

## Ecological site EX044B01B040 Loamy Steep (LoStp) LRU 01 Subset B

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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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Approved by	Kirt Walstad
Approval date	
Composition (Indicators 10 and 12) based on	Annual Production

### Indicators

- 1. Number and extent of rills:** Rills are not present in the reference condition on slopes less than 20%, if present will be short and inconspicuous on the steepest southerly facing slopes.

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- 2. Presence of water flow patterns:** Water flow patterns are rare in the reference condition but may be present on the steeper, south facing slopes (>25%) when runoff exceeds infiltration. These patterns will be short and infrequent across the landscape.

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- 3. Number and height of erosional pedestals or terracettes:** Pedestals are rarely evident in the reference condition, if present will be on slopes greater than 25% and associated with waterflow patterns.

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- 4. Bare ground from Ecological Site Description or other studies (rock, litter, lichen, moss, plant canopy are not bare ground):** Bare ground is low (10-15 percent). It consists of randomly scattered patches.

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- 5. Number of gullies and erosion associated with gullies:** Gullies are not present in the reference condition.

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- 6. Extent of wind scoured, blowouts and/or depositional areas:** Wind scoured, or depositional areas are not evident to extremely rare in the reference condition.

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7. **Amount of litter movement (describe size and distance expected to travel):** Litter movement is minimal in the reference condition. Litter movement is less than 1 ft.
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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):** The average soil stability rating is 4-6 under plant canopies and 3-6 in plant interspaces. The A horizon is 4-6 inches thick.
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9. **Soil surface structure and SOM content (include type of structure and A-horizon color and thickness):** Soil Structure at the surface is typically weak fine to medium fine granular. A Horizon should be 4-6 inches thick with color, when wet, Value of 3 or less and Chroma of 3 or less. Local geology may affect color in which it is important to reference the Official Series Description (OSD) for characteristic range <https://soilseries.sc.egov.usda.gov/osdname.aspx>
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10. **Effect of community phase composition (relative proportion of different functional groups) and spatial distribution on infiltration and runoff:**
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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):** Evenly distributed across the site, bunchgrasses improve infiltration while rhizomatous grass protects the surface from runoff forces. Infiltration of the Loamy ecological site is well drained but has a slow infiltration rate. An even distribution of mid stature grasses, ~60-70% of site production, cool season rhizomatous grasses 10-15% of site production along with a mix of shortgrass, forbs and shrubs (10-20%).
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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:
- Sub-dominant:
- Other:
- Additional:
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13. **Amount of plant mortality and decadence (include which functional groups are expected to show mortality or decadence):**
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14. **Average percent litter cover (%) and depth ( in):**
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15. **Expected annual annual-production (this is TOTAL above-ground annual-production, not just forage annual-production):**

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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:**

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17. **Perennial plant reproductive capability:**

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