USDA Natural Resources
Conservation Service

Ecological site R035XB209AZ
Loamy Wash 6-10" p.z.

Accessed: 05/06/2024

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.

Author(s)/participant(s)	Jennifer Puttere
Contact for lead author	State Rangeland Management Specialist, NRCS-Arizona State Office, Phoenix, AZ
Date	03/21/2011
Approved by	
Approval date	
Composition (Indicators 10 and 12) based on	Annual Production

Indicators

1. **Number and extent of rills:** This site is composed of varying degrees of deposited alluvium. Rills may occur 2 to 3 times on a 150-ft transect.

2. **Presence of water flow patterns:** This is a run-in site. Water flow patterns will be present in 4 to 5 times on a 150-ft tape on a reference site.

3. **Number and height of erosional pedestals or terracettes:** None

4. **Bare ground from Ecological Site Description or other studies (rock, litter, lichen, moss, plant canopy are not bare ground):** 10-30% bare ground

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

6. **Extent of wind scoured, blowouts and/or depositional areas:** Depositional areas around shrubs may occur twice in a 150-ft tape

7. **Amount of litter movement (describe size and distance expected to travel):** Most of the herbaceous litter remains in place or travels only a short distance (1-2 ft) away. Woody litter remains in place.

8. **Soil surface (top few mm) resistance to erosion (stability values are averages - most sites will show a range of values):** Stability under canopy is 2 or 3; stability not under canopy is 3 to 4.

9. **Soil surface structure and SOM content (include type of structure and A-horizon color and thickness):** This site is a dynamic fluvial site; under natural conditions soil organic matter is irregular due to unpredictability of fluvial deposits. Surface structure is platy or single grain.

10. **Effect of community phase composition (relative proportion of different functional groups) and spatial distribution on infiltration and runoff:** Large amounts of runoff and decreased infiltration in interspaces; under shrub and grass canopy cover there is decreased runoff in increased 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: Warm season bunch grasses > Cool season colonizing grasses >

    Sub-dominant: Warm season colonizing grasses > Large shrubs >

    Other: Cool season bunch grasses > Low shrubs > Forbs

    Additional:

13. **Amount of plant mortality and decadence (include which functional groups are expected to show mortality or decadence):** All plant functional groups are adapted to survival in all but the most severe droughts.

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):** Expected average production 1100-1300 lb/acre annually.

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: Rabbitbrush, broom snakeweed, cockleburr, commom sunflower, Russian thistle.

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17. **Perennial plant reproductive capability:** All plants native to the site are adapted to the climate and are capable of producing seeds, stolons and rhizomes in all but the most severe droughts.
