

Ecological site R028BY056NV SILT FLAT

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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	09/24/2009
Approved by	Kendra Moseley
Approval date	
Composition (Indicators 10 and 12) based on	Annual Production

Indicators

1. **Number and extent of rills:** This site is nearly flat so rills are not expected.
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2. **Presence of water flow patterns:** Water flow patterns are rare to common dependent on site location relative to major inflow areas. Moderately fine to fine surface textures and physical crusts result in limited infiltration rates. The surface layer will normally crust and bake upon drying, inhibiting water infiltration and seedling emergence. The available water holding capacity is moderate to moderate.
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3. **Number and height of erosional pedestals or terracettes:** Pedestals are none to rare with occurrence limited to flow paths.
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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 \pm 80%.
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5. **Number of gullies and erosion associated with gullies:** There are typically no gullies associated with this site.
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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 of grasses and annual & perennial forbs) expected to move distance of slope length during periods of intense summer convection storms or run in of early spring snow melt flows. Persistent litter (large woody material) will remain in place except during unusual flooding (ponding) 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 is weak thin platy. Soil surface colors are pale browns and soils are typified by an ochric epipedon. Surface textures are silt loams, loams and fine sandy loams. A vesicular crust is common. Organic carbon is typically less than 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:** Shrubs and deep-rooted perennial herbaceous bunchgrasses (i.e., basin wildrye) and/or rhizomatous grasses (western wheatgrass) aid in infiltration. Shrubs and associated litter provide protection from raindrop

impact and offer opportunity for snow capture on this site.

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. Platy or subangular blocky subsurface layers are normal for this site and are 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 evergreen shrubs (Wyoming big sagebrush)

Sub-dominant: shallow-rooted cool season, perennial bunchgrasses (bottlebrush squirreltail & Sandberg bluegrass) > salt-desert low stature shrubs (kochia, shadscale, etc.) > deep-rooted, cool season, perennial bunchgrasses = cool season, rhizomatous grasses = deep-rooted, cool season, perennial forbs = fibrous, shallow-rooted, cool season, perennial and annual forbs

Other: microbial crusts

Additional:

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 35% of total woody canopy.
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14. **Average percent litter cover (%) and depth (in):** Between plant interspaces (15-20%%) and depth ($\pm \frac{1}{4}$ in.)
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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 (thru June) \pm 325 lbs/ac. Favorable years \pm 450 lbs/ac and unfavorable years \pm 150 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, annual kochia, Russian thistle, halogeton, 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. Reduced growth and reproduction occurs during extreme or extended drought periods.
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