

## Ecological site R010XY002ID Very Shallow 12-20 PZ ARRI2/POSE

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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

- Number and extent of rills:** rarely occur on this site due to the gravelly and stony surface. If they do occur it will normally be on slopes greater than 10%.

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- Presence of water flow patterns:** are normally not present on this site. When they do occur they are short and disrupted by cool season grasses, shrubs and surface stones. They are not extensive.

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- Number and height of erosional pedestals or terracettes:** can occur on the site. They are most likely to occur where water flow patterns are present and surface stones are absent. Do not misinterpret frost heaving for pedestals.

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- Bare ground from Ecological Site Description or other studies (rock, litter, lichen, moss, plant canopy are not bare ground):** ranges from 30-40 percent but more data is needed.

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

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6. **Extent of wind scoured, blowouts and/or depositional areas:** does not occur.
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7. **Amount of litter movement (describe size and distance expected to travel):** fine litter moves by wind or water. Fine litter can move up to 2 feet after a strong summertime convection storm. Due to the flat slopes, large litter does not move. Much of the fine litter is lost through oxidation.
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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):** The A or A1 horizon is typically 3 to 6 inches thick. Structure ranges from weak thin platy to moderate fine granular. Soil organic matter (SOM) ranges from 1 to 3 percent.
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10. **Effect of community phase composition (relative proportion of different functional groups) and spatial distribution on infiltration and runoff:** bunchgrasses slow runoff and increase infiltration. Shrubs accumulate some snow in the interspaces. Surface stones are the over-riding influence on 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):** may develop on this site. If present it will be relatively thin. Do not misinterpret the Bw horizon at 5-9" as 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 shallow-rooted perennial bunchgrasses= medium shrubs
- Sub-dominant: perennial forbs
- Other:
- Additional:
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13. **Amount of plant mortality and decadence (include which functional groups are expected to show mortality or decadence):** very little mortality or decadence is expected on this site. Mortality of shallow rooted grasses may occur due to extended periods of drought. Mortality of stiff sagebrush can occur from large ungulate browsing and trampling.
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14. **Average percent litter cover (%) and depth ( in):** additional data is needed but is expected to be low and at a shallow depth.

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15. **Expected annual annual-production (this is TOTAL above-ground annual-production, not just forage annual-production):** is 125 pounds per acre (140 Kg/ha) in a year with normal precipitation and temperatures. Perennial grasses produce 35-45 percent of the total production, forbs 15-25 percent and shrubs 35-45 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:** include cheatgrass, medusahead, Vulpia species, bulbous bluegrass and annual mustards.
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17. **Perennial plant reproductive capability:** all functional groups have the potential to reproduce in favorable years.
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