

## Ecological site R053CY015SD Thin Claypan

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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 should not be present.  

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- 2. Presence of water flow patterns:** Barely observable, or only in association with slickspots.  

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- 3. Number and height of erosional pedestals or terracettes:** Some pedestalling of bunchgrasses or coppice mounds occurs, but exposed roots are not present.  

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- 4. Bare ground from Ecological Site Description or other studies (rock, litter, lichen, moss, plant canopy are not bare ground):** Bare ground typically 10 to 35 percent. Bare ground patches may be up to 4 to 6 inches in diameter. Slickspots occur in complex with this site and are largely devoid of vegetation, but are not part of this site.  

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- 5. Number of gullies and erosion associated with gullies:** Active gullies should not be present.  

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- 6. Extent of wind scoured, blowouts and/or depositional areas:** None present.  

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7. **Amount of litter movement (describe size and distance expected to travel):** Plant litter may be moved during ponding events and small accumulations of litter may be visible. Small plant litter may move roughly 4 to 8 inches. Larger plant litter will typically remain 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 aggregate stability normally a 3 to 5 rating. Soil surface is somewhat resistant to erosion. Crusts may be present (e.g., biological and physical crusts).
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9. **Soil surface structure and SOM content (include type of structure and A-horizon color and thickness):** Soil surface structure is typically platy parting to granular. Surface E-horizon is typically leached and does not have dark, mollic (higher organic matter) colors. If conditions are other than this, refer to map unit component descriptions for component on which the site occurs.
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10. **Effect of community phase composition (relative proportion of different functional groups) and spatial distribution on infiltration and runoff:** Rhizomatous grasses provide for moderate infiltration, but shallow pan reduces effective 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):** No compaction layer should be evident. At less than four inches, an extremely dense clay B horizon exists, which has a round-topped columnar structure. This pan layer should not be confused with compaction.
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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: Wheatgrasses (mid, cool-season rhizomatous) >
- Sub-dominant: Short, warm-season grasses >
- Other: Needlegrasses (mid/tall cool-season bunch) = grass-like species = forbs = shrubs > mid, warm-season grasses
- Additional: Other native grasses occur in other functional groups in minor amounts.
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13. **Amount of plant mortality and decadence (include which functional groups are expected to show mortality or decadence):** Very little to no evidence of decadence or mortality.
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14. **Average percent litter cover (%) and depth ( in):** 35-65 percent plant litter cover, roughly 0.25 to 0.5 inches in depth. Litter cover is in contact with the soil surface.
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15. **Expected annual annual-production (this is TOTAL above-ground annual-production, not just forage annual-production):** 1,300 pounds/acre (air-dry basis)

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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: Refer to State and local Noxious Weed List.
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17. **Perennial plant reproductive capability:** Perennial grasses have vigorous rhizomes and/or tillers.
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