

## Ecological site R015XF016CA Very Shallow Steep Foothills

Accessed: 05/02/2024

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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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Date	05/30/2015
Approved by	
Approval date	
Composition (Indicators 10 and 12) based on	Annual Production

### Indicators

- Number and extent of rills:** A few rills were noted, associated with bare ground and steep slopes, spaced 3 to 4 feet apart across a 200 foot distance.  

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- Presence of water flow patterns:** Water commonly flows downslope for a length of 200-500 feet.  

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- Number and height of erosional pedestals or terracettes:** Small areas with erosion pedestals were noted, perhaps 2-3 inches in height, perhaps 4 per 500 feet. Not extensive on reference site.  

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- Bare ground from Ecological Site Description or other studies (rock, litter, lichen, moss, plant canopy are not bare ground):** Bare ground ranges from 40 to 70 percent.  

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- Number of gullies and erosion associated with gullies:** Gullies were noted on deeper soils found in conjunction with this site.  

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- Extent of wind scoured, blowouts and/or depositional areas:** No wind scour or blowouts were noted.  

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7. **Amount of litter movement (describe size and distance expected to travel):** Very little if any litter movement was noted. Typically *Erodium* spp. litter is 1-2 inches by .25 inches and annual grasses 3-6 inches by .10 inches.
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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):** Not available.
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9. **Soil surface structure and SOM content (include type of structure and A-horizon color and thickness):** A1--0 to 0.5 inches; pale brown (10YR 6/3) light clay loam, brown (10YR 4/3) moist; weak medium platy structure; slightly hard, friable, nonsticky and nonplastic; common fine roots; common fine pores; slightly acid; abrupt s A2--0.5 to 6 inches; brown (10YR 5/3) clay loam, brown (10YR 4/3) moist; moderate coarse subangular blocky structure; hard, friable, moderately sticky and nonplastic; common fine roots; common fine pores; few shale fragments; neutral; clear smooth boundary. (4 to 10 inches thick)
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10. **Effect of community phase composition (relative proportion of different functional groups) and spatial distribution on infiltration and runoff:** Trees: 3 percent  
Shrubs: 4 percent  
Forbs: 55 percent  
Grass: 38 percent  
Typically very patchy distribution of sparse trees and shrubs intermixed with open areas with very light forb and grass cover do not contribute much to water retention on this site. Some infiltration occurs, but it would appear that much is transported offsite.
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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):** Platy soil structure may be confused with effects of 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: Forbs  
  
Sub-dominant: Grass  
  
Other: Shrubs>>Trees  
  
Additional:
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13. **Amount of plant mortality and decadence (include which functional groups are expected to show mortality or decadence):** Forbs begin to show mortality in March to April. Grasses will show mortality and decadence beginning in late April. Shrub and tree mortality is minimal.
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14. **Average percent litter cover (%) and depth ( in):**
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15. **Expected annual annual-production (this is TOTAL above-ground annual-production, not just forage annual-production):** Expected production is highly variable based on unfavorable normal or favorable year. Total production ranges from a low of 350 to a high of 1,140 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: Invasives such as medusahead and yellow star-thistle do not have the potential to become dominant on this site.
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17. **Perennial plant reproductive capability:** No known capability for perennial grasses due to very shallow soil depth.
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