and SOM content (include type of structure and A-horizon color and thickness):** Surface horizon(s) should be 6-10" (roots growing throughout) with a moderate very fine granular structure.

10. **Effect of community phase composition (relative proportion of different functional groups) and spatial distribution on infiltration and runoff:** Deep rooted perennial bunchgrasses and shrubs are distributed evenly to provide moderate ground cover to catch snow, slow runoff, and increase infiltration.

Relative composition is 80% grass, 15% forbs, 5% shrubs and trees.

11. **Presence and thickness of compaction layer (usually none; describe soil profile features which may be mistaken for compaction on this site):** No compaction layers are present on this site.

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: Perennial deep-rooted bunchgrasses: (3 species min)

Sub-dominant: Perennial Shallow-rooted bunchgrasses: (1 species min)

Perennial Forbs: (5 species min)

Other: Minor F/S Group: Shrubs: (2 species min)

Trace F/S Group: Trees: (1 species min) Juniper

Additional: 12a. Relative Dominance:

Community 1.1 = Perennial deep-rooted bunchgrasses Perennial Shallow-rooted bunchgrasses Perennial Forbs Shrubs

Community 1.2 = Perennial deep-rooted bunchgrasses Perennial Shallow-rooted bunchgrasses Perennial Forbs =
Shrubs Trees

12b. F/S Groups not expected for the site: Annual Grass

12c. Number of F/S Groups: 5 groups

12d. Species number in Dominant and Sub-dominant F/S Groups: 9 species

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13. **Amount of plant mortality and decadence (include which functional groups are expected to show mortality or decadence):** A few (less than 3%) dead centers may occur in bunchgrasses. Shrubs may show some dead branches as plants age.
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14. **Average percent litter cover (%) and depth (in):** Plant litter cover is expected to be 10-15% and at a depth of 0.5 inches under shrubs and 0.1 inches under grass canopy. Exotic annual grass excessive litter can negatively impact the functionality of this site.
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15. **Expected annual annual-production (this is TOTAL above-ground annual-production, not just forage annual-production):** Low: 850 lbs/ac, Normal: 1,100 lbs/ac, High 1,450 lbs/ac

Annual production is 1,100 pounds per acre in a year with normal precipitation and temperatures. Low and High production years should yield 850 and 1,100 pounds per acre respectively.

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:** Exotic annual grasses and other exotic forbs/weeds can readily invade this site. Juniper can increase and degrade this site.
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17. **Perennial plant reproductive capability:** All species should be capable of reproducing annually.
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