

## **Ecological site R013XY011ID Windswept Ridge 12-20 PZ ARNO4/PSSPS**

Last updated: 2/13/2025  
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)	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	05/13/2008
Approved by	Kirt Walstad
Approval date	
Composition (Indicators 10 and 12) based on	Annual Production

### **Indicators**

1. **Number and extent of rills:** rills rarely occur on this site due to the gravelly and stony surface soils.  

---
2. **Presence of water flow patterns:** water-flow patterns rarely occur on this site. When they do occur they are short and disrupted by cool season grasses, shrubs, and surface stones. They are not extensive.  

---
3. **Number and height of erosional pedestals or terracettes:** pedestals are rare but can occur on the site especially where flow patterns are present and on slopes greater than 20%. Terracettes are minor and develop from raveling and mass movement above perennial grasses and surface stones.  

---
4. **Bare ground from Ecological Site Description or other studies (rock, litter, lichen, moss, plant canopy are not bare ground):** it ranges from 20-35 percent but additional data is needed.  

---
5. **Number of gullies and erosion associated with gullies:** does not occur on this site.  

---

6. **Extent of wind scoured, blowouts and/or depositional areas:** this site is naturally scoured by wind. Surface stones and vegetation protect the soil from additional wind erosion.
- 
7. **Amount of litter movement (describe size and distance expected to travel):** fine litter in the interspaces typically moves up to three feet or further. Fine litter can be moved by both wind and water. 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 weak, moderate and strong fine granular. Soil organic matter (SOM) ranges from 1 to 4 percent. Surface color is usually very dark grayish brown to dark brown. The A or A1 horizon is typically 3 to 8 inches thick.
- 
10. **Effect of community phase composition (relative proportion of different functional groups) and spatial distribution on infiltration and runoff:** bunchgrasses and shrubs slow runoff and increase infiltration. Little to no snow accumulation occurs on the site due to winter winds.
- 
11. **Presence and thickness of compaction layer (usually none; describe soil profile features which may be mistaken for compaction on this site):** not present. Do not mistake an increase in clay content of the subsoil for a compaction layer.
- 
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: low gathering shrubs
- Sub-dominant: perennial bunchgrasses
- Other: perennial forbs
- Additional:
- 
13. **Amount of plant mortality and decadence (include which functional groups are expected to show mortality or decadence):** very little mortality or decadence is expected on this site. Mortality of shallow rooted grasses may occur due to extended periods of drought.
- 
14. **Average percent litter cover (%) and depth ( in):** additional data is needed but is expected to be low and at a shallow depth.
- 
15. **Expected annual annual-production (this is TOTAL above-ground annual-production, not just forage annual-**

**production):** is 650 pounds per acre (730 Kg/ha) in a year with normal precipitation and temperatures. Perennial grasses produce 20-40 percent of the total production, forbs 25-35 percent, and shrubs 35-45 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, annual mustards, and leafy spurge.
- 

17. **Perennial plant reproductive capability:** all functional groups have the potential to reproduce in normal and favorable years.
-