

Ecological site R042AE275TX Gravelly, Mixed Prairie

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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	Kent Ferguson
Approval date	
Composition (Indicators 10 and 12) based on	Annual Production

Indicators

1. **Number and extent of rills:** None.

2. **Presence of water flow patterns:** None, except following high intensity storms, when short (less than 1 m) and discontinuous flow patterns may appear. Flow patterns in drainages are linear and continuous.

3. **Number and height of erosional pedestals or terracettes:** Uncommon for this site under reference conditions.

4. **Bare ground from Ecological Site Description or other studies (rock, litter, lichen, moss, plant canopy are not bare ground):** Under reference conditions, bare ground usually ranges from 1-5%.

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):** On most of the site, minimal and short distance (<5ft) of litter movement associated with high intense rainfall.

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8. **Soil surface (top few mm) resistance to erosion (stability values are averages - most sites will show a range of values):** Soil stability values ranging from 5 to 6.
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9. **Soil surface structure and SOM content (include type of structure and A-horizon color and thickness):** Typically, surface horizon about 10 inches thick, reddish brown with a moderate fine subangular blocky structure. Organic matter content greater than 1.0 percent in the upper 20 inches, decreasing regularly with depth.
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10. **Effect of community phase composition (relative proportion of different functional groups) and spatial distribution on infiltration and runoff:** A high canopy cover of midgrass bunch and stoloniferous grasses will help minimize runoff and maximize infiltration. Grasses should comprise at least 90% of total plant composition by weight.
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11. **Presence and thickness of compaction layer (usually none; describe soil profile features which may be mistaken for compaction on this site):** None.
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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:
- Sub-dominant:
- Other:
- Additional: Dominant shortgrasses > subdominant midgrasses > minor short/midgrasses = shrubs > trees > perennial forbs > annual forbs = misc. grasses
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13. **Amount of plant mortality and decadence (include which functional groups are expected to show mortality or decadence):** All grasses will show some mortality and decadence in addition to annual forbs. Mid/tall perennial shrubs will show some mortality or decadence only after prolonged and severe droughts. Subshrubs will be less resistant to severe droughts than mid/tall perennial shrubs.
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14. **Average percent litter cover (%) and depth (in):** Majority of litter cover will occur under plants.
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15. **Expected annual annual-production (this is TOTAL above-ground annual-production, not just forage annual-production):** 900-1300 lbs/ac depending on annual rainfall.
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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: Dry climate generally prevents non-native species to encroach on this site. However, Lehmann's lovegrass is known to invade some locations. Whitethorn acacia, catclaw acacia, and juniper are typical increasers within this site.

17. **Perennial plant reproductive capability:** All species should be capable of reproducing except during severe droughts.
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