Ecological site R035XH813AZ
Silty Upland 17-25" p.z.

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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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Approved by	Steve Barker
Approval date	
Composition (Indicators 10 and 12) based on	Annual Production

Indicators

1. **Number and extent of rills:** Generally, there are no rills present. There may be minor rill formation on steeper slopes (10-15%) if there is bare ground present.

2. **Presence of water flow patterns:** Water flow patterns are few and scattered. They are short in length and compose only a small percentage of the site.

3. **Number and height of erosional pedestals or terracettes:** Any pedestals will be along water flow pathways next to perennial plants.

4. **Bare ground from Ecological Site Description or other studies (rock, litter, lichen, moss, plant canopy are not bare ground):** Bare ground is expected to be 20-35%

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

6. **Extent of wind scoured, blowouts and/or depositional areas:** There can be some deposition around long lived perennial shrubs and grasses.

7. **Amount of litter movement (describe size and distance expected to travel):** Fine litter is transported by wind and water in open areas and coarse woody litter tends to stay in place.

8. **Soil surface (top few mm) resistance to erosion (stability values are averages - most sites will show a range of values):** The soil surface has good plant cover on soils that are loams to clays at the surface. The soils are resistant to wind erosion and with good plant cover are less susceptible to water erosion.

9. **Soil surface structure and SOM content (include type of structure and A-horizon color and thickness):** The soil surface structure ranges from 0-5" thick and generally, it is weak to moderate subangular blocky structure. Color for the surface is yellowish or reddish browns.

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 relatively even distribution of cool season grasses (Arizona fescue, squirreltail, muttongrass, western wheatgrass) and shrubs (black sagebrush).

11. **Presence and thickness of compaction layer (usually none; describe soil profile features which may be mistaken for compaction on this site):** None expected.

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>shrubs

    Sub-dominant: None

    Other: Minor: <10% 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 years, except during the most severe droughts. Severe winter droughts affect shrubs and cool season grasses the most.

14. **Average percent litter cover (%) and depth (in):** Litter amounts increase during the early years of long term drought, then decrease in later years.

15. **Expected annual annual-production (this is TOTAL above-ground annual-production, not just forage annual-production):** Approximately 900-1000 pounds per acre in an average year.

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:** Black sagebrush is native to the site, but has the potential to increase and dominate the site. This is a result of disturbance that diminishes cool season grass cover and as result shrubs increase and warm season grass (blue grama) increase. Cheatgrass is the primary non-native plant that invades this site in small percentages.

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