

## Ecological site R028BY069NV SODIC FLAT 8-10 P.Z.

Accessed: 05/02/2024

### 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  | 02/21/2007                            |
| Approved by                                 | P. Novak-Echenique                    |
| Approval date                               |                                       |
| Composition (Indicators 10 and 12) based on | Annual Production                     |

### Indicators

- Number and extent of rills:** This site is nearly level, thus rills are typically non-existent.
- Presence of water flow patterns:** Water flow patterns are rare to common. Moderately fine to fine surface textures result in limited infiltration rates. Concentrations of surface salts and sodium result in chemical crusts which also impedes infiltration of precipitation. Water flow patterns are typically short and meandering (<3m) and end in depressional areas.
- Number and height of erosional pedestals or terracettes:** Pedestals are none to rare and mainly occur in water flow paths.
- Bare ground from Ecological Site Description or other studies (rock, litter, lichen, moss, plant canopy are not bare ground):** Bare Ground 60-70%
- Number of gullies and erosion associated with gullies:** None
- Extent of wind scoured, blowouts and/or depositional areas:** None to rare. Wind scouring may occur during severe wind events preceding winter storms or summer convection storms.

7. **Amount of litter movement (describe size and distance expected to travel):** Fine litter (foliage of grasses and annual & perennial forbs) only expected to move during periods of flooding by adjacent streams. Persistent litter (large woody material) will remain in place except during major flooding 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 will range from 3 to 6. (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):** Structure of soil surface will be subangular blocky or platy. Soil surface colors are light grays and soils are typified by an ochric epipedon. Surface textures are silt loams and silty clays. Organic carbon can range from about 1 percent to 2.5 percent.
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10. **Effect of community phase composition (relative proportion of different functional groups) and spatial distribution on infiltration and runoff:** "Playette" interspaces between vegetated hummocks have very low infiltration and are ponded for short periods with early spring snow melt (run-in). Tall statured shrubs and associated litter break raindrop impact and provide some opportunity for snow catch and moisture accumulation on the mounds or hummocks that support the majority of vegetation characteristic for this 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 none. Prismatic or massive subsurface structure is normal for this site and is not to be interpreted as compaction.
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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 State: Tall salt-desert shrubs (black greasewood) >> tall-statured, deep-rooted, cool season, perennial bunchgrasses. (By above ground production)
- Sub-dominant: Rhizomatous grasses = associated perennial grasses = deep-rooted, cool season, perennial forbs = fibrous, shallow-rooted, cool season, perennial and annual forbs. (By above ground production)
- Other: Microbiotic crusts
- 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 25% of total woody canopy.
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14. **Average percent litter cover (%) and depth ( in):** Within plant interspaces 15-25% and depth of litter  $\pm \frac{1}{4}$  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 end of May)  $\pm$  600 lbs/ac; Winter moisture significantly

affects total production. Favorable years  $\pm 800$  lbs/ac and unfavorable years  $\pm 400$  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, halogeton, Russian thistle, annual kochia, 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 reproduction occurs during extreme or extended drought periods.
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