USDA Natural Resources
Conservation Service

Ecological site R030XC017NV
LIMESTONE HILL 13+ P.Z.

Last updated: 2/25/2025
Accessed: 05/13/2025

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)	TJ WOLFE
Contact for lead author	State Rangeland Management Specialist
Date	06/22/2006
Approved by	Sarah Quistberg
Approval date	
Composition (Indicators 10 and 12) based on	Annual Production

Indicators

1. **Number and extent of rills:** Few to none present due to high cover of rocks and gravels.

2. **Presence of water flow patterns:** Few to none

3. **Number and height of erosional pedestals or terracettes:** No pedestalling. Terracettes found at bases of shrubs and large rocks.

4. **Bare ground from Ecological Site Description or other studies (rock, litter, lichen, moss, plant canopy are not bare ground):** 1 to 10 percent

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

6. **Extent of wind scoured, blowouts and/or depositional areas:** No wind-scoured or blow out areas. Depositional areas found up slope of large shrubs and rocks.

7. **Amount of litter movement (describe size and distance expected to travel):** Litter, 2 inches or less may move with runoff.

---

8. **Soil surface (top few mm) resistance to erosion (stability values are averages - most sites will show a range of values):** Soil surface very resistant due to high amounts of rocks and gravels.

---

9. **Soil surface structure and SOM content (include type of structure and A-horizon color and thickness):** Little to none due to high amounts of rock and gravels. Low amount of organic matter in soils

---

10. **Effect of community phase composition (relative proportion of different functional groups) and spatial distribution on infiltration and runoff:** High runoff common due to gravels and rocks. Plant community composition contributes little to infiltration.

---

11. **Presence and thickness of compaction layer (usually none; describe soil profile features which may be mistaken for compaction on this site):** None

---

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:

    Sub-dominant:

    Other:

    Additional:

---

13. **Amount of plant mortality and decadence (include which functional groups are expected to show mortality or decadence):**

---

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):**

---

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:

---

17. **Perennial plant reproductive capability:**
