

Ecological site R035XH821AZ Meadow 17-25" 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 | 10/27/2010 |
| Approved by | Steve Barker |
| Approval date | |
| Composition (Indicators 10 and 12) based on | Annual Production |

Indicators

- Number and extent of rills:** None. Very minor rill development may occur in sparsely vegetated areas or steeper slopes. If rills are present, they should be widely spaced and not connected (<3% cover).
- Presence of water flow patterns:** None. Site is typically nearly level, water flow patterns are not expected to form.
- Number and height of erosional pedestals or terracettes:** None are expected.
- Bare ground from Ecological Site Description or other studies (rock, litter, lichen, moss, plant canopy are not bare ground):** 1 to 15% bare ground. Litter and other ground cover will fill most plant interspaces.
- Number of gullies and erosion associated with gullies:** None expected. However, some gullies can occur near disturbed areas such as road crossings, animal trails and near drainage outlets from adjacent slopes or uplands.
- Extent of wind scoured, blowouts and/or depositional areas:** None
- Amount of litter movement (describe size and distance expected to travel):** The majority of fine litter will stay in

place, while a few small fines (<1/8") may accumulate in small depressions adjacent to plants.

8. **Soil surface (top few mm) resistance to erosion (stability values are averages - most sites will show a range of values):** Soil surface is moderately stable and would give high values of 5 or 6, due to high clay content and organic matter.
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9. **Soil surface structure and SOM content (include type of structure and A-horizon color and thickness):** Soil surface horizon is typically 5 to 7 inches deep. Structure is typically weak fine or medium granular structure. Some pedons will have a weak thick platy structure parting to moderate granular structure. Color is typically black (10YR 2/1), but will range from 7.5YR to 10YR. Surface textures include loam and silt loam.
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10. **Effect of community phase composition (relative proportion of different functional groups) and spatial distribution on infiltration and runoff:** Perennial cool season grasses and grasslikes when dominant improve soil infiltration and reduce runoff. Grasses/grasslikes comprise about 85% of plant composition, 10-15% perennial forbs and a trace of shrubs. Spatial distribution of vascular plants (fetch 1") and interspaces provide detention storage and surface roughness that slows runoff allowing time for infiltration. Since site is nearly level and well covered (canopy 50-75%), infiltration is moderate and runoff very low.
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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. Subsurface soil horizons may have a higher clay content and appear harder than the surface and should not be considered as 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 perennial grasses

Sub-dominant: sedges and rushes > perennial forbs

Other: (0-3%) annual forbs > shrubs

Additional:

13. **Amount of plant mortality and decadence (include which functional groups are expected to show mortality or decadence):** Low mortality in perennial grasses & grasslikes, due to consistent moisture.
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14. **Average percent litter cover (%) and depth (in):** Litter amounts increase during the first few years of drought, then decrease in later years.
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15. **Expected annual annual-production (this is TOTAL above-ground annual-production, not just forage annual-production):** Average annual production on this site is expected to be 1400-1600 lbs/ac. in a year of average annual precipitation.

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: Wild mint, foxtail barley, Douglas knotweed, and cheatgrass.

17. **Perennial plant reproductive capability:** All plants native to this site are adapted to the climate and are capable of producing seeds, stolons and rhizomes except during the most severe droughts.
