USDA Natural Resources
Conservation Service

Ecological site R035XH823AZ
Sandstone Upland 17-25" p.z.

Accessed: 04/27/2024

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)	Kenneth Gishi
Contact for lead author	NRCS State Rangeland Management Specialist, Arizona State Office, Phoenix, AZ
Date	08/24/2012
Approved by	Steve Barker
Approval date	
Composition (Indicators 10 and 12) based on	Annual Production

Indicators

1. **Number and extent of rills:** None expected, except for steeper slopes where an occasional rills may occur and cover less than 5% of the area.

2. **Presence of water flow patterns:** Uncommon due to moderate vegetation and rock cover. Some flow patterns may be evident follow large storm events, but should be very short and not connected.

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

4. **Bare ground from Ecological Site Description or other studies (rock, litter, lichen, moss, plant canopy are not bare ground):** 20-40 percent bare ground.

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):** Fine litter movement will be short and most will remain in place. Most litter movement will be transported by water.

---

8. **Soil surface (top few mm) resistance to erosion (stability values are averages - most sites will show a range of values):** The expected soil stability rating under plant canopies is 4 to 5 and a rating in the interspaces of 3 to 4. The surface textures loams. When well vegetated and with adequate litter cover these soils have a moderate resistance to erosion.

---

9. **Soil surface structure and SOM content (include type of structure and A-horizon color and thickness):** Soil surface thickness ranges from 2-4". Soil structure is typically moderate thick platy structure parting to moderate medium granular.

---

10. **Effect of community phase composition (relative proportion of different functional groups) and spatial distribution on infiltration and runoff:** This site is characterized by a dominance of perennial grasses with forbs. The distribution of herbaceous and rock fragment cover helps minimizes erosion and aids in reducing surface flow to allow for infiltration.

---

11. **Presence and thickness of compaction layer (usually none; describe soil profile features which may be mistaken for compaction on this site):** None. Some soils may have subsurface prismatic horizon structure with 6 inches of the surface. These are not compacted layers but may difficult to excavate and mistaken for a compacted layer

---

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: Cool season grasses > warm season grasses >

    Sub-dominant: Perennial forbs > Annual forbs

    Other:

    Additional:

---

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

---

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):** Average annual production on this site is expected to be 500 to 700 lbs/ac. in a year of average annual 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:** Kentuckly bluegrass is a naturalized plant that can increase and dominate. Other plants that can increase with disturbance are Larkspur, lupine, rubberweed, snakeweed, goldenaster, burr buttercup, knotweed, leafy spurge and cheatgrass.

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