

Ecological site R038XB215AZ Clayey Hills 16-20" p.z.

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)	Dave Womack, Emilio Carrillo
Contact for lead author	USDA NRCS Tucson Area Office
Date	05/09/2008
Approved by	
Approval date	
Composition (Indicators 10 and 12) based on	Annual Production

Indicators

- Number and extent of rills:** Rills are very uncommon due to the high rock fragment cover and perennial grass plant density on this site.

- Presence of water flow patterns:** Water flow patterns are 1-2 feet in length and broken by rock fragments and frequent perennial grass plant bases.

- Number and height of erosional pedestals or terracettes:** High rock fragments and perennial grass plant cover reduce the incidence of erosional pedestals.

- Bare ground from Ecological Site Description or other studies (rock, litter, lichen, moss, plant canopy are not bare ground):** 3-15%

- Number of gullies and erosion associated with gullies:** None present on this site.

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

7. **Amount of litter movement (describe size and distance expected to travel):** Litter moves 1-2 feet before being trapped by rock fragments or perennial grass plant bases.
-
8. **Soil surface (top few mm) resistance to erosion (stability values are averages - most sites will show a range of values):** Soil surface stability values range from 5-6.
-
9. **Soil surface structure and SOM content (include type of structure and A-horizon color and thickness):** Weak granular to moderate fine subangular blocky. 5YR 4/2 to 10YR 5/2 dry, 5YR 3/3 to 10YR 3/3 moist. Thickness to 2 inches.
-
10. **Effect of community phase composition (relative proportion of different functional groups) and spatial distribution on infiltration and runoff:** Perennial grasses are the dominant in the plant community and contribute the most towards infiltration. Plants are well distributed across site with average spacing of 1-2 feet between perennial grass plants.
-
11. **Presence and thickness of compaction layer (usually none; describe soil profile features which may be mistaken for compaction on this site):** None present on this site.
-
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 mid grasses >> other warm season grasses = cool season grasses = evergreen shrubs
- Sub-dominant: short grasses = perennial forbs = annual grasses = annual forbs. (In el nino years annual forbs and grasses >= warm season mid grasses).
- Other: deciduous shrubs = half shrubs = succulents
- Additional:
-
13. **Amount of plant mortality and decadence (include which functional groups are expected to show mortality or decadence):** Some. Approximately 30-40% of basal cover of perennial grasses is lost in prolonged drought. 10-15% of shrub canopy is lost during prolonged drought. Desert ceanothus may experience 50-90% mortality in prolonged drought.
-
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):** 1400
-
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: one seed juniper, red berry juniper, turbinella oak (north slopes). Prickly pear, mesquite, catclaw and white thorn acacia (south slopes).

17. **Perennial plant reproductive capability:** Not affected following several years of prolonged regional drought.
-