Ecological site R034AY140WY
Saline Lowland Drained Green River and Great Divide Basins (SLDr)

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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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Approval date	
Composition (Indicators 10 and 12) based on	Annual Production

Indicators

1. **Number and extent of rills:** Rare to nonexistent. Where present, short and widely spaced.

2. **Presence of water flow patterns:** Barely observable.

3. **Number and height of erosional pedestals or terracettes:** Slight pedestalling evident.

4. **Bare ground from Ecological Site Description or other studies (rock, litter, lichen, moss, plant canopy are not bare ground):** Bare ground can range from 25-60%.

5. **Number of gullies and erosion associated with gullies:** Active gullies typically present associated with ephemeral drainages associated with this site.

6. **Extent of wind scoured, blowouts and/or depositional areas:** Minimal to nonexistent.

7. **Amount of litter movement (describe size and distance expected to travel):** Herbaceous litter expected to move

only in small amounts (to leeward side of shrubs) due to wind.

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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 Index ratings range from 2 (interspaces) to 5 (under plant canopy), but average values should be 3.5 or greater.

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9. **Soil surface structure and SOM content (include type of structure and A-horizon color and thickness):** Typically an A-horizon of 3-9 inches (7-23 cm) with weak to moderate platy or sometimes granular structure and color hues of 10YR or 2.5Y, values of 4-7, and chromas of 2-4. Sometimes a shallow E-horizon of 2 inches (6 cm) with platy structure will replace the A-horizon. Organic matter typically ranges from .5 to 1%.

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10. **Effect of community phase composition (relative proportion of different functional groups) and spatial distribution on infiltration and runoff:** Plant community consists of 40-75% grasses, 10% forbs, and 15-50% shrubs. Evenly distributed plant canopy (25-60%) and litter, but very slow infiltration rates result in slight to moderate runoff. Basal cover is typically less than 5% for this site and does very little to effect runoff on this 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):** No compaction layer exists, but some soil crusting in dry conditions is typical.

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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-dominant:

    Other:

    Additional: perennial shrubs>mid-size, cool season bunchgrasses>cool season rhizomatous grasses>>tall, cool season bunchgrasses=perennial forbs

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13. **Amount of plant mortality and decadence (include which functional groups are expected to show mortality or decadence):** Minimal decadence, typically associated with shrub component.

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14. **Average percent litter cover (%) and depth (in):** Litter ranges from 10-25% of total canopy measurement with total litter (including beneath the plant canopy) from 15-40% expected. Herbaceous litter depth is typically very shallow, ranging from 1-5mm. Woody litter can be up to a couple inches (4-6 cm).

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15. **Expected annual annual-production (this is TOTAL above-ground annual-production, not just forage annual-production):** English: 400-900 lb/ac (700 lb/ac average); Metric: 448-1008 kg/ha (784 kg/ha average).

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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:** Bare ground greater than 70% is the most common indicator of a threshold being crossed. Greasewood, inland saltgrass, and alkali bluegrass are common increasers. Annual weeds such as halogeton, kochia, and Russian thistle are common invasive species in disturbed sites.

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17. **Perennial plant reproductive capability:** All species are capable of reproducing, except in drought years.