

## Ecological site R053CY014SD Shallow To Gravel

Last updated: 1/22/2024  
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)	Stan Boltz, Mitch Faulkner, Shane Deranleau
Contact for lead author	Stan Boltz, stanley.boltz@sd.usda.gov, 605-352-1236
Date	03/15/2011
Approved by	Suzanne Mayne-Kinney
Approval date	
Composition (Indicators 10 and 12) based on	Annual Production

### Indicators

1. **Number and extent of rills:** Rills should not be present.  

---
2. **Presence of water flow patterns:** Typically not observable.  

---
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):** Bare ground 5 to 15 percent and pathces less than two inches in diameter.  

---
5. **Number of gullies and erosion associated with gullies:** Active gullies should not be present.  

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

---
7. **Amount of litter movement (describe size and distance expected to travel):** Little to no plant litter movement. Plant litter remains in place and is not moved by erosional forces.

- 
8. **Soil surface (top few mm) resistance to erosion (stability values are averages - most sites will show a range of values):** Soil aggregate stability normally a 5 to 6 rating. Typically high root content and organic matter in the soil surface. Soil surface is very resistant to erosion.
- 
9. **Soil surface structure and SOM content (include type of structure and A-horizon color and thickness):** Soil surface structure is medium subangular blocky parting to fine subangular blocky or granular, and mollic (higher organic matter) colors of A-horizon down to about 6 inches.
- 
10. **Effect of community phase composition (relative proportion of different functional groups) and spatial distribution on infiltration and runoff:** Healthy, deep-rooted native grass and grass-like species enhance infiltration and reduce runoff.
- 
11. **Presence and thickness of compaction layer (usually none; describe soil profile features which may be mistaken for compaction on this site):** No compaction layer should be 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: Needlegrasses (mid and tall, cool-season bunchgrasses) > wheatgrasses (mid, cool-season rhizomatous) >
- Sub-dominant: Mid, warm-season grasses = short, warm-season grasses >
- Other: Tall, warm-season grasses = grass-like species = forbs = shrubs
- Additional: Other native grasses occur in other functional groups in minor amounts.
- 
13. **Amount of plant mortality and decadence (include which functional groups are expected to show mortality or decadence):** Very little to no evidence of decadence or mortality.
- 
14. **Average percent litter cover (%) and depth ( in):** 60-70 percent plant litter cover, roughly 0.25 to 0.5 inches in depth. Litter cover is in contact with the soil surface.
- 
15. **Expected annual annual-production (this is TOTAL above-ground annual-production, not just forage annual-production):** 1,900 pounds/acre (air-dry basis)
- 
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:** Refer to State and local Noxious Weed List; also Kentucky bluegrass and smooth brome grass.

---

17. **Perennial plant reproductive capability:** Perennial grasses have vigorous rhizomes and/or tillers.
-