Ecological site DX032X02A144
Saline Upland (SU) Wind River Basin Core

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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 non-existent.

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

3. **Number and height of erosional pedestals or terracettes:** Essentially non-existent.

4. **Bare ground from Ecological Site Description or other studies (rock, litter, lichen, moss, plant canopy are not bare ground):** Bare ground averages between 35 and 45% in reference conditions.

5. **Number of gullies and erosion associated with gullies:** Active gullies should not be present.

6. **Extent of wind scoured, blowouts and/or depositional areas:** Rare to Non-existent.

7. **Amount of litter movement (describe size and distance expected to travel):** Herbaceous litter not expected to move.

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 1 (interspaces) to 6 (under plant canopy), but average values should be 4.0 or greater.

9. **Soil surface structure and SOM content (include type of structure and A-horizon color and thickness):** Refer to soil series description and map unit for specific information. The soil surface structure is fine moderate granular (moderate fine sub-angular or angular blocky parting to granular) with a surface depth of 2 to 7 inches (5- 15 cm). The dry surface Colors are generally in the 10YR to 7.5YR range with a Hue of 6 and a Chroma of 3. Organic matter in the surface ranges from 0.5 to 1.0.

10. **Effect of community phase composition (relative proportion of different functional groups) and spatial distribution on infiltration and runoff:** The plant community consists of 60-75% grasses, 10% forbs and 15-30% shrubs. Evenly distributed plant canopy (30-45%) and litter plus slow to moderate infiltration rates result in minimal runoff. Basal cover is typically less than 5% for this site and does very little to effect runoff on this site. Canopy cover with basal cover is sufficient to reduce raindrop impact and reduce runoff.

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 should be present. Slight crusting may be visible, but friable and does not impede infiltration rates.

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: Cool-season, Mid stature Grasses Shrubs

    Sub-dominant: Shrubs Short stature Grasses

    Other: Short stature Grasses Perennial Forbs

    Additional:

13. **Amount of plant mortality and decadence (include which functional groups are expected to show mortality or decadence):** Minimal decadence.

14. **Average percent litter cover (%) and depth (in):** Litter ranges from 5-20% of total canopy measurement with total litter (including beneath the plant canopy) from 30-50% expected. Herbaceous litter depth typically ranges from 3 - 5 mm. Woody litter can be 2-6 mm.

15. **Expected annual annual-production (this is TOTAL above-ground annual-production, not just forage annual-production):** English: 200 - 400 lbs/ac (300 lbs/ac average); Metric: 224 - 448 kg/ha (336 kg/ha average).

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:** Greasewood, Birdfoot Sagebrush, Flatspine Stickseed, Mustards, and Woolly Plantain, Annual false wheatgrass, false buffalograss are native species that increase with stress; invasive species such as, but not limited to: halogeton, cheatgrass (downy brome), thistles, knapweed, kochia, Russian thistle are also found on this site. Other common noxious weeds can be found on the Noxious Weed List for Wyoming and Fremont County.

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17. **Perennial plant reproductive capability:** All species are capable of reproducing.