

Ecological site R026XY027NV CHURNING CLAY 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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Date	06/20/2006
Approved by	Kendra Moseley
Approval date	
Composition (Indicators 10 and 12) based on	Annual Production

Indicators

- 1. Number and extent of rills:** Rills are rare.

- 2. Presence of water flow patterns:** Water flow patterns are rare.

- 3. Number and height of erosional pedestals or terracettes:** Pedestals formed due to erosion are rare. Pedestals formed due to shrink-swell soil activity are commonly associated with bunch grasses. Frost heaving and shrink-swell soil activity that affects shallow rooted plants are not indicators of soil erosion.

- 4. Bare ground from Ecological Site Description or other studies (rock, litter, lichen, moss, plant canopy are not bare ground):** Bare ground 50 to 65%; surface rock fragments $\pm 15\%$; shrub canopy 15 to 25%; basal area for perennial herbaceous plants about 5%.

- 5. Number of gullies and erosion associated with gullies:** Gullies are none to very rare in areas of this site that occur on stable landforms.

- 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 from grasses and annual & perennial forbs) is expected to move the distance of slope length during intense summer convection storms or rapid snowmelt events. Persistent litter (large woody material) will remain in place except during catastrophic 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 should be 4 to 6 on the heavy clay surface soil textures found on this site. (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):** Surface structure is typically granular at the immediate surface grading to platy or massive below. Soil surface colors are light and soils are typified by an ochric epipedon. Organic carbon of the surface 2 to 3 inches is typically less than 1.5 percent.
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10. **Effect of community phase composition (relative proportion of different functional groups) and spatial distribution on infiltration and runoff:** Runoff is slow to very slow and ponding occurs in many areas. Shallow-rooted perennial grass plants [i.e., bottlebrush squirreltail & Sandberg bluegrass] and perennial forbs having thick tap roots can slow runoff. Infiltration is slow to very slow once the surface soil is wetted. Shrub canopy and associated litter break raindrop impact and provide opportunity for snow catch and accumulation on 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 not typical. Platy or massive sub-surface horizons and heavy clay surface soils are not to be interpreted as compacted layers.
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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 Plant Community: Low stature shrubs (low sagebrush) >> shallow-rooted, cool season, perennial grasses. (By above ground production)
- Sub-dominant: Deep-rooted, cool season, perennial forbs = fibrous, shallow-rooted, cool season, annual and perennial forbs > deep-rooted, cool season, perennial bunchgrasses. (By above ground production)
- Other:
- 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 is somewhat common and standing dead shrub canopy material may be as much as 15% of total woody canopy; some of the mature bunchgrasses (<10%) have dead centers.
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14. **Average percent litter cover (%) and depth (in):** Between plant interspaces (<5%) and litter depth 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 May) \pm 300lbs/ac; Spring moisture significantly affects total production.

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:** Cheatgrass and other annual bromegrasses, medusahead, Russian thistle, and annual mustards are invaders on this site. Douglas rabbitbrush is an increaser on this site.

17. **Perennial plant reproductive capability:** All functional groups should reproduce in average (or normal) and above average growing season years.
