

Ecological site R041XC313AZ Loamy Upland 12"-16" p.z.

Last updated: 4/12/2021
 Accessed: 03/24/2025

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)	Robinett, Carrillo, Womack, Decker, Roberts, McReynolds, Buono
Contact for lead author	3241 N Romero Rd, Tucson, AZ 85705 520-292-2999x105
Date	12/01/2007
Approved by	Curtis Talbot
Approval date	
Composition (Indicators 10 and 12) based on	Annual Production

Indicators

1. **Number and extent of rills:** None, these sites generally occur on low slopes not prone to rill formation

2. **Presence of water flow patterns:** They cover about 15% of the area, are discontinuous, sinuous, uniformly distributed and range in length from 2 to 20 feet and width is generally < 1ft

3. **Number and height of erosional pedestals or terracettes:** Very slight pedastalling on longer-lived plants. Terracettes are infrequent, 5 to 20 feet apart and with elevation differences of 1 - 2 in.

4. **Bare ground from Ecological Site Description or other studies (rock, litter, lichen, moss, plant canopy are not bare ground):** 20-25% bare ground, (20-30% gravel on some soil series), bare patch size averages 1-3 ft, connectivity is very low

5. **Number of gullies and erosion associated with gullies:** None, these sites generally occur on low slopes not prone to gully formation

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

-
7. **Amount of litter movement (describe size and distance expected to travel):** Litter is all fine, herbaceous and litter movement in steeper areas is from 1 to 2 feet. Litter is not moving in flatter areas. No loss of litter from the site
-
8. **Soil surface (top few mm) resistance to erosion (stability values are averages - most sites will show a range of values):** Soil surface is 3 to 4 inches of dark colored gravelly sandyloam over clayloam and clay. Soil surface resistance to erosion is good across the site with little variability, aggregate stability test averages > 5
-
9. **Soil surface structure and SOM content (include type of structure and A-horizon color and thickness):** Soil surface has moderate to strong fine granular structure, with common to many fine roots. Surface horizon is 3 to 4 inches thick and dark colored and OM present throughout site
-
10. **Effect of community phase composition (relative proportion of different functional groups) and spatial distribution on infiltration and runoff:** Perennial mid-grasses have a canopy of 30%, half-shrubs a canopy of 5%, short grasses a canopy of 5%, and large shrubs and succulents a canopy of 2%. All species are uniformly dispersed with no reduction in basal area affecting infiltration and runoff (basal area: >12-15%)
-
11. **Presence and thickness of compaction layer (usually none; describe soil profile features which may be mistaken for compaction on this site):** No surface soil compaction. Soil surface is loose as you walk across it in some areas. An abrupt textural change at 3 to 4 inches from sandyloam to heavy clayloam or clay has the feel of being compacted but is not.
-
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: Warm season perennial mid-grasses >> half-shrubs > warm season perennial short grasses = annual forbs > perennial forbs = succulents > large shrubs and trees
- Sub-dominant:
- Other:
- Additional:
-
13. **Amount of plant mortality and decadence (include which functional groups are expected to show mortality or decadence):** Good age class distribution of dominant perennial grasses. Some mortality and loss of live basal meristem during severe drought conditions. Litter and senescent vegetation comprise a large amount of the total biomass
-
14. **Average percent litter cover (%) and depth (in):** Litter is roughly 20-25% of ground cover (predominantly from mid-grasses) and is uniformly distributed throughout site, depth (1/8 to 1 in)
-
15. **Expected annual annual-production (this is TOTAL above-ground annual-production, not just forage annual-**

production): Production in lbs/acre based on annual rainfall: High- >1150 lbs/ac, Norm- >1040 lbs/ac, Low- >930 lbs/ac

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: Mesquite, whitethorn, burroweed, prickly pear, Lehmann lovegrass
-

17. **Perennial plant reproductive capability:** Not impaired in any way; good age class distribution of perennial grasses, recruitment is evident throughout site
-