USDA Natural Resources
Conservation Service

Ecological site R027XY003NV
LOAMY BOTTOM

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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.

Author(s)/participant(s)	Patti Novak-Echenique
Contact for lead author	State Rangeland Management Specialist
Date	07/19/2013
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:** None

3. **Number and height of erosional pedestals or terracettes:** None

4. **Bare ground from Ecological Site Description or other studies (rock, litter, lichen, moss, plant canopy are not bare ground):** Bare Ground ± 20%

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 of grasses and annual & perennial forbs) only expected to move during periods of flooding by adjacent streams. Persistent litter (large

woody material) will remain in place except during large flooding 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 will range from 4 to 6. (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):** Soil surface structure is platy or granular. Soil surface colors are very dark and the soils have thick mollic epipedons. Organic matter can range from 2 to 3 percent for much of the upper 20 inches.

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10. **Effect of community phase composition (relative proportion of different functional groups) and spatial distribution on infiltration and runoff:** Deep-rooted, perennial, bunchgrasses slow runoff and increase infiltration. Tall stature and relatively coarse foliage of basin wildrye and associated litter break raindrop impact and provide opportunity for snow catch and snow accumulation on 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 - Platy subsurface layers are not to be interpreted as compaction.

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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: Tall-statured, deep-rooted, cool season, perennial bunchgrasses

    Sub-dominant: rhizomatous, cool season, perennial grasses > tall shrubs > deep-rooted, cool season, perennial bunchgrasses and grasslike plants > deep-rooted perennial forbs = associated shrubs

    Other: warm season perennial bunchgrasses

    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 common; standing dead shrub canopy material may be as much as 25% of total woody canopy.

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14. **Average percent litter cover (%) and depth (in):** Between plant interspaces (± 80%) and litter depth is < 1 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) ± 4000 lbs/ac; Favorable years ± 6000 lbs/ac and unfavorable years ± 2500 lbs/ac. Winter 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 annual mustards, thistle, annual kochia, pigweed, tall whitetop and salt cedar.

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17. **Perennial plant reproductive capability:** All functional groups should reproduce in most years.
