USDA Natural Resources
Conservation Service

Ecological site R041XC334AZ
Limy Upland 12-16" p.z. Gypsum

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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	03/04/2005
Approved by	Curtis Talbot
Approval date	
Composition (Indicators 10 and 12) based on	Annual Production

Indicators

1. **Number and extent of rills:** None

2. **Presence of water flow patterns:** Flow paths common at least 10% of the area; 30-40 feet long, discontinuous.

3. **Number and height of erosional pedestals or terracettes:** Pedestals common on all shrubs. Terracettes uncommon

4. **Bare ground from Ecological Site Description or other studies (rock, litter, lichen, moss, plant canopy are not bare ground):** 10-50%

5. **Number of gullies and erosion associated with gullies:** none

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

7. **Amount of litter movement (describe size and distance expected to travel):** Herbaceous litter in vicinity of flow paths moves in flow paths.

8. **Soil surface (top few mm) resistance to erosion (stability values are averages - most sites will show a range of values):** Expect balues 1-3 in bare areas and 4-6 in grass and shrub canopies.

9. **Soil surface structure and SOM content (include type of structure and A-horizon color and thickness):** Weak granular; color is 7.5YR4/4 dry, 7.5YR3/3 moist; thickness to 11 inches.

10. **Effect of community phase composition (relative proportion of different functional groups) and spatial distribution on infiltration and runoff:** Canopy 15-25%, basal 5-10%, litter 5-20%,; 50-60% of canopy cover is shrubs, 10-20% is subshrubs, 10-20% is perennial grasses. Cover is well dispersed throughout the site.

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: large shrubs > perennial grasses > subshrubs > perennial forbs > annually grasses & forbs > succulents

    Sub-dominant:

    Other:

    Additional:

13. **Amount of plant mortality and decadence (include which functional groups are expected to show mortality or decadence):** 75-80% mortality of desert zinnia.

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):** 350 lbs/ac unfavorable precipitation; 600 lbs/ac normal precipitation; 900 lbs/ac favorable precipitation

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:** Lehmann lovegrass, creosote, whitethorn, mesquite, prickly pear, burroweed, wait-a-bit.

17. **Perennial plant reproductive capability:** Not affected due to regional prolonged drought.