

## Ecological site R035XH807AZ Loamy 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

- Number and extent of rills:** Generally, there are no rills present. There may be minor rill formation on steeper slopes (>15%) if there is bare ground present.
- 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.
- Number and height of erosional pedestals or terracettes:** Any pedestals will be along water flow pathways next to perennial plants.
- 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%.
- Number of gullies and erosion associated with gullies:** None expected.
- 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.
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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 surface textures range from fine sandy loam to loam to clay loam. There may be gravels, cobbles or stones present on the soil surface and below. Permeability ranges from moderate to moderately slow. Infiltration rates are moderate. The erosion hazard is slight to moderate depending on slope.
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9. **Soil surface structure and SOM content (include type of structure and A-horizon color and thickness):** The top soil horizon is 2" - 12" thick. Colors are dark and include black, gray and brown. Structures include moderate platy (medium and thick), medium granular (weak, moderate and strong) and weak subangular blocky (fine, medium and coarse) formations.
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10. **Effect of community phase composition (relative proportion of different functional groups) and spatial distribution on infiltration and runoff:** This is a grassland dominated site with a high amount of production. The plant-soil moisture relationship is good. Infiltration rates are moderate and permeability is moderate on flatter slopes
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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 expected.
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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: Cool season grasses >>>
- Sub-dominant:
- Other: Forbs>shrubs and trees
- Additional:
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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 survive in all years except during the most severe droughts. Severe winter drought affects shrubs and trees the most. Severe summer drought affects grasses the most.
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14. **Average percent litter cover (%) and depth ( in):** This site is dominated by herbaceous litter with very little woody litter present. Litter amounts increase in the first years of drought and decrease in the later years of a drought.
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15. **Expected annual annual-production (this is TOTAL above-ground annual-production, not just forage annual-production):** The median annual production for this site for an average year of precipitation ranges from 1000 to 1100 pounds per acre.

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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: Some of the plant species that are most likely to invade or increase on this site following disturbance are annual forbs, rabbitbrush, ponderosa pine and cheatgrass.
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17. **Perennial plant reproductive capability:** All plant species native to this site are adapted to the climate and are capable of producing seeds, stolons and rhizomes in all but the most severe droughts.
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