

## **Ecological site R010XA034ID Claypan 10-12 PZ ARTR4/PSSPS-ACTH7**

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

### Indicators

1. **Number and extent of rills:** rills rarely occur on this site. If rills are present they are most likely to occur on steeper slopes >10% and immediately following wildfire. Rills are most likely to occur on soils with surface textures of silt loam and clay loam.

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2. **Presence of water flow patterns:** water-flow patterns rarely occur on this site except on slopes greater than 10%. When they occur they are short, disrupted by cool season perennial grasses and tall shrubs and are not extensive.

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3. **Number and height of erosional pedestals or terracettes:** both are rare on this site. In areas where slopes are greater than 10% and where flow patterns and /or rills are present, a few pedestals may be expected. Do not misinterpret frost heaving for pedestals.

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4. **Bare ground from Ecological Site Description or other studies (rock, litter, lichen, moss, plant canopy are not bare ground):** data not available. On sites in mid-seral status, bare ground may range from 30-40 percent but more data is needed.

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5. **Number of gullies and erosion associated with gullies:** gullies do not occur on this site.

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6. **Extent of wind scoured, blowouts and/or depositional areas:** usually does not occur. Some wind erosion may occur immediately following a wildfire on soils that have fine textured surface soils.
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7. **Amount of litter movement (describe size and distance expected to travel):** fine litter in the interspaces may move up to 2 feet or further on slopes greater than 10 percent following a significant run-off event. Coarse litter generally does not move.
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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):** values should range from 4 to 6 but needs to be tested.
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9. **Soil surface structure and SOM content (include type of structure and A-horizon color and thickness):** structure ranges from moderate fine granular to moderate thin platy. Soil organic matter (SOM) needs to be determined. The A or A1 horizon is typically 8 inches thick. The soil surface color is brown moist.
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10. **Effect of community phase composition (relative proportion of different functional groups) and spatial distribution on infiltration and runoff:** bunchgrasses, especially deep-rooted perennials, slow run-off and increase infiltration. Shrubs accumulate snow in the interspaces. Terracettes provide a favorable micro-site for vegetation establishment which further increases infiltration.
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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):** not present. Do not mistake the heavy textured subsoil for a compaction layer.
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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 deep-rooted perennial bunchgrasses
- Sub-dominant: tall shrubs
- Other: perennial forbs
- Additional: shallow rooted grasses
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13. **Amount of plant mortality and decadence (include which functional groups are expected to show mortality or decadence):** grass and forb mortality will occur as tall shrubs increase.
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14. **Average percent litter cover (%) and depth ( in):** annual litter cover in the interspaces will be 20-30 percent to a depth of <0.1 inch. Under the mature shrubs litter is greater than 0.5 inches. Fine litter can accumulate behind bunchgrasses and shrubs on slopes greater than 10 percent.

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15. **Expected annual annual-production (this is TOTAL above-ground annual-production, not just forage annual-production):** is 575 lbs. per acre in a year with normal precipitation and temperatures. Perennial grasses produce 40-60 percent of the total, forbs 10-20 percent, and shrubs 30-40 percent.

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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:** includes cheatgrass, medusahead, bulbous bluegrass, rush skeletonweed, scotch thistle, and spotted and diffuse knapweed.

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17. **Perennial plant reproductive capability:** all functional groups have the potential to reproduce in most years.

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