

Ecological site R009XY018ID Meadow

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

Indicators

1. **Number and extent of rills:** Rills do not occur on this site.

2. **Presence of water flow patterns:** Water flows over and through the plant community. Rarely are flows detrimental to the plants. The plants have adapted or evolved with this occurrence.

3. **Number and height of erosional pedestals or terracettes:** Neither occurs on this site. Some plants may be hummocked due to trampling damage.

4. **Bare ground from Ecological Site Description or other studies (rock, litter, lichen, moss, plant canopy are not bare ground):** Data is not available. On sites in mid-seral status bare ground may range from 2-10 percent.

5. **Number of gullies and erosion associated with gullies:** None.

6. **Extent of wind scoured, blowouts and/or depositional areas:** Does not occur.

7. **Amount of litter movement (describe size and distance expected to travel):** Fine litter in the interspaces may move 6 feet or more due to seasonal flooding. Litter accumulates on the surface. There is little or no coarse litter developed on the site, and it will be removed from the site following seasonal flooding.

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

9. **Soil surface structure and SOM content (include type of structure and A-horizon color and thickness):** The A or A1 horizon is typically 2 to 8 inches thick. Structure ranges weak fine granular to strong fine subangular blocky. Soil organic matter (SOM) typically ranges from 1 to 9 percent.

10. **Effect of community phase composition (relative proportion of different functional groups) and spatial distribution on infiltration and runoff:** Deep rooted perennial grasses and sedges slow run-off and increase infiltration. The total vegetation cover should be >60 percent to optimize infiltration. The plant community does not depend on water infiltration alone, but on the water table. The water table controls rooting depth.

11. **Presence and thickness of compaction layer (usually none; describe soil profile features which may be mistaken for compaction on this site):** Is not present. Compaction layers can develop under stock trails made by livestock going to and from water or from long-term repetitive heavy grazing.

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: deep rooted perennial grasses and sedges

Sub-dominant: perennial forbs

Other: shrubs

Additional:

13. **Amount of plant mortality and decadence (include which functional groups are expected to show mortality or decadence):** Normal mortality of grass and grass-likes is slow and occurs as aging plants. This will go unnoticed due to regeneration from roots, seeds, or other new plants filling the spaces.

14. **Average percent litter cover (%) and depth (in):** Additional litter cover data is needed but is expected to be 45-60 percent to a depth of 0.5-1.5 inches. Litter accumulates on the soil surface.

15. **Expected annual annual-production (this is TOTAL above-ground annual-production, not just forage annual-production):** Is 3600 pounds per acre (4032 Kg/ha) in a year with normal precipitation and temperatures. Perennial grasses and sedges produce 80-90 percent of the total production, forbs 5-15 percent, and shrubs 0-10 percent.
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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:** Includes whitetop, Leafy spurge, Dock, Canadian thistle, reed canarygrass, foxtail barley, perennial pepperweed and teasel. Other invasive species may include meadow foxtail, bentgrass, and Kentucky bluegrass.
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17. **Perennial plant reproductive capability:** All functional groups have the potential to reproduce in most years. Many of the plants reproduce vegetatively.
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