USDA Natural Resources
Conservation Service

Ecological site R015XF003CA
Very Shallow Loamy Foothills

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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	06/24/2015
Approved by	
Approval date	
Composition (Indicators 10 and 12) based on	Annual Production

Indicators

1. **Number and extent of rills:** Rilling may occur on slopes greater than 30 percent.

2. **Presence of water flow patterns:** Water flow patterns are typically downslope for 200-400 feet.

3. **Number and height of erosional pedestals or terracettes:** Erosion pedestals and terracettes may occur.

4. **Bare ground from Ecological Site Description or other studies (rock, litter, lichen, moss, plant canopy are not bare ground):** 40-60% bare ground, Average

5. **Number of gullies and erosion associated with gullies:** Some gullying noted in steep map units.

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

7. **Amount of litter movement (describe size and distance expected to travel):** Steep to very steep slope gradient, with little litter movement noted, as not much is normally generated on this site. Oak leaves would be approximately 1 by 2 inches, forbs 1 by 1/10 inches, grasses 2 by 1/10 inch.

8. **Soil surface (top few mm) resistance to erosion (stability values are averages - most sites will show a range of values):** The soil surface is medium to fine textured and has weak structure and is easily eroded. Vegetative cover is very low. The Erosion Hazard Rating is moderate to very high.

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9. **Soil surface structure and SOM content (include type of structure and A-horizon color and thickness):** A--0 to 7 inches; grayish brown (2.5Y 5/2) shaly clay loam, very dark grayish brown (2.5Y 3/2)

   SOM 0.5-3.0 percent (Note, this is very high for this site, and not considered representative)

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10. **Effect of community phase composition (relative proportion of different functional groups) and spatial distribution on infiltration and runoff:**
    Forbs>>>>Shrubs>>Grass>>Trees

    Low cover of most functional groups leads to moderate permeability and moderate to rapid runoff.
    A few trees and shrubs intercept rainfall slowing infiltration process. Cover of forbs and grasses aids infiltration and decreases runoff, especially on slopes less than 30 percent. Steeper slopes have less cover, less infiltration and higher runoff.

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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 noted or measured.

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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: Annual and Perennial Forbs

    Trees. QUDO
    Additional:

    Sub-dominant: Buckbrush

    Other: Annual Grasses and Blue oak

    Additional:

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13. **Amount of plant mortality and decadence (include which functional groups are expected to show mortality or decadence):** All forbs and grasses show rapid mortality due to early seasonal drying of the soil profile. Blue oak would not be expected to have more than 1-2 percent mortality.

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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):**
    Line transect data in a 80 percent of normal year predicts for Unfavorable, RV and Favorable Years a 375, 1090 and 1200 pounds per acre dry weight.

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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:** Medusahead and yellow star-thistle are present, however there is not much potential for these invasives to become dominant or codominant because they prefer deeper finer textured soils.

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17. **Perennial plant reproductive capability:** No potential for perennials due to the very shallow nature of the soil profile.
