Ecological site DX035X01I112
Loamy Wash 10-14" p.z.

Last updated: 5/02/2024
Accessed: 10/12/2024

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)	Karlyn Huling, Kenneth Gishi (2012 revision)
Contact for lead author	State Rangeland Management Specialist, NRCS-Arizona State Office, Phoenix, AZ
Date	03/13/2006
Approved by	Byron Lambeth
Approval date	
Composition (Indicators 10 and 12) based on	Annual Production

Indicators

1. **Number and extent of rills:** Some rill formation is possible due to loamy surface textures, moderate permeability, and occasional to very frequent flooding.

---

2. **Presence of water flow patterns:** Water flow patterns are common due to moderate permeability of the soils and occasional to very frequent flooding. Water flow patterns should not be connected.

---

3. **Number and height of erosional pedestals or terracettes:** Pedestals and terracettes may be common due to moderate permeability of the soils and the occasional to very frequent flooding.

---

4. **Bare ground from Ecological Site Description or other studies (rock, litter, lichen, moss, plant canopy are not bare ground):** This site should have a relatively low percentage of bare ground because it has the potential for high plant productivity. The high available water capacity of 10 inches (average) combined with the periodic input of water from flooding contributes to this high productivity. Drought may cause an increase in bare ground. Bare ground should be less than 25 percent.

---

5. **Number of gullies and erosion associated with gullies:** Occasional gullies may form due to the occasional to very frequent flooding, but should be stable with vegetation and have no active signs of erosion.

6. **Extent of wind scoured, blowouts and/or depositional areas:** None

7. **Amount of litter movement (describe size and distance expected to travel):** Herbaceous, fine woody and coarse woody litter will be transported throughout the site during periodic flood events.

8. **Soil surface (top few mm) resistance to erosion (stability values are averages - most sites will show a range of values):** Soil surface textures range from fine sandy loams to sandy clay loam, but are mostly very fine sandy loam to loam. Coarse fragments are not common. When well vegetated and not subjected to severe flood events, soils have a low to moderate resistance to water erosion and a moderate to high resistance to wind erosion. Expected soil stability ratings without canopy should range 3-4 and ratings with canopy should range 4-5.

9. **Soil surface structure and SOM content (include type of structure and A-horizon color and thickness):** Soil structure is either platy (weak, fine to thick) or granular (weak to moderate, very fine to fine). The surface thickness ranges from 2-10 inches, but is mostly 2-6 inches. Color is variable depending upon parent materials.

10. **Effect of community phase composition (relative proportion of different functional groups) and spatial distribution on infiltration and runoff:** This site is characterized by a even distribution of mostly perennial grasses, with some scattered shrubs and a few forbs. The plant distribution varies across the landscape depending upon local soil characteristics and hydrology. These characteristics are modified periodically by flood events. Both canopy and basal cover decreases during a prolonged drought. This type of plant community structure is very efficient at capturing and storing precipitation.

11. **Presence and thickness of compaction layer (usually none; describe soil profile features which may be mistaken for compaction on this site):** None. Some of the soils can easily be compacted due to loamy textures, lack of rock fragments and frequent moisture from flooding and occasional high water tables. About half the soils in this site have a naturally platy surface structure.

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 colonizing grass > warm season bunch grasses >

    Sub-dominant: cool season bunch grasses > warm season colonizing grasses > large shrubs >

    Other: Low shrubs > forbs > cacti

    Additional:

13. **Amount of plant mortality and decadence (include which functional groups are expected to show mortality or decadence):** All plant functional groups are adapted to survival in all but the most severe droughts. Severe winter droughts affect trees and shrubs most. Severe summer droughts affect grasses the most.

14. **Average percent litter cover (%) and depth (in):** Mostly herbaceous litter with some woody litter. Litter amounts increase during the first few years of drought, then decrease in later years.

15. **Expected annual annual-production (this is TOTAL above-ground annual-production, not just forage annual-production):** Expected production of 1500 pounds per acre in a average of year of precipitation.

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:** Broom snakeweed, rubber rabbitbrush and opuntia (pricklypear and cholla cactus) are all native to the site, but have the potential to increase and dominate the area after unmanaged grazing. Salt cedar (tamarisk) is an non-native shrub that can invade and dominate the site, especially in areas that have a high water table or that have been channelized.

17. **Perennial plant reproductive capability:** All plants native to this site are adapted and are capable of producing seeds, stolons and rhizomes in all but the most severe drought.