Ecological site R028BY028NV
SODIC TERRACE 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	P. Novak-Echenique
Approval date	
Composition (Indicators 10 and 12) based on	Annual Production

Indicators

1. **Number and extent of rills:** Rills are rare. A few can be expected on steeper slopes in areas subjected to summer convection storms or rapid spring snowmelt. These will begin to heal during the next growing season.

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2. **Presence of water flow patterns:** Water flow patterns are often numerous in areas subjected to summer convection storms or from run-in from adjacent landscapes. Flow patterns are typically short (<2m) and stable. They are meandering and long (15-20 ft).

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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. Terracettes if present are short and stable.

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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 40-50%

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5. **Number of gullies and erosion associated with gullies:** Gullies are rare but may occur on inset fans or fan skirts and is associated with where run-in enters this site. Gullies and head-cuts should be healing or stable.

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6. **Extent of wind scoured, blowouts and/or depositional areas:** None

7. **Amount of litter movement (describe size and distance expected to travel):** Fine litter (foliage of grasses and annual & perennial forbs) is expected to move the distance of slope length during periods of intense summer convection storms. Persistent litter (large woody material) will remain in place except during unusually severe flooding events.

8. **Soil surface (top few mm) resistance to erosion (stability values are averages - most sites will show a range of values):** Soil stability values will range from 4 to 6.

9. **Soil surface structure and SOM content (include type of structure and A-horizon color and thickness):** Structure of soil surface will be thick platy. Soil surface colors are light grays or pale browns and soils are typified by an ochric epipedon. Surface textures are sandy loams and fine sandy loams Organic carbon is typically less than 1 percent.

10. **Effect of community phase composition (relative proportion of different functional groups) and spatial distribution on infiltration and runoff:** This site may be ponded for very short periods in the late winter and runoff is slow to very slow. In areas with herbaceous cover (although sparse) of deep-rooted perennial bunchgrasses and/or rhizomatous grasses, these plants can increase infiltration.

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. Subangular blocky or massive structure or calcic horizons are normal for this site and are not to be interpreted as compaction.

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 State: Tall shrubs (big sagebrush, black greasewood) >> tall-statured, deep-rooted, cool season, perennial bunchgrasses. (By above ground production)

    Sub-dominant: Moderate-height, deep-rooted, cool season, perennial bunchgrasses > shallow-rooted, cool season, perennial grasses > deep-rooted, cool season, perennial forbs = fibrous, shallow-rooted, cool season, perennial and annual forbs. (By above ground production)

    Other:

    Additional:

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 and standing dead shrub canopy material may be as much as 35% of total woody canopy.

14. **Average percent litter cover (%) and depth (in):** Between plant interspaces 20-30% and depth of litter is ± ¼ inch.

15. **Expected annual annual-production (this is TOTAL above-ground annual-production, not just forage annual-production):** For normal or average growing season (through June) ± 600 lbs/ac; Winter and spring moisture significantly affect total production. Favorable years ± 800 lbs/ac and unfavorable years ± 400 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 include annual mustards, Russian thistle, halogeton, and cheatgrass.

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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 occurs during drought years.
