

Ecological site R036XY038CO Wet 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.

Author(s)/participant(s)	Written by Suzanne Mayne-Kinney on 08/17/2017.
Contact for lead author	
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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:** No rills should be present. A very slight amount of rill development may be observed following large storm events or spring runoff periods, but they should heal within the following growing season.
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2. **Presence of water flow patterns:** None to Rare. Any flow patterns present should be sinuous and wind around perennial plant bases. They should be stable with only minor evidence of deposition. This site is periodically inundated with runoff water from adjacent sites. It also acts as a filter and trap sediment.

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3. **Number and height of erosional pedestals or terracettes:** None. A few plants may show very minor pedestalling where they are adjacent to any water flow patterns present, but there will be no exposed roots. Terracettes are not present.
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4. **Bare ground from Ecological Site Description or other studies (rock, litter, lichen, moss, plant canopy are not bare ground):** Expect < 5% bare ground on wetter areas and 10-15% bare ground on drier edges/areas. Extended drought can cause bareground to increase.
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5. **Number of gullies and erosion associated with gullies:** None to rare. Due to off-site influence. If present, edges rounded and vegetated.
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6. **Extent of wind scoured, blowouts and/or depositional areas:** None. No evidence of soil movement by wind. Wind scoured (blowouts) and depositional areas are not present.
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7. **Amount of litter movement (describe size and distance expected to travel):** Typically slight. The majority of litter accumulates in place at the base of plant canopies. However during major flooding events this site slows water flow and captures litter and sediment.
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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):** Stability class rating anticipated to be 4-5 at soil surface.
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9. **Soil surface structure and SOM content (include type of structure and A-horizon color and thickness):** Soils are typically deep and poorly drained. Surface texture ranges from fine sandy loams to clay loams with weak fine to moderate medium granular structure, moderate fine subangular blocky structure or weak thick platy structure. The A-horizon can be up to 8 inches or more deep. Obvious mottled.
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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, sedge/rush, shrub and forb functional/structural groups and diverse root structure/patterns reduces raindrop impact slows overland flow providing increased time for infiltration to occur. However, the high water table inherent to this site has more effect on infiltration than does plant community. The amount of sodium in the soil can affect infiltration and facilitate water accumulation on the surface.

11. **Presence and thickness of compaction layer (usually none; describe soil profile features which may be mistaken for compaction on this site):** None. This site will normally have textural changes within the profile. These should not be mistaken for compaction 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: cool season rhizomatous grass >> cool season bunchgrass >

Sub-dominant: sedges/rushes >

Other: forbs > shrubs

Additional:

13. **Amount of plant mortality and decadence (include which functional groups are expected to show mortality or decadence):** Minimal. Decadence and mortality may occur due to drought and lack of disturbance.
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14. **Average percent litter cover (%) and depth (in):** 40-60% litter cover and ranges from 0.50 to 1.0 inches in depth. Litter cover declines during and following extended drought.
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15. **Expected annual annual-production (this is TOTAL above-ground annual-production, not just forage annual-production):** 1500 lbs./ac. low precip years; 2000 lbs./ac. average precip years; 2500 lbs./ac. above average precip years. After extended drought, production may be reduced by 350 – 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: Kentucky bluegrass, dandelion, Canada thistle, mustards, and other weeds. Big sagebrush and rabbitbrush can invade edges of swale due to water table fluctuations.
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17. **Perennial plant reproductive capability:** The only limitations are weather-related, wildfire, natural disease, inter-species competition, wildlife, and insects that may temporarily reduce reproductive capability.
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