USDA Natural Resources
Conservation Service

Ecological site R025XY025OR
ASHY PLATEAU 11-13 PZ

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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

1. **Number and extent of rills:** None.

2. **Presence of water flow patterns:** Water flow patterns are none to rare. In areas subject to summer convection storms and rapid snowmelt, short (<1m) and stable flow patterns can be expected. Flow paths are not connected.

3. **Number and height of erosional pedestals or terracettes:** Pedestals are none to few on this site. As clay content in soil increases slight pedestalling may occur.

4. **Bare ground from Ecological Site Description or other studies (rock, litter, lichen, moss, plant canopy are not bare ground):** Bare Ground 15-35% depending on amount of surface gravels.

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):** Fine litter (foliage from grasses and annual & perennial forbs) – limited movement; expected to move no more than the distance of slope length during intense summer convection storms or rapid snowmelt events. Persistent litter (large woody material) will remain in place except during large rainfall events.

8. **Soil surface (top few mm) resistance to erosion (stability values are averages - most sites will show a range of values):** Moderate to high resistance to erosion. Aggregate stability values should be 2 to 4 on most soil textures found on this site.

9. **Soil surface structure and SOM content (include type of structure and A-horizon color and thickness):** Surface texture is typically ashy silt loam. Soil surface color is typically brown (10YR3/3) (dry). Surface structure is weak thin platy (A1--0-9 cm) and medium and fine subangular blocky (A2--9-27 cm)(Babala). Rock fragments range from 0-35 percent. *Draft Soil Survey-subject to change.

10. **Effect of community phase composition (relative proportion of different functional groups) and spatial distribution on infiltration and runoff:** Typical vegetation composition is 80 percent grasses, 5 percent forbs, and 15 percent shrubs. Perennial herbaceous plants (i.e. Idaho fescue & bluebunch wheatgrass) slow runoff and increase infiltration. Shrub canopy and associated litter break raindrop impact and provide opportunity for snow catch and accumulation on site.

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. Weak thin platy structure near surface and fine subangular blocky structure or subsoil argillic horizons are not to be interpreted as compacted layers.

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: Deep-rooted, cool season, perennial bunchgrasses (Idaho fescue > bluebunch wheatgrass)

    Sub-dominant: Tall shrubs (Basin big sagebrush)

    Other: Other perennial grasses>forbs=other shrubs

    Additional:

13. **Amount of plant mortality and decadence (include which functional groups are expected to show mortality or decadence):** Normal decadence and mortality for this site is expected to be low 2-5%. As composition of sagebrush increases decadence and mortality will also increase.

14. **Average percent litter cover (%) and depth (in):** Between plant interspaces

15. **Expected annual annual-production (this is TOTAL above-ground annual-production, not just forage annual-production):** Favorable – 1200 lbs/ac, Average -- 900 lbs/ac, Unfavorable – 600 lbs/ac. Spring moisture significantly affects total production.

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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:** Potential invaders include cheatgrass, medusahead, annual mustards in response to disturbance.

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17. **Perennial plant reproductive capability:** All functional groups should reproduce in average (or normal) and above average growing season years. Reduced growth and reproduction occur during extreme or extended drought conditions.
