USDA Natural Resources
Conservation Service

Ecological site R029XY041NV
DRY WASH

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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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Date	07/19/2013
Approved by	
Approval date	
Composition (Indicators 10 and 12) based on	Annual Production

Indicators

1. **Number and extent of rills:** None to rare. A few rills may occur after intense summer convection storms.

2. **Presence of water flow patterns:** Waterflow patterns are rare to few due to run-in from adjacent landscapes.

3. **Number and height of erosional pedestals or terracettes:** Terracettes caused by litter obstruction can be common.

4. **Bare ground from Ecological Site Description or other studies (rock, litter, lichen, moss, plant canopy are not bare ground):** Bare Ground ± 20-30% depending on amount of surface rock fragments.

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 peak flooding periods.

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 2 to 4. (To be field tested.)

9. **Soil surface structure and SOM content (include type of structure and A-horizon color and thickness):** Soil surface structure is typically weak platy. Soil surface colors are light gray and soils have an ochric epipedon. Organic matter of the surface 2 to 4 inches is typically less than 1 percent dropping off quickly below.

10. **Effect of community phase composition (relative proportion of different functional groups) and spatial distribution on infiltration and runoff:** Sparse shrub canopy and associated litter break raindrop impact. Shrubs and perennial bunchgrasses also aid in infiltration.

11. **Presence and thickness of compaction layer (usually none; describe soil profile features which may be mistaken for compaction on this site):** None - Platy or massive subsurface layers are not to be interpreted as compaction.

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 shrubs (rubber rabbitbrush, burrobush, fourwing saltbush) > associated shrubs

    Sub-dominant: deep-rooted, cool season, perennial bunchgrasses (Indian ricegrass) > shallow-rooted, cool season, perennial bunchgrasses > deep-rooted, cool season, perennial forbs > annual forbs

    Other:

    Additional:

13. **Amount of plant mortality and decadence (include which functional groups are expected to show mortality or decadence):** Dead branches within individual shrubs common and standing dead shrub canopy material may be as much as 25% of total woody canopy.

14. **Average percent litter cover (%) and depth (in):** Within plant interspaces 10-15% and depth <1/4 in

15. **Expected annual annual-production (this is TOTAL above-ground annual-production, not just forage annual-production):** For normal or average growing season (thru June) ± 300 lbs/ac; Favorable years ± 100 lbs/ac and unfavorable years ± 500 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: Potential invaders include saltcedar, cheatgrass, annual mustards, and halogeton.

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17. **Perennial plant reproductive capability:** All functional groups should reproduce in most years. Reduced growth and reproduction will occur during extreme or extended drought periods.
