

## Ecological site R040XB210AZ Limy Upland 7"-10" p.z.

Accessed: 05/05/2024

### 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.

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Date	03/02/2005
Approved by	S. Cassady
Approval date	
Composition (Indicators 10 and 12) based on	Annual Production

### Indicators

- Number and extent of rills:** Common on this site where gravel cover is low.

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- Presence of water flow patterns:** Water flow patterns are common, continuous and cover 15-20% of area.

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- Number and height of erosional pedestals or terracettes:** Accumulated pedestals on most perennial plants, not so much so in high gravel cover areas, 2-5 inches high. Erosional pedestals not present on most perennial plants.

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- Bare ground from Ecological Site Description or other studies (rock, litter, lichen, moss, plant canopy are not bare ground):** 10-60% (low values due to high gravel cover and El Nino years)

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- Number of gullies and erosion associated with gullies:** none

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

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- Amount of litter movement (describe size and distance expected to travel):** Most litter size classes stay in place due to high gravel cover.

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8. **Soil surface (top few mm) resistance to erosion (stability values are averages - most sites will show a range of values):** Soil surface resistance to erosion is good under shrub canopies to moderate in interspaces due to crusts formed by raindrop impact.
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9. **Soil surface structure and SOM content (include type of structure and A-horizon color and thickness):** Weak to moderate fine subangular blocky; color is 7.5YR6/4 dry, 7.5YR5/6 moist; thickness to 1 inch.
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10. **Effect of community phase composition (relative proportion of different functional groups) and spatial distribution on infiltration and runoff:** Canopy cover estimated at 20-25%, Basal cover 1-2%: 50% is shrubs, 20% trees and 30% succulents. Cover is well dispersed throughout the site.
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11. **Presence and thickness of compaction layer (usually none; describe soil profile features which may be mistaken for compaction on this site):** none
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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: shrubs > subshrubs > trees > succulents > forbs = perennial grasses (note: in El Nino years annual forbs & grasses are #1 in above ground weight.)
- Sub-dominant:
- Other:
- Additional:
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13. **Amount of plant mortality and decadence (include which functional groups are expected to show mortality or decadence):** 0-50% canopy mortality
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14. **Average percent litter cover (%) and depth ( in):**
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15. **Expected annual annual-production (this is TOTAL above-ground annual-production, not just forage annual-production):** 100 lbs/ac unfavorable precipitation; 200 lbs/ac normal precipitation; 300 lbs/ac favorable precipitation
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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:** Sahara mustard

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17. **Perennial plant reproductive capability:** Not impaired for shrubs, drought impaired for perennial grasses and forbs.

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