USDA Natural Resources
Conservation Service

Ecological site R040XB220AZ
Granitic Upland 7"-10" p.z.

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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	03/02/2005
Approved by	S. Cassady
Approval date	
Composition (Indicators 10 and 12) based on	Annual Production

Indicators

1. **Number and extent of rills:** Rills are common and continuous in absence of high gravel cover. They commonly occur along bedding planes and joints in the bedrock parent material.

2. **Presence of water flow patterns:** Discontinuous, 10-15 feet in length. Will see shorter flow paths with high surface coarse fragments.

3. **Number and height of erosional pedestals or terracettes:** Shrubs have symmetical ounds caused by the actions of splash, rosion and rodent activity. There are no pedestals on rock or gravel fragments and no terracettes are present.

4. **Bare ground from Ecological Site Description or other studies (rock, litter, lichen, moss, plant canopy are not bare ground):** 10-60% (low values due to high rock and gravel cover)

5. **Number of gullies and erosion associated with gullies:** None

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

7. **Amount of litter movement (describe size and distance expected to travel):** Most litter size classes stay in lace due to high rock and gravel cover.

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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):** No slake test done. Expect ratings of 1-3 in perennial plant interspaces, 4-5 under shrub canopies.

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9. **Soil surface structure and SOM content (include type of structure and A-horizon color and thickness):** Weak granular to subangular blocky; color is 7.5-10YR5/4 dry, 7.5-10YR4/4 Moist; thickness to 4 inches.

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10. **Effect of community phase composition (relative proportion of different functional groups) and spatial distribution on infiltration and runoff:** Canopy 15-20%: 50% shrubs, 23% trees, 25% succulents and 1-2% perennial grass. Cover is well dispersed throughout site.

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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

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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: sub shrubs > trees > winter annuals > shrubs > summer annuals > perennial forbs > perennial grasses > succulents

    Sub-dominant:

    Other:

    Additional:

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13. **Amount of plant mortality and decadence (include which functional groups are expected to show mortality or decadence):** 2050% tree & shrub canopy mortality, 75-90% mortality on perennial grasses.

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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):** 150 lbs/ac unfavorable precipitation; 250 lbs/ac normal precipitation; 350 lbs/ac favorable precipitation.

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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: Sahara mustard

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17. **Perennial plant reproductive capability:** Not impaired for shrubs; drought impaired for perennial grasses and forbs.
