USDA Natural Resources
Conservation Service

Ecological site R011XY018OR
Shallow Loam 8-11 PZ

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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)	Bob Gillaspy
Contact for lead author	State Rangeland Management Specialist for NRCS Oregon
Date	11/17/2016
Approved by	Bob Gillaspy
Approval date	
Composition (Indicators 10 and 12) based on	Annual Production

Indicators

1. **Number and extent of rills:** None, moderate sheet & rill erosion hazard.

2. **Presence of water flow patterns:** None, except following high intensity storms when short (less than 1 meter) flow patterns may appear on steeper slopes. Minimal evidence of past or current soil deposition or erosion.

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):** 10-30% bare ground. Typically bare patches are associated with shrubs. Larger bare patches maybe associated with ant mounds, rodent, and/or other natural disturbances.

5. **Number of gullies and erosion associated with gullies:** None.

6. **Extent of wind scoured, blowouts and/or depositional areas:** None. Wind erosion hazard is slight to moderate.

7. **Amount of litter movement (describe size and distance expected to travel):** Litter size is Small/Fine. Litter

movement is limited, minimal, and short, associated with water flow patterns following extremely high intensity storms. Litter also may be moved during intense wind storms.

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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):** Site is Moderately resistant to erosion. Stability class (Herrick et al. 2001) anticipated to be 3-6 at surface under perennial vegetation. Stability class at surface in the interspaces is anticipated to be less than or equal to that under perennial vegetation.

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9. **Soil surface structure and SOM content (include type of structure and A-horizon color and thickness):** Surface layer structure is weak medium platy. The A horizon has a dry color of 6 and is 8 - 12 inches thick. The Soil Organic Matter (SOM) content is low (0.5 to 2.0%).

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10. **Effect of community phase composition (relative proportion of different functional groups) and spatial distribution on infiltration and runoff:** Plant foliar cover and basal cover with moderate to large gaps between plants should slightly reduce raindrop impact and slow overland flow, providing some increased time for infiltration to occur. Low herbaceous vegetation on this site will retain some water from precipitation. Low ground cover (50-55%) and gentle slopes (0-12%) slightly to moderately limit rainfall impact and overland flow.

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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.

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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: Deep rooted bunchgrasses

    Sub-dominant: Evergreen shrubs

    Other: Perennial forbs >= shallow rooted bunchgrasses

    Additional:

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13. **Amount of plant mortality and decadence (include which functional groups are expected to show mortality or decadence):** Grasses will nearly always show some mortality and decadence. Normal decadence and mortality expected on other plants.

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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):** Low 300 lbs/acre, Representative Value 500 lbs/acre, High 700 lbs/acre

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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:** Annuals (Cheatgrass, Medusahead, and forbs) invade sites that have lost deep rooted perennial grass functional groups.

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17. **Perennial plant reproductive capability:** All species should be capable of reproducing annually.
