

Ecological site R025XY031NV STONY MAHOGANY SAVANNA

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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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Approved by	Kendra Moseley
Approval date	
Composition (Indicators 10 and 12) based on	Annual Production

Indicators

- Number and extent of rills:** Rills are none to rare on this site. Rock fragments armor the site. If rills are present, they occur on slopes >20%.

- Presence of water flow patterns:** Water flow patterns are rare on this site due to short slope lengths. They occur on steeper slopes (20% gradient) in areas recently subjected to intense summer convection storms or rapid snowmelt.

- Number and height of erosional pedestals or terracettes:** Pedestals are none to rare. A few may occur in water flow patterns.

- Bare ground from Ecological Site Description or other studies (rock, litter, lichen, moss, plant canopy are not bare ground):** Bare ground \pm 15-30%.

- Number of gullies and erosion associated with gullies:** None

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

7. **Amount of litter movement (describe size and distance expected to travel):** Fine litter (foliage from grasses and annual & perennial forbs) expected to move distance of slope length during intense summer convection storms or rapid snowmelt events. Persistent litter (large woody material) will remain in place except during catastrophic events.
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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 stability values should be 3 to 6 on most soil textures found on this site. (To be field tested.)
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9. **Soil surface structure and SOM content (include type of structure and A-horizon color and thickness):** Surface structure is fine granular or weak, medium subangular blocky. Soil surface colors are very dark and soils are typified by a mollic epipedon. Organic matter of the surface 2 to 4 inches is typically 1 to 3 percent. Organic matter content can be more or less depending on micro-topography.
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10. **Effect of community phase composition (relative proportion of different functional groups) and spatial distribution on infiltration and runoff:** The tree-like canopy of curleaf mountain mahogany and tall shrubs break raindrop impact and provide opportunity for snow catch and accumulation on site. Deep-rooted perennial bunchgrasses (i.e. bluebunch wheatgrass) slow runoff and increase 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):** Compacted layers are none. Subsoil subangular blocky structure or argillic horizons are not to be interpreted as compacted layers.
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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: Tree-like shrubs
- Sub-dominant: deep-rooted, cool season, perennial bunchgrasses > tall shrubs (mountain big sagebrush) > shallow-rooted, cool season, perennial grasses > deep-rooted, cool season, perennial forbs > fibrous, shallow-rooted, cool season, perennial and annual 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):** Dead branches within individual shrubs not uncommon and standing dead shrub canopy material may be as much as 15% of total woody canopy; some of the mature bunchgrasses (<10%) have dead centers. Mortality of mountain mahogany is usually the result of insect infestation or fire.
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14. **Average percent litter cover (%) and depth (in):** Between plant interspaces (10-20%) and litter depth is $\pm 1/2$ inch.
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15. **Expected annual annual-production (this is TOTAL above-ground annual-production, not just forage annual-**

production): For normal or average growing season (through June) \pm 900 lbs/ac.

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: Singleleaf pinyon and Utah juniper are increasers on this site. Cheatgrass and bulbous bluegrass are invaders on this site.
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17. **Perennial plant reproductive capability:** All functional groups should reproduce in average (or normal) and above average growing season years.
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