USDA Natural Resources
Conservation Service

Ecological site R051XY315CO
Wet Meadow 6-10 PZ

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

Indicators

1. **Number and extent of rills:** None

2. **Presence of water flow patterns:** None

3. **Number and height of erosional pedestals or terracettes:** None

4. **Bare ground from Ecological Site Description or other studies (rock, litter, lichen, moss, plant canopy are not bare ground):** None

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

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

7. **Amount of litter movement (describe size and distance expected to travel):** Litter movement is minimal and short.

8. **Soil surface (top few mm) resistance to erosion (stability values are averages - most sites will show a range of values):** Stability class rating anticipated to be 5-6 in interspaces at soil surface.

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9. **Soil surface structure and SOM content (include type of structure and A-horizon color and thickness):** Surface soils textures range from loam, clay loam and sandy loam in texture. The A-horizon is light gray to brownish gray that can extend to 8 inches deep. The structure is typically weak or moderate fine granular structure

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10. **Effect of community phase composition (relative proportion of different functional groups) and spatial distribution on infiltration and runoff:** Diverse grass, forb, shrub functional/structural groups and diverse root structure/patterns reduces raindrop impact slows overland flow providing increased time for infiltration to occur.

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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):** None

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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: warm season bunchgrass >

    Sub-dominant: warm season rhizomatous > cool season rhizomatous >

    Other: forbs > shrubs

    Additional:

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13. **Amount of plant mortality and decadence (include which functional groups are expected to show mortality or decadence):** Minimum. Expect some natural mortality and decadence on grasses/sedges where excluded from grazing animals or wildfire.

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14. **Average percent litter cover (%) and depth (in):** 60-75% litter cover at 1.0-3.0 inch depth.

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15. **Expected annual annual-production (this is TOTAL above-ground annual-production, not just forage annual-production):** 2000 lbs./ac. low precip years; 2500 lbs./ac. average precip years; 3000 lbs./ac. above average precip years. After extended drought, production will be significantly reduced to 400 – 800 lbs./ac. or more.

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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:** None

17. **Perennial plant reproductive capability:** The only limitations are weather-related, natural disease, inter-species competition, wildlife, and insects that may temporarily reduce reproductive capability.