

Ecological site R043BY011ID Riparian SALIX/CAREX

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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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Approved by	Scott Woodall
Approval date	
Composition (Indicators 10 and 12) based on	Annual Production

Indicators

1. **Number and extent of rills:** rills do not occur on this site.

2. **Presence of water flow patterns:** water flows over and through the plant community due to frequent flooding. Flows can scour the soil surface or deposit sediments. Rarely are flows detrimental to the shrub component of the plant community. These plants have adapted or evolved with this occurrence. Understory species can be damaged, removed, or buried but usually recover.

3. **Number and height of erosional pedestals or terracettes:** neither occurs on this site as classically defined. Scouring can expose some roots. Shrubs species have evolved with this occurrence and will sprout from the roots. Deposition areas can give a hummocky surface and may look similar to terracettes.

4. **Bare ground from Ecological Site Description or other studies (rock, litter, lichen, moss, plant canopy are not bare ground):** data is not available. On sites in mid-seral status bare ground may range from 2-10 percent. Immediately following a significant flood event, bare ground may be as higher.

5. **Number of gullies and erosion associated with gullies:** gullies do not exist on this site.

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6. **Extent of wind scoured, blowouts and/or depositional areas:** scouring from wind does not occur. Scouring and deposition areas do occur from flooding.
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7. **Amount of litter movement (describe size and distance expected to travel):** fine litter in the interspaces may move 6 feet or more or off the site due to seasonal flooding. Coarse litter can move within the site or off the site due to flooding. Some debris may hang up or be deposited in piles within the site.
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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):** values should range from 4 to 6 but needs to be tested.
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9. **Soil surface structure and SOM content (include type of structure and A-horizon color and thickness):** The thickness of organic layers vary and are black when moist. The A horizon when present are 1 to 5 inches thick and are grayish brown moist. Soil organic matter (SOM) ranges from over 90% in the muck material and 2 to 12 percent in the mineral surface horizons. The soils may not show distinct horizons due to poorly developed soils.
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10. **Effect of community phase composition (relative proportion of different functional groups) and spatial distribution on infiltration and runoff:** a mixed-age stand of shrubs and grasses is needed to slow run-off and increase infiltration. The plant community is more dependent on moisture from the fluctuating water table than on infiltration. The water table controls rooting depth.
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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):** a compaction layer is not present.
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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: shrubs
- Sub-dominant: perennial grasses
- Other: forbs
- Additional:
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13. **Amount of plant mortality and decadence (include which functional groups are expected to show mortality or decadence):** normal mortality of grass, grass-like, and forbs occur with scouring and deposition from flooding. Some mortality can occur in the herbaceous layers as shrub canopy closes. Disease can increase as a result of shrub damage from flooding. Most shrubs re-sprout at or below the area of damage on the root or stem.

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14. **Average percent litter cover (%) and depth (in):** additional litter cover data is needed but is expected to be ___percent to a depth of 0.5-1.5 inches at the end of the growing season, but may be removed from the site following flooding.
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15. **Expected annual annual-production (this is TOTAL above-ground annual-production, not just forage annual-production):** is 3200 pounds per acre (3584 Kg/ha) in a year with normal precipitation and temperatures. Perennial grasses and sedges produce 30-40 percent of the total production, forbs 5-15 percent, and shrubs 50-60 percent.
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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:** includes whitetop, leafy spurge, dock, Canadian thistle, reed canarygrass, foxtail barley, perennial pepperweed, and teasel. Other invasive species may include meadow foxtail, redtop, and Kentucky bluegrass.
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17. **Perennial plant reproductive capability:** all functional groups have the potential to reproduce in most years. Many of the plants reproduce vegetatively. Willows require flooding to scour the surface or provide sediment deposition to germinate seeds.
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