

Ecological site R012XY011ID Alluvial Bottom 8-13 PZ ARTRT/ELLAL-LECI4

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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.

Author(s)/participant(s)	
Contact for lead author	USDA/Natural Resources Conservation Service Brendan Brazee, State Range Conservationist 9173 W. Barnes Drive, Suite C Boise, ID 83709 (208) 378-5722
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Approved by	Kendra Moseley
Approval date	
Composition (Indicators 10 and 12) based on	Annual Production

Indicators

1. **Number and extent of rills:** They are not common on this site. If the site is degrading due to gully down-cutting, rills may occur on the side slopes of the gully.

2. **Presence of water flow patterns:** They are common on this site. When they occur, they are long - often running the length of the site and disrupted by cool season grasses and tall shrubs. Water flow patterns are also common from run-in from the adjacent uplands.

3. **Number and height of erosional pedestals or terracettes:** Pedestals are rare on this site. Terracettes are also rare.

4. **Bare ground from Ecological Site Description or other studies (rock, litter, lichen, moss, plant canopy are not bare ground):** Data is not available. On sites in mid-seral status, bare ground may range from 40-60 percent.

5. **Number of gullies and erosion associated with gullies:** No active gullies on the site. Gullies can form on the site and reduce the potential of the site.

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6. **Extent of wind scoured, blowouts and/or depositional areas:** Blowouts and depositional areas are usually not present. Immediately following wildfire, some soil movement may occur on lighter textured soils.
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7. **Amount of litter movement (describe size and distance expected to travel):** Fine litter in the interspaces may move 6 feet or more following a significant run-off event. Coarse litter generally does not move except when overland flow occurs.
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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):** Values should range from 4 to 6 but need to be tested.
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9. **Soil surface structure and SOM content (include type of structure and A-horizon color and thickness):** The A or A1 horizon is typically 2 to 12 inches thick. Structure ranges from weak and moderate very fine, fine and medium granular to weak thin and medium platy to moderate very fine and fine subangular blocky. Soil organic matter (SOM) ranges from 1 to 4 percent.
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10. **Effect of community phase composition (relative proportion of different functional groups) and spatial distribution on infiltration and runoff:** Especially deep-rooted bunchgrasses and sod-forming grasses slow run-off and increase infiltration. Tall shrubs accumulate snow in the interspaces.
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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):** Compaction layer is not present.
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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: Sod-forming grasses >cool season deep rooted perennial bunchgrasses>tall shrubs>
- Sub-dominant: Perennial forbs>shallow rooted bunchgrasses
- Other:
- Additional:
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13. **Amount of plant mortality and decadence (include which functional groups are expected to show mortality or decadence):** Basin wildrye, sod-forming grasses, basin big sagebrush and antelope bitterbrush, when present, will become decadent in the absence of fire and ungulate grazing. Grass and forb mortality will occur as tall shrubs increase.
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14. **Average percent litter cover (%) and depth (in):** Additional litter cover data is needed, but is expected to be 20-25 percent to a depth of 0.2 inches. Under mature shrubs and basin wildrye, litter is >0.5 inches deep and is 90-100 percent ground cover.

15. **Expected annual annual-production (this is TOTAL above-ground annual-production, not just forage annual-production):** Annual production is 600 pounds per acre (673 Kg/ha) in a year with normal precipitation and temperatures. **** (This production seems low and needs to be verified in field.) **** Perennial grasses produce 50-60 percent of the total production, forbs 8-12 percent and shrubs 30-40 percent.

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:** Potential invasive species include cheatgrass, bulbous bluegrass, leafy spurge, whitetop, annual kochia, annual mustards, Russian thistle, halogeton, prickly pear cactus, rush skeletonweed, Canada, musk and scotch thistle and diffuse and spotted knapweed.

17. **Perennial plant reproductive capability:** In all functional groups, there is the potential to reproduce in most years.
