Ecological site EX043B23C130
Overflow (Ov) Absaroka Subalpine Zone

Last updated: 10/04/2019
Accessed: 10/12/2024

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.

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Date	03/16/2007
Approved by	E. Bainter
Approval date	
Composition (Indicators 10 and 12) based on	Annual Production

Indicators

1. **Number and extent of rills:** Rare to nonexistent.

2. **Presence of water flow patterns:** Water flow patterns sometimes evident in ephemeral floodplain zone where this site occurs.

3. **Number and height of erosional pedestals or terracettes:** Rare to nonexistent.

4. **Bare ground from Ecological Site Description or other studies (rock, litter, lichen, moss, plant canopy are not bare ground):** Bare ground is less than 5%.

5. **Number of gullies and erosion associated with gullies:** Active gullies should not be present.

6. **Extent of wind scoured, blowouts and/or depositional areas:** Minimal to nonexistent.

7. **Amount of litter movement (describe size and distance expected to travel):** Herbaceous litter expected to move in

water flow patterns.

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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):** Soil Stability Index ratings range from 3 (interspaces) to 6 (under plant canopy), but average values should be 4.0 or greater.

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9. **Soil surface structure and SOM content (include type of structure and A-horizon color and thickness):** Soil data is limited for this site. Soil OM of 10-16% is expected.

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10. **Effect of community phase composition (relative proportion of different functional groups) and spatial distribution on infiltration and runoff:** Plant community consists of 65-80% grasses, 20% forbs, and 0-15% shrubs. Dense plant canopy (75-95%) and litter plus moderate infiltration rates result in minimal runoff. Basal cover is typically greater than 5% for this site and effectively reduces runoff on this site.

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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):** No compaction layer exists.

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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: mid-size, cool season bunchgrasses

    Sub-dominant: perennial forbs perennial shrubs tall, cool season bunchgrasses

    Other: cool season rhizomatous grasses = short, cool season bunchgrasses

    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, typically associated with shrub component.

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14. **Average percent litter cover (%) and depth (in):** Litter ranges from 1-20% of total canopy measurement with total litter (including beneath the plant canopy) from 80-95% expected. Herbaceous litter depth typically ranges from 15-30 mm. Woody litter can be up to several inches (>8 cm).

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15. **Expected annual annual-production (this is TOTAL above-ground annual-production, not just forage annual-production):** English: 2500-4000 lb/ac (3500 lb/ac average); Metric: 2800-4480 kg/ha (3920 kg/ha average).

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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: Bare ground greater than 20%, noxious weed invasion, and/or presence of Kentucky bluegrass are the most common indicators of a threshold being crossed. Rabbitbrush, mountain silver sagebrush, Sandberg bluegrass, rhizomatous wheatgrass, and snowberry are common increasers. Common dandelion, thistles, and Kentucky bluegrass are common invasive species on disturbed sites.

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17. **Perennial plant reproductive capability:** All species are capable of reproducing, except in drought years.