

Ecological site R048AY243CO Swale 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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Date	01/20/2005
Approved by	Kirt Walstad
Approval date	
Composition (Indicators 10 and 12) based on	Annual Production

Indicators

1. **Number and extent of rills:** None
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2. **Presence of water flow patterns:** None
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3. **Number and height of erosional pedestals or terracettes:** None
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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 bare ground 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
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7. **Amount of litter movement (describe size and distance expected to travel):** Typically slight, 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 5-6 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 a weak fine granular structure. The A-horizon can be up to 20 inches or more deep. Color varies from light brownish gray to light gray. 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, and forb 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: cool season rhizomatous grass >
- Sub-dominant: cool season bunchgrass > sedges/rushes > forbs
- Other:
- Additional:
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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 follo
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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, Canada thistle and other noxious weeds. Big sagebrush and rabbitbrush can invade edges of swale due to water table fluctuations.

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