

Ecological site R010XC021OR SR Clayey 9-12 PZ

Accessed: 05/11/2025

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)	James A. Cornwell, State Rangeland Management Specialist, NRCS, Idaho (Retired); Lee Brooks, Assistant State Conservationist, NRCS, Idaho (Retired).
Contact for lead author	State Rangeland Management Specialist for NRCS – Oregon
Date	09/10/2009
Approved by	Bob Gillaspay
Approval date	
Composition (Indicators 10 and 12) based on	Annual Production

Indicators

- Number and extent of rills:** None. Moderate sheet and rill erosion hazard.

- Presence of water flow patterns:** None.

- Number and height of erosional pedestals or terracettes:** None.

- Bare ground from Ecological Site Description or other studies (rock, litter, lichen, moss, plant canopy are not bare ground):** 30-40%.

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

- Extent of wind scoured, blowouts and/or depositional areas:** None.

- Amount of litter movement (describe size and distance expected to travel):** Fine. Limited movement, typically < two feet.

-
8. **Soil surface (top few mm) resistance to erosion (stability values are averages - most sites will show a range of values):** Moderately resistant to erosion. Aggregate stability 3-5.
-
9. **Soil surface structure and SOM content (include type of structure and A-horizon color and thickness):** Structure ranges from weak to strong very thin platy and platy structure. SOM is 0.5 to 2.0 percent.
-
10. **Effect of community phase composition (relative proportion of different functional groups) and spatial distribution on infiltration and runoff:** Significant ground cover and gentle slopes (2-20%) limit rainfall impact and overland flow.
-
11. **Presence and thickness of compaction layer (usually none; describe soil profile features which may be mistaken for compaction on this site):** None. Deeper soils on this site have a duripan or cemented hardpan between 20-30 inches.
-
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, perennial, cool-season bunchgrasses >>
- Sub-dominant: Shallow-rooted, perennial, cool-season bunchgrasses >
- Other: Tall shrubs > Forbs
- Additional:
-
13. **Amount of plant mortality and decadence (include which functional groups are expected to show mortality or decadence):** Big sagebrush will become decadent in the absence of normal fire frequency and ungulate grazing. Grass and forb mortality will occur as tall shrubs increase. Normal decadence would be expected in the bluebunch wheatgrass. This would be evidenced by the dead centers in the plants.
-
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):** Favorable: 1400; Normal: 1000; Unfavorable: 600 lbs/ac/yr
-
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: cheatgrass, medusahead, dalmation toadflax, Russian, diffuse and spotted knapweed

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