

Ecological site R058DY004SD Wet Meadow

Accessed: 04/20/2024

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) | Stan Boltz |
| Contact for lead author | stanley.boltz@sd.usda.gov, 605-352-1236 |
| Date | 05/07/2010 |
| Approved by | Stan Boltz |
| 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):** 0 to 5 percent is typical. During periods of above average precipitation and run-on, this site may be ponded for longer than normal durations, and typical vegetation may be temporarily reduced, creating areas of bare ground for relatively short periods of time.

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 falls in place.

-
8. **Soil surface (top few mm) resistance to erosion (stability values are averages - most sites will show a range of values):** Soil aggregate stability ratings should typically be 5 to 6, normally 6. Surface organic matter adheres to the soil surface. Soil surface fragments will typically retain structure indefinitely when dipped in distilled water.
-
9. **Soil surface structure and SOM content (include type of structure and A-horizon color and thickness):** The dark surface horizons should be 12 to 30 inches thick with mollic (dark) colors when moist. Structure typically is medium to fine granular in the upper horizon.
-
10. **Effect of community phase composition (relative proportion of different functional groups) and spatial distribution on infiltration and runoff:** Deep rooted species (tall rhizomatous cool- and warm-season grasses and grass-likes) with fine and coarse roots positively influences infiltration. Infiltration is somewhat limited naturally due to poor drainage and relatively low permeability.
-
11. **Presence and thickness of compaction layer (usually none; describe soil profile features which may be mistaken for compaction on this site):** None – when dry, B horizons can be hard and appear to be compacted, but no platy structure will be present.
-
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: Tall warm-season grasses = Grass-likes >
- Sub-dominant: Mid/tall cool-season grasses >
- Other: Forbs
- Additional: Due to differing root structure and distribution, Kentucky bluegrass and smooth brome grass do not fit into reference plant community F/S groups. Other F/S groups may occur in minor amounts.
-
13. **Amount of plant mortality and decadence (include which functional groups are expected to show mortality or decadence):** Little evidence of decadence or mortality.
-
14. **Average percent litter cover (%) and depth (in):**
-
15. **Expected annual annual-production (this is TOTAL above-ground annual-production, not just forage annual-production):** Production ranges from 4,000 to 5,000 pounds per acre (air-dry weight), with the reference value being 4,500 pounds per acre (air-dry weight).
-
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: State and local noxious weeds; Kentucky bluegrass may be prevalent during dry cycles, but will typically not dominate the site. Most invasive species will occupy the perimeter of this site.

17. **Perennial plant reproductive capability:** All species exhibit high vigor relative to climatic conditions. Do not rate based solely on seed production. Perennial grasses and grass-like should have vigorous rhizomes or tillers.
-