

Ecological site R009XY016ID Loamy 22+ PZ FEID-PSSPS

Last updated: 9/23/2020

Accessed: 05/20/2025

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)	Dave Franzen and Jacy Gibbs Intermountain Range Consultants 17700 Fargo Rd. Wilder, ID 83676
Contact for lead author	Brendan Brazee, State Rangeland Management Specialist USDA- NRCS 9173 W. Barnes Drive, Suite C, Boise, ID 83709
Date	04/16/2009
Approved by	Kendra Moseley
Approval date	
Composition (Indicators 10 and 12) based on	Annual Production

Indicators

1. **Number and extent of rills:** Rills are rare on this site. If rills are present they are likely to occur immediately following wildfire. Rills are most likely to occur on soils with surface textures of silt loam on slopes greater than 15%.
-
2. **Presence of water flow patterns:** Water-flow patterns are rare on this site. When they occur, they are short and disrupted by cool season grasses, tall shrubs, and the occasional surface stone. They are not extensive.

-
3. **Number and height of erosional pedestals or terracettes:** Both are rare on this site. In areas where flow patterns and/or rills are present, a few pedestals may be expected.
-
4. **Bare ground from Ecological Site Description or other studies (rock, litter, lichen, moss, plant canopy are not bare ground):** It may range from 10-20 percent but additional data is needed.
-
5. **Number of gullies and erosion associated with gullies:** Gullies do not occur on this site.
-
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.
-
7. **Amount of litter movement (describe size and distance expected to travel):** Fine litter in the interspaces may move up to 2 feet following a significant run-off event. Coarse litter generally does not move.
-
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 needs to be tested.
-
9. **Soil surface structure and SOM content (include type of structure and A-horizon color and thickness):** Structure ranges from moderate fine & very fine granular to moderate thin & medium platy. Soil organic matter (SOM) ranges from 3 to 6 percent. The A or A1 horizon is typically 4 to 6 inches thick and moist color is Black.
-
10. **Effect of community phase composition (relative proportion of different functional groups) and spatial distribution on infiltration and runoff:** Bunchgrasses, especially deep-rooted perennials, slow run-off and increase infiltration. Tall shrubs catch blowing snow

in the interspaces.

11. **Presence and thickness of compaction layer (usually none; describe soil profile features which may be mistaken for compaction on this site):** Is not present.
-

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: cool season deep-rooted perennial bunchgrasses

Sub-dominant: perennial forbs

Other: tall shrubs

Additional:

13. **Amount of plant mortality and decadence (include which functional groups are expected to show mortality or decadence):** Very little plant mortality and decadence is expected to occur on this site.
-

14. **Average percent litter cover (%) and depth (in):** Additional litter cover data is needed but is expected to be 15-30 percent to a depth of 0.1 inches. Under mature shrubs 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):** Is 2500 pounds per acre (2800 kilograms per hectare) in a year with normal temperatures and precipitation. Perennial grasses produce 65-75 percent of the total production, forbs 15-25 percent and shrubs 5-15 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: Includes cheatgrass, medusahead, ventenata, Kentucky bluegrass, curlycup gumweed, St. Johnswort, leafy spurge, rush skeletonweed, dalmation toadflax, musk, yellow star and scotch thistle, and diffuse and spotted knapweed.

17. **Perennial plant reproductive capability:** All functional groups have the potential to reproduce in most years.
-